TRANSACTIONS

VOLUME 8 · 2017

The Essex Society for Archaeology & History

FORMERLY THE ESSEX ARCHAEOLOGICAL SOCIETY
FOUNDED 1852

ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

OFFICERS AND COUNCIL DECEMBER 2017

Patron

The Rt. Hon. Lord Petre K.C.V.O., J.P., M.A.
H.M. Lord-Lieutenant of Essex

President: A. Corder-Birch, D.L.
Vice-Presidents: D. G. Buckley, B.Sc, M.C.I.f.A, F.S.A; Dr. P.M. Leach, B.A., M.B.B.S; A.S. Newens, B.A.; A.B. Phillips, B.E.M., B.A.; C.C. Thornton, B.A., Ph.D., F.S.A., F.R.Hist.S.; J.C. Ward, Ph.D., F.R.Hist.S.
Hon. Secretary: J.M. Hayward, M.A.
Hon. Membership Secretary: T. Hunter, B.A.
Hon. Treasurer: W.M. Abbott, M.A., F.I.A.
Hon. Publication and Research Fund Secretary: C.C. Thornton, B.A., Ph.D., F.S.A., F.R.Hist.S.
Hon. Editor: P. Gilman, B.A., M.C.I.f.A, F.S.A.
Hon. Deputy Editor: C.C. Thornton, B.A., Ph.D., F.S.A., F.R.Hist.S.
Hon. Newsletter Editor: Z. Quinn
Hon. Librarian: J. Pearson, B.Sc., M.Phil., Ph.D.
Hon. Deputy Librarian: A.P. Smith
Hon. Programme Secretary: P. Sainsbury, S.E.N.
Hon. Excursions Secretary: G.E. Gould, M.A., Ph.D.
Hon. Curator: P.J. Wise, M.A., A.M.A., M.C.I.f.A.
Industrial Archaeology Group Chairman: A. Crosby, B.A., M.Soc.Sc.

Trustees

W.M. Abbott, M.A., F.I.A.; H. Brooks, B.A., M.C.I.f.A, F.S.A; N. Brown, B.A., M.C.I.f.A., F.S.A; A. Corder-Birch, D.L; A. Crosby, B.A., M.Soc.Sc.; K.L. Crowe, B.Ed., M.A., A.M.A; G.M.R. Davies, M.A., F.S.A., F.M.A.; J.M. Hayward, M.A.; T. Hunter, B.A.; P. Sainsbury, S.E.N.; A.P. Smith; H.M. Stuchfield, M.B.E., J.P., D.L., F.S.A., F.R.Hist.S.

Co-opted members

Essex Journal: N.R. Wiffen, M.A.
Essex Place-names Project: Dr J.V.H. Kemble, M.A., B.Sc.
Essex V.C.H.: C.C. Thornton, B.A., Ph.D., F.S.A., F.R.Hist.S.
University of Essex: N.I. Cochrane, M.A.
Webmaster: Z. Quinn

Representatives of the Society on other bodies

Colchester Archaeological Trust: A.B. Phillips, B.E.M., B.A.
C.B.A. Regional Group East: D.G. Buckley, B.Sc., M.C.I.f.A., F.S.A.,
Essex Journal: A.S. Newens, B.A.,
Friends of Historic Essex: K.L. Crowe, B.Ed., M.A., A.M.A
London C.B.A.: J.M. Hayward, M.A.

ESSEX ARCHAEOLOGY AND HISTORY

EDITED BY

PAUL GILMAN

ASSISTED BY

CHRIS THORNTON

THE TRANSACTIONS OF THE ESSEX SOCIETY FOR ARCHAEOLOGY AND HISTORY

VOLUME 8 (Fourth series)

2017

Published by the Society at the Museum in the Castle 2019

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 Pentlow Hall, Pentlow, Essex CO10 7SP. The current annual rates of subscription are: individual membership £25; family membership (individual membership plus one other person) £30; institutional membership £25; associate membership (who do not receive *Essex Archaeology and History*) £15.

Subscribing Societies

AGES Archaeological and Historical Society; Barking and District Historical Society; Billericay Archaeological and Historical Society; Braintree District Museum; Chelmsford Museum; Clacton and District Local History Society; Clavering Landscape History Group; Colchester Archaeological Group; Essex Numismatic Society; Essex Society for Family History; Foulness Conservation and Archaeological Society; Friends of Chelmsford Museum; Friends of Colchester Museums; Friends of Valentines Mansion; Frinton and Walton Heritage Trust; Great Bardfield Historical Society; Hadstock Society; Halstead and District Local History Society; Halstead 21st Century Group; Harlow Heritage Society; HEARS (Herts and Essex Architectural Association); Hedingham Heritage Society; Heritage Writtle and Archives Writtle; High Country History Group; Ingatestone and Fryerning Historical and Archaeological Society; Kelvedon and Feering Heritage Society; London Borough of Havering; Maldon Archaeological and Historical Group; Mersea Island Museum Trust; Nazeing History Workshop; Purfleet Heritage and Military Centre; Recorders of Uttlesford History; Saffron Walden Historical Society; Saffron Walden Museum; South Woodham Ferrers Local History Society; Southend Central Museum; St. Osyth Historical Society; Stebbing Local History Society; Thaxted Society; Valence House Museum; Waltham Abbey Historical Society; West Essex Archaeological Group; Woodford Historical Society.

Copyright

Website

Further information on the Society and its activities may be viewed at http://esah1852.org.uk

ISSN 0308 3462

Essex Archaeology and History Volume 8 (Fourth series)

CONTENTS

Cover illustration: Ashdon church from the south (photo: © Martin Stuchfield).

THE ESSEX SOCIETY FOR ARCHAEOLOGY & HISTORY
Volume 8 · 2017

Further investigation of the prehistoric settlement and Early Saxon cemetery at Springfield Lyons, Chelmsford

Trevor Ennis
With contributions by Trista Clifford, Anna Doherty, Elissa Menzel, Dawn Elise Mooney and Sue Tyler

Previous excavation undertaken in 1981–91 at Springfield Lyons investigated the remains of a Neolithic causewayed enclosure, a Bronze Age circular enclosure, an Early Saxon mixed-rite cemetery and an overlying later Saxon manorial complex. Since the publication of this nationally important site, further investigations in advance of the ongoing development of the Chelmsford Business Park have elucidated the nature of land use in the immediate vicinity of the Bronze Age settlement enclosure, completed the excavation of the Saxon cemetery and defined the east and west boundaries of the later settlement. The results of these later investigations are presented and implications of the discoveries to previous site interpretation and land use are explored.

INTRODUCTION

Project background

Excavation of the nationally important multi-period site at Springfield Lyons took place between 1981 and 1991 in advance of urban expansion to the north-east of Chelmsford. Excavations revealed the western side of a Neolithic causewayed enclosure, a Late Bronze Age settlement within a circular enclosure, the majority of an Early Saxon cremation and inhumation cemetery and a Late Saxon manorial settlement. The results are now fully published as two separate monographs, one covering the Saxon cemetery and succeeding settlement (Tyler and Major 2005) and the other the prehistoric enclosures (Brown and Medlycott 2013).

In subsequent years the excavation site has been subsumed within the Chelmsford Business Park, a complex of office and industrial units located some 3km north-east of Chelmsford town centre. Land within the business park was divided into individual development plots which have all been subject to varying degrees of archaeological investigation prior to their development. Three of these plots, located to the immediate north-east (Plot K), north (Plot L) and west (Plot N) of the original excavation area provide the focus of this report. Discoveries in other plots are also alluded to where appropriate.

The excavations within Plots K and L were undertaken by the former Essex County Council Field Archaeology Unit (ECC FAU) between September 2011 and May 2012 and that of Plot N by Archaeology South-East in August 2013. The site codes for these three phases of work were SPAK11, SPAL12 and SPAN13. The archive will be deposited in Chelmsford Museum.

Location, topography and geology

The Chelmsford Business Park development is situated on the north-east edge of Chelmsford in a triangular area of land located east of the B1137 Colchester Road, west of the A12 and north of Chelmer Village (Fig. 1). Development plots K, L and N covered a total area of *c.*3.2ha and were accessed from the B1137 via Springfield Lyons Approach.

Overall the development area was fairly flat and even, though with a gentle fall to the south-east. Ground levels ranged from *c.*38.5m AOD in the north-west corner of Plot N to *c.*34m AOD in the south-east of Plot K. Prior to excavation most of the areas were rough ground consisting of grass and scrub. Several mature trees were also present—a relic of the site formerly being within the historic gardens/parkland of the Grade II-Listed Springfield Lyons house which dates from the late 17th century and elements of which have been incorporated into the business park. Two such trees aligned on a post-medieval field boundary within Plot K were preserved. Much of the western half of Plot K was undulating, rutted and prone to flooding. This part of the site had formerly been used as a works compound and for the storage of spoil from elsewhere within the business park development, and had suffered accordingly. Much of the topsoil had been previously stripped and a thin cover subsequently re-spread. The original topsoil only survived between and east of the two trees where it had been preserved beneath stockpiled soil. The north-east corner of Plot L was in use as a builders' compound at the commencement of its investigation, and had also previously been used for the stockpile of spoil. A large tree was preserved at its south. Substantial mounds of spoil from the original 1981–91 archaeological works were present along the south-east side of Plots L and N and were removed by machine as part of the excavation process.

The site occupies an area on the western side of the Chelmer Valley, with the River Chelmer lying *c.*700m downslope to the south-east. Superficial geological deposits across the greater part of the site consist of glaciofluvial sand and gravel overlying bedrock London Clay (British Geological Survey ©NERC 2015). On site, the exposed natural deposits varied between brown sandy silt, lighter brown to orange clay and patches of brown to brownish grey gravel.

Archaeological background

General

The Springfield Lyons site lies 3km north-east of Chelmsford's Roman and medieval town centre, but it is only located *c.*250m south-east of the line of the Roman London to Colchester road (B1137). Scattered Iron Age and Roman finds and features have been recorded in the vicinity during both the original excavations (Tyler and Major 2005) and subsequent investigation. This part of the mid-Chelmer valley appears to have been a strategic location throughout much of the prehistoric period with evidence of activity in the vicinity from the Mesolithic, Neolithic and Bronze Age

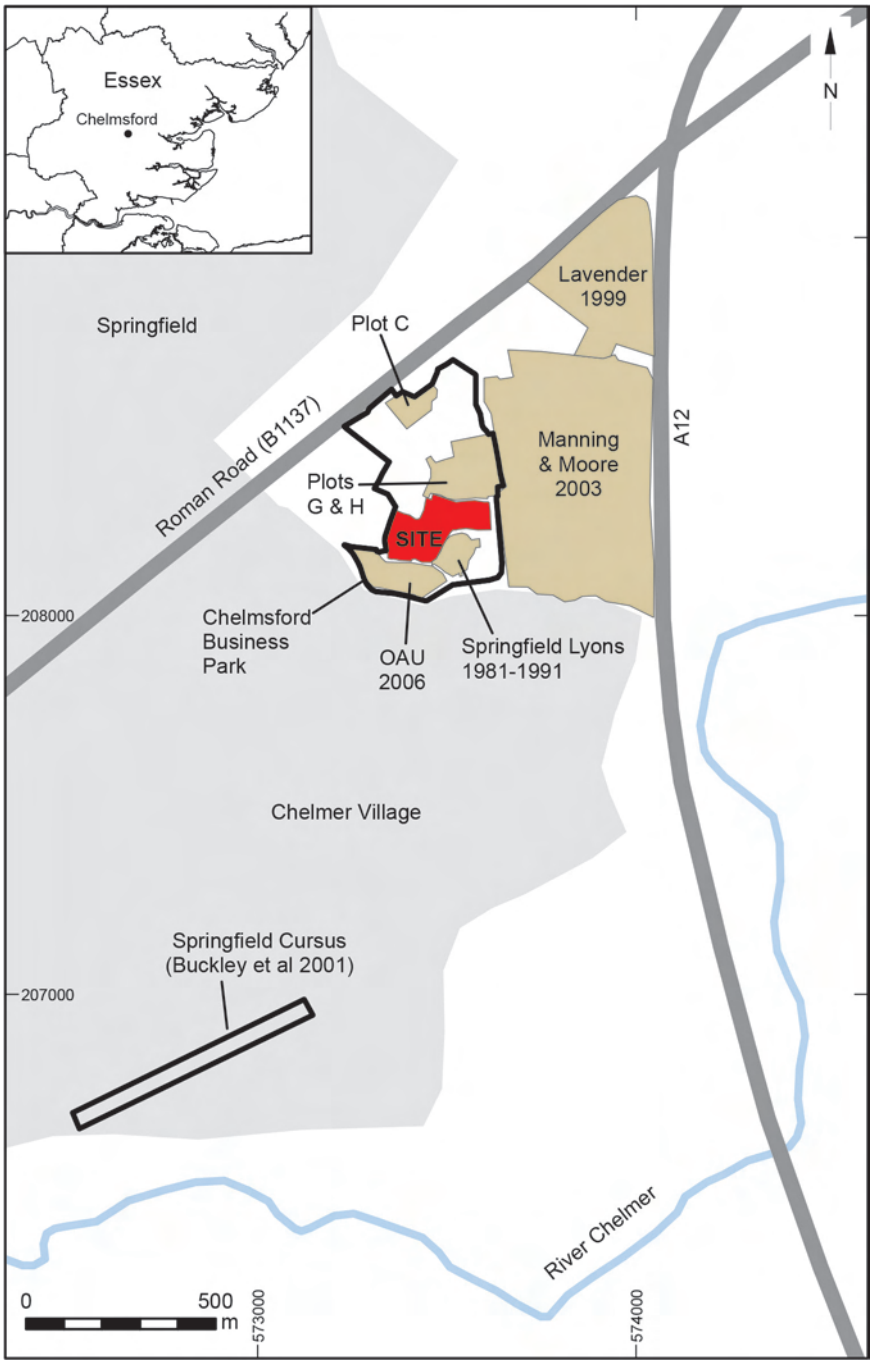


FIGURE 1: Site location and other excavations in the area

periods (Brown and Medlycott 2013, 152–153). Consideration of the prehistoric monuments in the wider Chelmer Valley landscape is presented in Brown (2001). Of particular note are the Neolithic Springfield Cursus (Buckley *et al.* 2001) located about 2.5km to the south-west and the site of a putative Middle Bronze Age shrine at the Boreham Interchange site (Lavender 1999) 800m to the north-east (Fig. 1). The density of prehistoric remains within this part of the mid-Chelmer valley has been highlighted by a recent study of cropmark remains (Germany and Saunders 2015). This has revealed the presence of sixty-eight probable Bronze Age barrow sites, and many other cropmark features in close proximity, all within a 64sq km survey area.

Springfield Lyons

The 1981–91 Springfield Lyons excavations revealed the western arc of an Early Neolithic causewayed enclosure (Fig. 2). The segments of its intermittent ditch were formed from a number of elongated pits which sometimes contained deeper shaft-like features, re-cuts and episodes of deliberate backfilling. The causewayed enclosure was still a significant landscape feature in the Late Neolithic/Early Bronze Age as pottery of this date was found in the upper fills of its ditch and in near-by features. Constructed to the west was the circular Late Bronze Age enclosure containing a central roundhouse, three other circular buildings, several two- and four-post structures and a number of pits. The circular ditch was divided into segments by narrow causeways of natural gravel and had entrances to east and west (Brown and Medlycott 2013).

In the Early Saxon period a mixed cremation and inhumation cemetery of over 250 burials was established over the top of the Late Bronze Age enclosure though apparently respecting the northern part of the enclosure ditch. The southern and eastern extents of the cemetery appear to be contained within the excavation area but exploratory trenching revealed that the western extent continued beyond. Superimposed upon the cemetery was a Late Saxon settlement consisting of at least sixteen buildings, including three post-built halls, arranged around a central farmyard. Three tentative phases of occupation were identified, probably all broadly dating to the 10th century, on limited dating evidence. The Late Saxon settlement is believed to be the original site of Cuton Hall, a manor recorded in the Domesday Book of 1086 and now located *c.* 200m to the south (Tyler and Major 2005).

The 1981–91 excavations included supplementary trenching (Trenches HA to HS, Fig. 2) that was undertaken across the surrounding vicinity of the excavation site in 1991, much of it targeted in an attempt to pick up continuations of specific features or to identify limits of settlement and cemetery activity. Trenches to the east of the excavation site identified further parts of the Neolithic causewayed enclosure and Saxon and later ditches. Trenches to the north and west were largely devoid of archaeological remains, but Trench HA, an extension of the north-westerly projection of the original excavation site, contained a small number of cremation burials demonstrating the westward continuation of the Early Saxon cemetery.

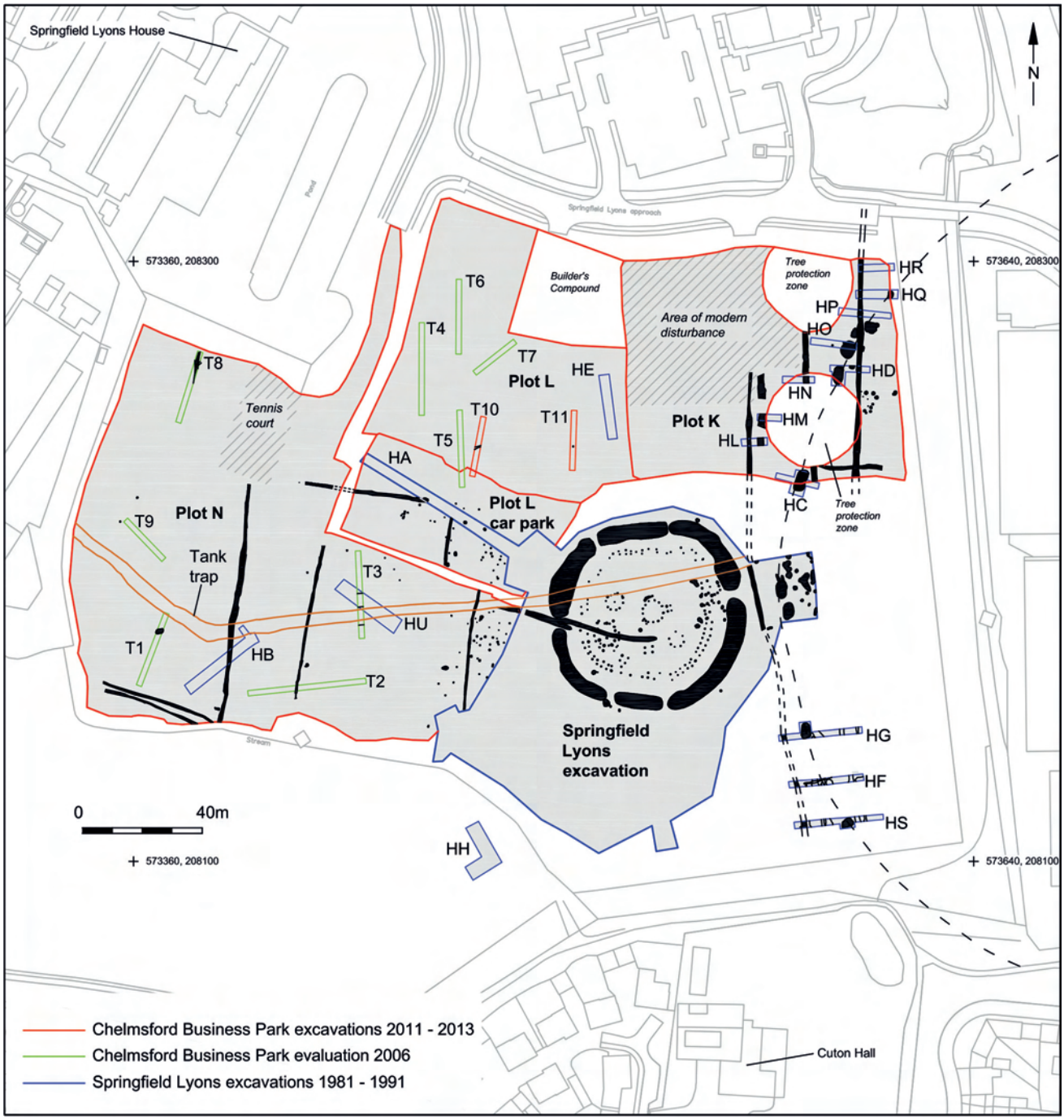


FIGURE 2: The site and previous investigations

Since the 1981–91 Springfield Lyons excavations, archaeological investigations undertaken in advance of development in its wider vicinity have recorded further remains dating from the Neolithic to the medieval periods (Fig. 1). A trial-trenching evaluation to the east of the Chelmsford Business Park recorded Neolithic flint artefacts, dispersed Late Bronze Age settlement remains and Romano-British field boundary ditches dated to the 1st–2nd century (Manning and Moore 2003). Another trial-trenching evaluation, adjacent to Chelmer Village Way and to the immediate south, recorded further evidence of landscape development, with Romano-British field boundary ditches allegedly continuing in use into the 14th century (Oxford Archaeology 2006).

Business Park Plots G and H (Pocock 2006) and C, M and N (Robertson 2006) were all evaluated in 2006 (Fig. 2). Trenching revealed a generally low presence/survival of archaeological remains and a moderate incidence of post-medieval and modern disturbance. Plot C was located over 200m north of Plot L, whereas Plots G and H were located immediately north of Plots K and L. A ditch found in Plot G/H Trench 4 (*c.*120m north of Plot K, not illustrated), and further investigated in an expanded excavation area, was tentatively judged to be Late Bronze Age but is more probably of Roman date as it aligns with ditch D5 subsequently found in Plot K.

Plot M became that part of the business park recently developed as Plot L. No archaeological remains were found in the four trenches excavated within its western half (Trenches 4–7), but significant disturbance and truncation from modern activities was noted. Two probable prehistoric features and a substantial World War Two (WW2) anti-tank ditch were recorded in Trenches 1, 3 and 9 within Plot N; however, only part of this plot was evaluated due to the presence of dense undergrowth. Two additional trenches (10 and 11) were excavated in the original south-east quadrant of Plot L as part of the 2012 excavation, in an area not previously available for evaluation. A gully containing a small amount of Early Saxon pottery was encountered in Trench 10. The results of the evaluation trenching are subsumed into the following excavation phase narrative as appropriate.

THE EXCAVATIONS

In Plot K, overburden was removed from the majority of the 0.75ha area, other than two *c.*30m diameter tree-root protection zones and a 2–3m gap along the wooded eastern boundary of the site necessitated by overhanging branches. In Plot L, excavation was limited to the southern 0.25ha of the development's car park area, preceding trial trenching having demonstrated an absence of archaeological remains across the remainder. In Plot N, overburden was fully removed from the eastern and southern two-thirds of the *c.*1.66ha, roughly L-shaped, area. However, in the north-west of the site, west of a former tennis court and roughly encompassing Trial Trenches 8 and 9, only topsoil was removed leaving the archaeological horizon sealed beneath a layer of subsoil. As there was no constructional need to fully excavate this area, and a trial strip to the correct depth had proved largely negative, it was agreed with the monitoring officer that this area would be preserved *in situ*.

The Plot L car park area overlapped slightly with the 1981–91 excavation area and was bisected by earlier Trial Trench HA. Plot N directly abutted the west edge of the previous excavation area. There was an L-shaped gap between Plots L and N which in the south resulted from variation in the position of the boundary fence and in the north from the existence of a temporary access track to the car park. A larger gap, not under specific development threat, between Plot K and the 1981–91 excavation area, was occupied by old spoil heaps and trees.

The removed overburden varied in depth from 0.15m to 0.70m, though largely was within a range of 0.30m to 0.50m. It was shallowest in parts of the western half of Plot K, the site of a former compound, where it consisted entirely of modern brick rubble overlying textile matting, topsoil having previously been entirely removed. For most of the site, however, the overburden generally consisted of 0.20m to 0.35m of dark greyish brown silty topsoil overlying 0.10–0.20m of lighter brown gravelly clay silt subsoil. In some parts of Plot N the subsoil was virtually non-existent and in the south-east corner, where the land sloped away, it was excessively deep (0.5m+). Underlying natural deposits were generally patchy and consisted of a mix of sandy silt, clay and gravel that varied in colour from light greyish brown to bright orange.

In addition to disturbance from business park-related construction, the majority of the site had been truncated by ploughing and disturbed by tree roots and animal burrows. Subsoil appeared to seal all but the most modern of features. Underlying features, cut into the natural deposit, had evidently been subject to truncation prior to the formation of this soil, presumably as a result of cultivation. As an example, only the lower halves (or less) of the Early Saxon cremation burials generally survived. It is perhaps likely that some small and shallow features will have been removed completely. Feature legibility was variable and in part depended on the colour of the fill, the type of surrounding natural ground and weather conditions. As was noted during the 1981–91 excavations, such clarity often improved with weathering.

The encountered remains ranged in date from the Early Neolithic period through to the Late Saxon period and are described by broad period, below. In addition, two parallel ditches of post-medieval date were recorded in Plot K and the westwards continuation of the WW2 tank trap was further traced across Plot N.

The report has been broadly structured in line with a hierarchical context, group and land-use framework. Individual context numbers are shown in square brackets thus [1234]. Associated contexts making up a single phase of ditch have been grouped together (D1, *etc.*) as have other interrelated contexts, such as groups of associated pits or post-holes (G1, *etc.*). Each context and group has been assigned to a land use which broadly characterises the function of the land for a given period. The following land-use classification prefixes have been used:

- ENC = Enclosure (ditches/earthworks surrounding a settlement)
- OA = Open Area (fields, enclosure interiors)
- B = Building
- C = Cemetery

Neolithic

During the original Springfield Lyons excavation and subsequent exploratory trial trenching, seven large elongated

pits [6854], [8920], [8950], [8952], [8995], [8965] and [8994] were identified that formed the arcing edge of a single circuit causewayed enclosure (ENC1) (Fig. 3). The northern part of this circuit was further investigated during the excavation of Plot K. Three new pits [52], [57/78/84/85/86] and [65/87] were excavated along with a further segment ([69/83]) of pit [8950] which had previously only been partially excavated (Fig. 4). Within the enclosure interior (OA1) were several pits and post-holes. Most ([8898], *etc.*) were located in the square extension to the east of the original excavation area (Brown and Medlycott 2013, fig. 2.1), and two were located to the north—pit [8956] within former Trial Trench HD and pit [56] within Plot K. Three pits ([4967], [8800] and [8857]) of Early Neolithic date were present in the open area (OA2) outside the causewayed enclosure (*i.e.* to its west) within the original excavation area (Brown and Medlycott 2013, fig 2.1). The newly discovered Early Neolithic enclosure ditch pits are described below from north to south.

Pit [65/87]

The northernmost excavated component of the Neolithic enclosure ditch was poorly defined and consisted of at least two identified cuts [65] and [87]. In the centre and base of the feature was a bowl-shaped depression [87], *c.*1.3m in diameter and 0.25m deep, filled with light grey silty sand (Fig. 4, Section 3). Above this infilled depression was a larger pit [65] of irregular shape, 4.6m long by 3.5m wide and up to 0.5m deep. Its fill, [66], consisted of greyish brown sandy gravelly silt that contained noticeably more gravel inclusions towards the north-east corner. It is possible that this indicated the position of an additional unidentified re-cut in this area. It is assumed that larger pit [65] truncated bowl-shaped depression [87]. However, it is also feasible that the depression was cut into the base of the larger pit whilst it was still open and then deliberately back-filled before the larger pit itself was infilled. No finds were recovered from these features but location, size and similarity of fills suggests that they are of Early Neolithic date.

Pit [52]

Located *c.*3m to the south-west was a smaller, pear-shaped pit [52], truncated on its eastern side by later ditch D4 (Fig. 4). This pit was 3.2m long and over 1.8m wide, but shallow at only 0.16m deep. It contained two fills, the upper comprising silty gravel and the lower of silty sand. A single sherd of Early Neolithic pottery was recovered.

Pit [57/78/85/86]

To the south of pit [52] was a larger, more oblong-shaped feature, 5.8m long by 4.5m wide, that was excavated as two opposing quarter segments and in fact consisted of at least four separate pit cuts (Fig. 4, Section 2). Potentially the

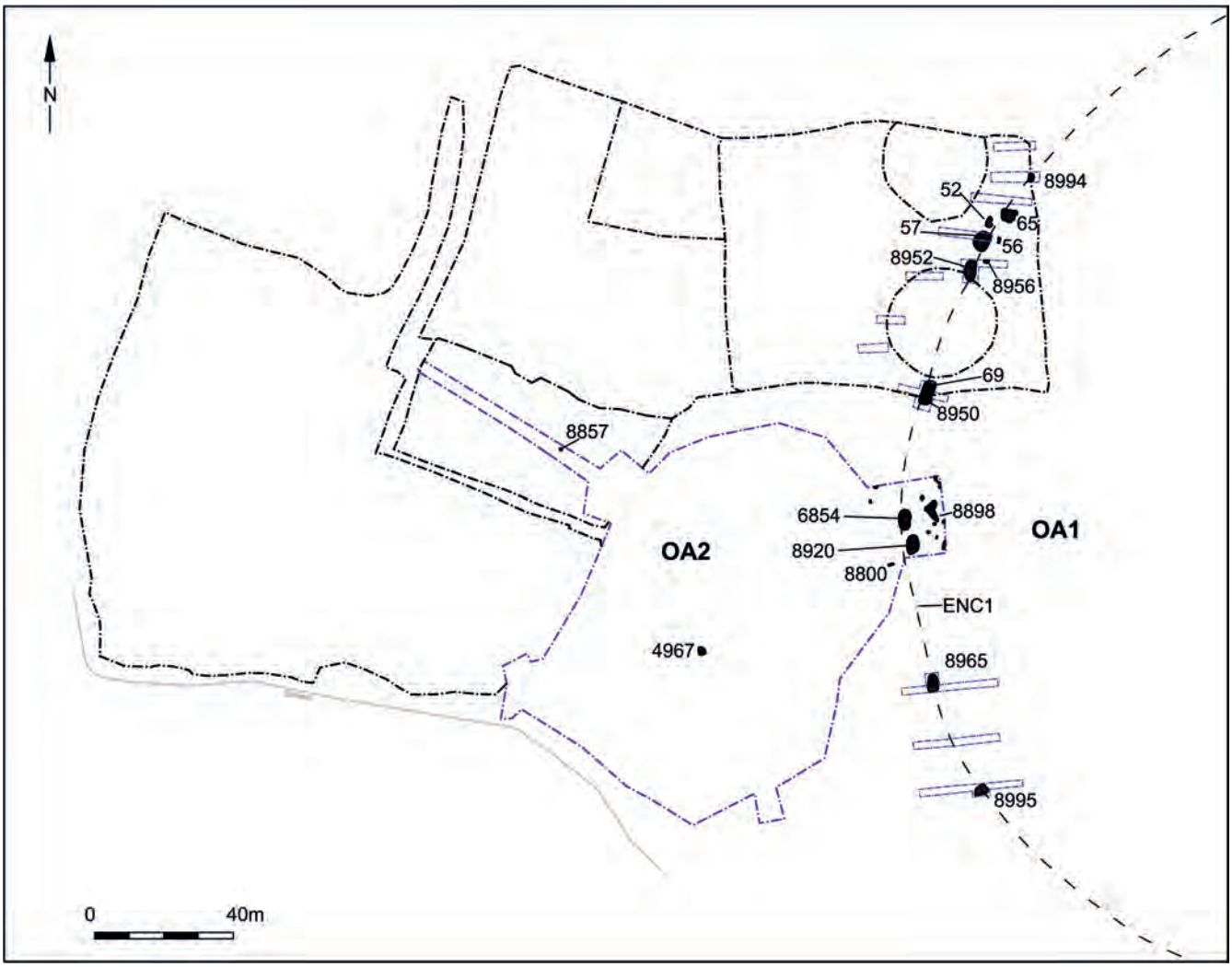


FIGURE 3: Site plan: Early Neolithic

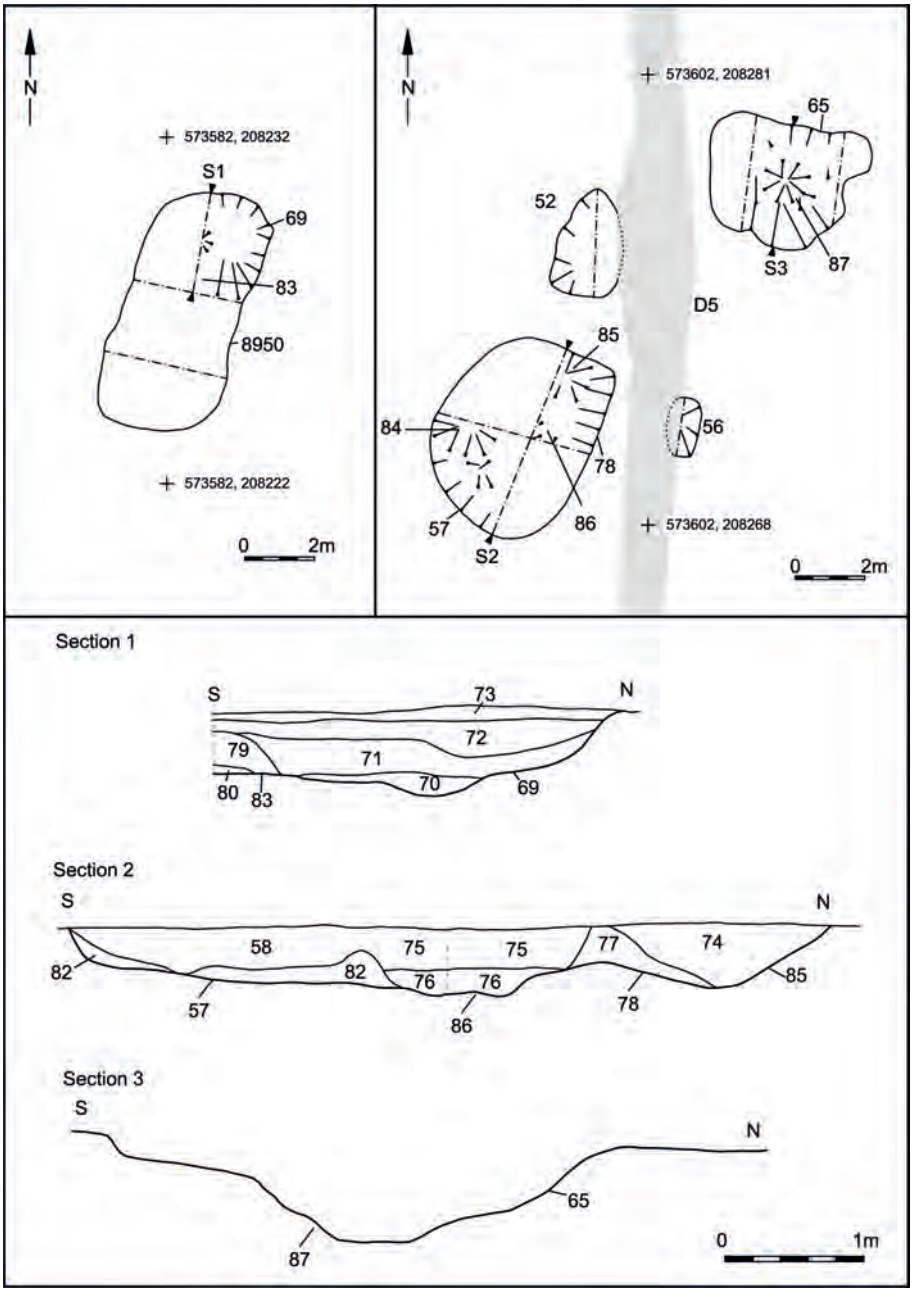


FIGURE 4: Early Neolithic pits: plans and sections

PLATE 1: Early Neolithic pit 57/78, looking north-east (2m scale)

earliest feature was bowl-shaped hollow [84] in the bottom of the south-west quadrant. This was 1.8m long by 0.3m deep and filled with compacted silty gravel. The fill of the hollow was possibly truncated by overlying larger pit [57] although it is again feasible that the hollow was cut and backfilled whilst the larger pit was open. Pit [57] was 0.4m deep and contained two fills; an intermittent basal deposit of brown sandy silt and an extensive upper fill of mid brownish grey sandy silt (58) with frequent gravel inclusions (Plate 1). In the north-east quadrant, truncated cut [78] and its brown silty fill [77] may in fact be the northward continuation of pit [57] and essentially forming the 5.8m long oblong-shaped feature apparent in plan. Fill [77] was cut by two separate pits [85] and [86]. Pit [86] to the south, which also continued into the corner of the south-west quadrant, was probably oval in plan, measuring *c.* 2.2m by 1.6m and 0.5m deep. The pit contained two fills, greyish brown silty sand [76] in its base and gravel-

rich mid greyish brown sandy silt [75] above. Pit [85], to the north, was 1.5m long by 0.46m deep and filled with gravel-rich mid greyish brown sandy silt [74]. One sherd of Early Neolithic pottery was recovered from this collective pit along with a possibly intrusive sherd of later Beaker pottery.

Pit [69/83]

The southernmost component of the Neolithic enclosure boundary investigated within Plot K was pit [69/83] (Fig. 4). This was the northern half of pit [8950] that had previously been part-excavated in Trench HC (Brown and Medlycott 2013, 8–11) and which just intruded into the southern edge of Plot K. As a complete feature, it was broadly oblong in plan, measuring 7m long by a maximum of 3.8m wide. Whereas numerous separate cuts and re-cuts were identified in the original excavated segment in the centre of the feature, only two could be identified with confidence in the later segment to the north. The earlier cut [83] was only visible at the edge southern of the section (Fig. 4, Section 1) and consisted of two fills [79] and [80], the lower of which was noticeably more gravelly, and which were truncated to north by the cut of larger pit [69]. This was 2.5m long (north-to-south) by 3.4m wide (east-to-west) and 0.64m deep, with 40°–50° sloping sides and a base that was generally flat, apart for a concave depression close to the section. It contained four fills, all of similar dark greyish brown sandy silt. Frequent gravel inclusions were noted in the basal fill [70], moderate amounts in fills [71] and [73] and very few in intervening fill [72]. Five sherds of Early Neolithic pottery and thirteen pieces of struck flint were recovered from fills [70], [72] and [73]. With the exception of a retouched piece the small flint assemblage was entirely composed of pieces of flint débitage including two blades, two blade-like flakes, six flakes and two irregular pieces. A larger assemblage (188 pieces), also dominated by small flakes, was recovered from the earlier part-excavation of this pit and is believed to principally represent waste from knapping and tool production carried out close-by (Healy 2013, 84–5).

The excavated fill sequence broadly compares with that previously recorded for pit [8950] (Brown and Medlycott 2013, 8–11). The depth of the old south-facing section (not illustrated) was about 0.50m once ploughsoil had been discounted, which correlates reasonably well with the 0.45m depth of Section 1 (Fig. 4). There was a general similarity in fills with the main variant in the two sequences being the frequency of gravel inclusions. In both cases most inclusions were found in deposits at the base of the pit. Re-cuts were present in both segments, though appear localised.

Pit [56]

Located 2m to the east of the Neolithic enclosure ditch features and so potentially within its interior (OA1) was a small sub-rectangular pit [56] (Fig. 4). This was 1.7m long and 0.28m deep, but heavily truncated on its western side by later ditch D4. A few small sherds of Early Neolithic pottery were recovered from its single fill.

Late Neolithic/Early Bronze Age

The causewayed enclosure (ENC1) evidently continued to exert an influence as a landscape feature into the Late Neolithic and Early Bronze Age periods (Fig. 5). In the eastern protrusion to the original excavation area, two slot-like features [6707] and [6908] of this date cut into the top of Early Neolithic causewayed enclosure pit [6854] (Brown and Medlycott 2013, fig. 2.1). The recovery of Grooved Ware and Beaker pottery of similar size and condition, from both the slot-like features and the upper fills of the enclosure pit, has led to the suggestion of a transitional date in the second half of the third millennium BC for this activity (Brown 2013a, 94). Several potentially contemporary pits ([6964], [8914], *etc.*) were located just within the arc of the causewayed enclosure interior OA1. To the west of the enclosure in OA2, five scattered pits [2907], [2908], [2691], [6095] and [6784] and a possible post-hole [4941] of Late Neolithic/Early Bronze Age date were identified within the original excavation area (Brown and Medlycott 2013, fig. 2.1), and one further pit [374] was excavated within Plot N. This latter pit was oval in plan, 2.16m long by 0.26m deep, and had gently sloping sides and a concave profile. Its sandy silt fill [375] contained twenty-seven sherds of probable Early Bronze Age pottery. No other features of this date were identified within the investigated business park plots.

Middle Bronze Age

No archaeological remains of Middle Bronze Age date were identified as being associated with the former causewayed enclosure ditch (ENC1) or use of its interior (OA1), although both may well have persisted as distinct landscape entities. However, to the west, former open area OA2 was sub-divided into two areas (OA3 and OA4) by roughly east-to-west aligned ditch D1 (Fig. 6). This ditch was traced across Plots L and N for about 40m. It was investigated in two places and found to be up to 1.1m wide and 0.29m deep. Finds from its single clay silt fill comprised thick-walled pottery sherds of probable Middle Bronze Age date and fragments of baked clay. The east end of ditch D1 was not traced beyond 1991 Trial Trench HA, but it is possible that feature [8811], previously excavated within Trench HA, was actually its terminus.

In the open area (OA3) to the south of D1 was a small oval pit [179], 0.4m long and 0.13m deep, containing two sherds of Middle Bronze Age pottery. To the west was a small group of undated pits and post-holes, containing similar charcoal-flecked mid/dark grey sandy clay silt fills, that has been tentatively assigned to this same period on the grounds of close proximity. However, the presence of Saxon cremation burial in their midst indicates that this is by no means certain. The group consisted of intercutting pits [194] and [196] both of 0.46m diameter, 1.2m long elongated pit [192], and small oval post-hole [198] to the west. All were around 0.2m deep and could have formed some form of timber structure in conjunction with pit [179]. Three of the pits ([192], [194] and [196]) did form a vague alignment perpendicular to ditch D1.

Within OA4, to the north-east of D1, was a short length of ditch [804], roughly north-to-south aligned and broadly perpendicular, that might further sub-divide the area or perhaps constitute a western boundary to this land use. The ditch was only identified in earlier Trial Trench 8 (Robertson 2006) and was tentatively assigned to the Bronze Age due to the recovery of a single sherd of pottery, possibly from a bucket urn. The ditch was not investigated further during the Plot N excavation as it was located in the area of the site not under direct threat from the development where potential remains were preserved *in-situ*.

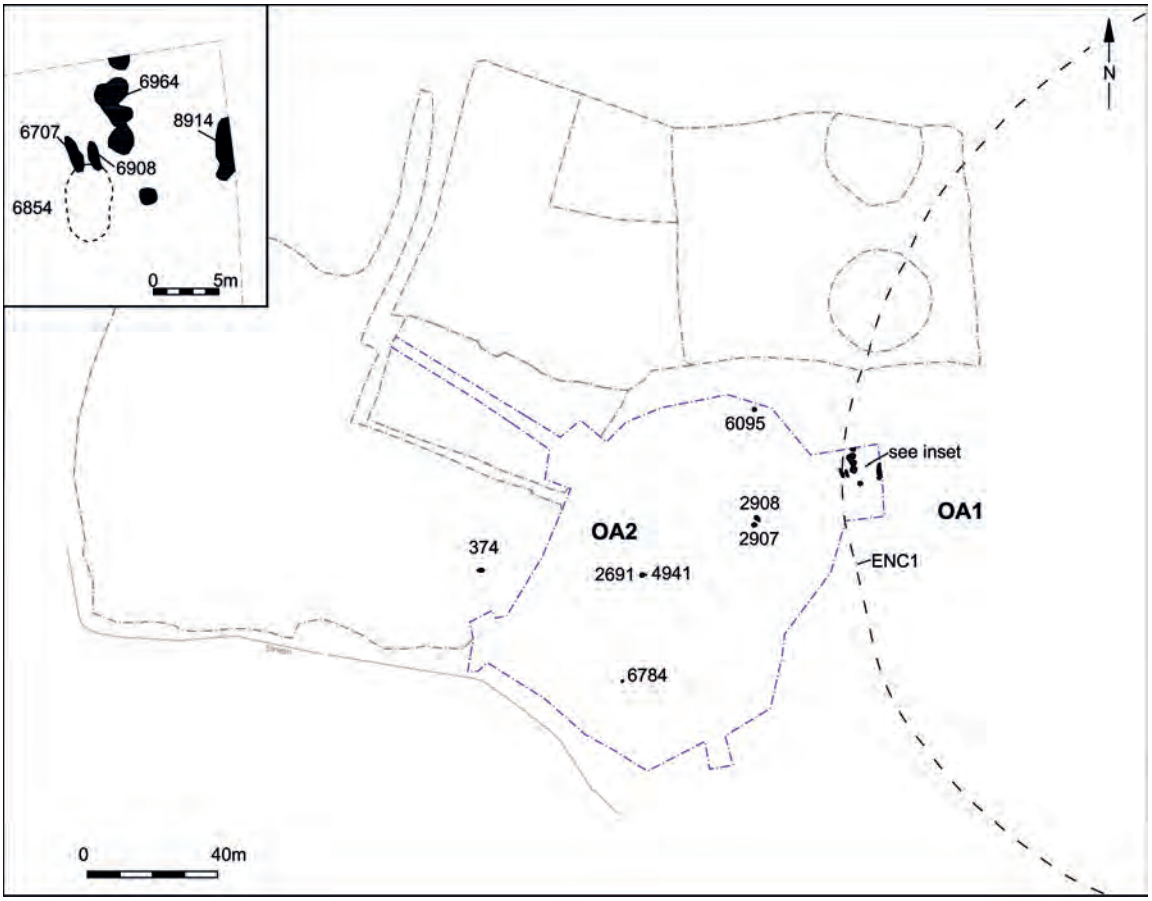


FIGURE 5: Site plan: Late Neolithic/Early Bronze Age

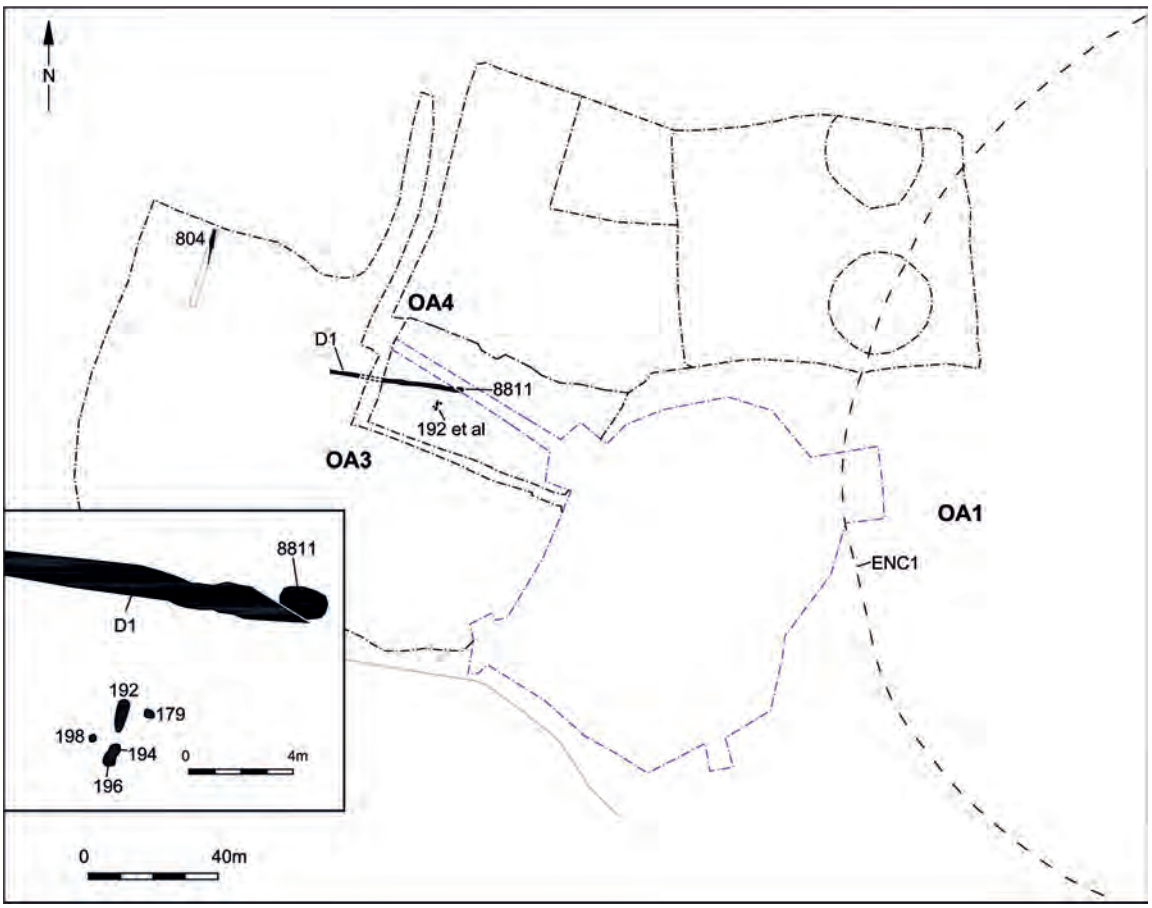


FIGURE 6: Site plan: Middle Bronze Age

Late Bronze Age

The Late Bronze Age circular settlement enclosure (ENC2) was situated 9.3m west of its Neolithic predecessor and, as the original focus of the 1981–91 excavations, was fully excavated (Fig. 7). Within its interior (OA5) was a central roundhouse with a porch aligned with an eastern gateway, three other circular buildings, several four- and two-post structures and a number of pits (Brown and Medlycott 2013, 19–43). However, external features were rare, with only five pits of Late Bronze Age date being identified in the surrounding open area (OA6) during the 1981–91 excavations. Three of these, [2632], [2644] and [4833], were located to the immediate south of the enclosure, one ([8839]) in Trial Trench HA to the west and one ([8984]) in Trial Trench HO to the north-east (Fig. 7). Two further pits [176] and [189] were encountered within OA6 to the west, in Plot L. Both may have been aligned on Late Bronze Age ditch D2 and pit [189] could well have been deliberately positioned directly alongside its south terminal. Both pits were approximately 1m in length, slightly less in width and shallow at only 0.12–0.14m deep. Late Bronze Age pottery and a worked flint core were recovered from pit [189] and, although no artefactual material was present in pit [176], it is conjectured that these two pits are contemporary.

Open Area OA6 extended *c.*36m west of the circular enclosure and was bounded in its northern part by ditch D2. This north-to-south aligned ditch was traced for a distance of *c.*16m and tapered to a narrow, rounded terminal at its south end. To the north, the ditch could not be traced beyond the footprint of the 1991 Trench HA, nor had it seemingly been identified within it. Ditch D2 was up to 0.82m wide by 0.12m deep, with a single fill containing Late Bronze Age pottery and baked clay fragments. One fragment of Roman box flue tile was also recovered but is deemed intrusive.

A second north-to-south aligned Late Bronze Age ditch (D3) was located *c.*40m west of ditch D2. This ditch was observed intermittently for some 50m and petered-out or was truncated away to the north. It varied in width from 0.52m to 0.82m and in depth from 0.15m to 0.26m and was tentatively dated on a single sherd of Late Bronze Age pottery recovered from its silty clay fill.

The open area in between ditches D2 and D3, OA7, contained only a small discreet deposit of dark grey-brown silty clay [372] that contained charcoal, baked clay and a few sherds of Late Bronze Age pottery. Environmental analysis of this deposit identified the presence of charred crop remains including grains of wheat and barley. One small sherd of Roman pottery was recovered from the sample which is considered to be intrusive. West of ditch D3 was a further open area (OA8), the extents of which are unknown, within which only a single shallow truncated pit [377] was found within the Plot N excavation. Measuring *c.*0.4m long and 0.06m deep, this pit contained a crushed but near-complete pottery vessel of Late Bronze Age date.

Some semblance of the former Neolithic causewayed enclosure boundary (ENC1) may have been still visible as a landscape feature into the Late Bronze Age, as its position is arguably respected by the construction of the Late Bronze Age circular enclosure (ENC2) (Fig. 7). Technically within the interior (OA1) of the former Neolithic enclosure was a group of nine post-holes and three stake-holes forming part

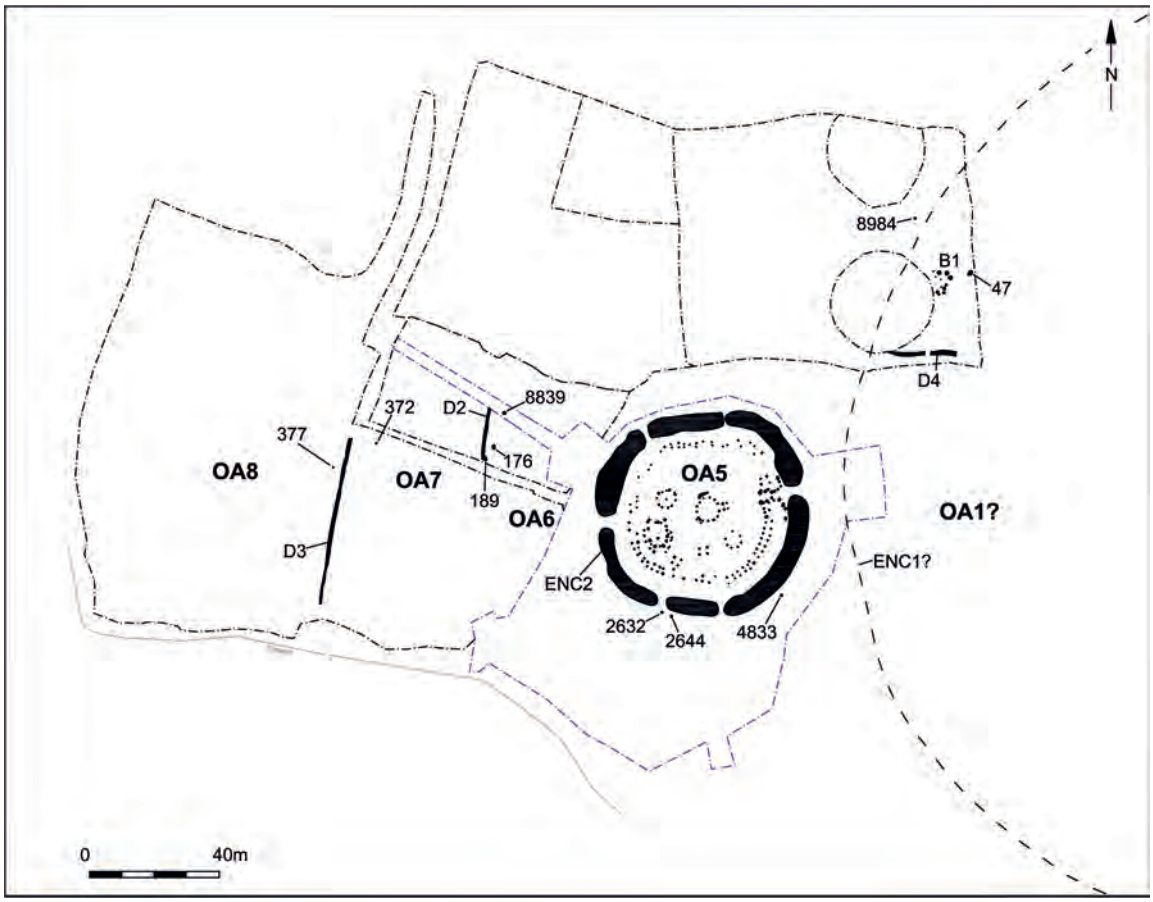


FIGURE 7: Site plan: Late Bronze Age

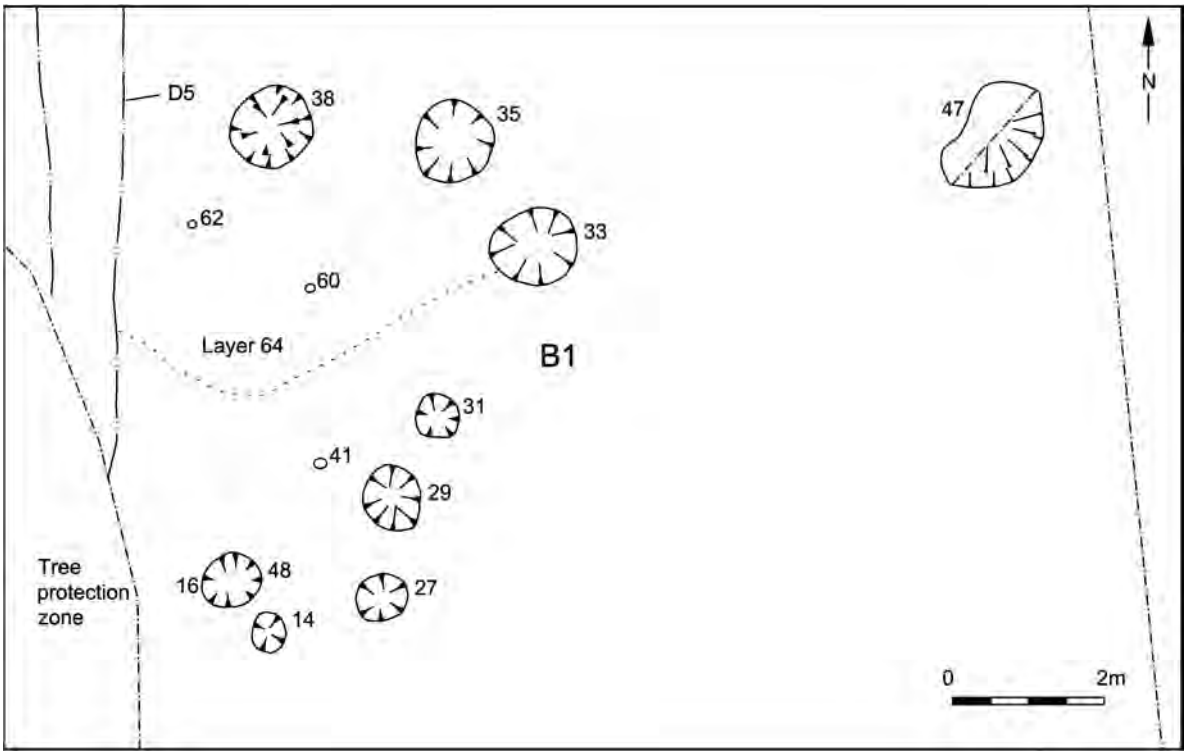


FIGURE 8: Late Bronze Age building B1

of probable small circular post-built structure B1, of *c.*5–6m diameter (Fig. 8 and Plate 2). This tentative roundhouse has been interpreted to feature a projecting porch to the south and was of slightly irregular plan. Most of its western side was removed by later ditch D5 or else was obscured by the tree protection zone.

The six post-holes [14], [16], [27], [29], [31] and [48] forming the southern side of the structure were of broadly similar shape and dimensions. Diameters ranged from 0.55m to 0.86m and depths from 0.26m to 0.45m. Post-hole [16], which was a recut of underlying post-hole [48], had vague traces of an angled central post-pipe. The three northern post-holes [33], [35] and [38] were larger, all having diameters of 1.10m and depths ranging from 0.36m to 0.53m. Most of the post-holes had a single dark brownish grey sandy silt fill containing occasional charcoal flecks and pieces of burnt flint. Larger post-holes [35] and [38] each had a second lower fill of dark grey silt containing charcoal and ash. Within the interior of the roundhouse were three circular stake-holes [41], [60] and [62], all 0.10m deep and ranging in diameter from 0.08m to 0.18m. Roughly paired post-holes [14]/[48] and [27]/[29] are construed to mark either side of the projecting doorway.

PLATE 2: Late Bronze Age building B1, looking east (2m scale)

The roundhouse was well-dated with a total of over 2.5kg of Late Bronze Age pottery recovered from all nine of the post-holes and from stake-hole [41]. Additional sherds were recovered from a thin layer of subsoil, [64], only discernible within the northern half of B1. The roundhouse is believed to be contemporary with the circular Late Bronze Age enclosure (ENC2) located approximately 70m to the south-west. Two undated features, pit [47] and ditch D4, may also be of Late Bronze Age date. Pit [47], located 5m east of the roundhouse, was oval in plan and measured 1.6m long by 0.40m deep (Fig. 8). The only finds in its fill were a few flecks of baked clay noted by the excavator. Ditch D4 was aligned east to west (Fig. 7), though slightly sinuous in plan, and was cut by Roman ditch D5. It had a U-shaped profile and was over 21m long, up to 1.11m wide and 0.45m deep. The only recovered finds were a few fragments of burnt flint.

Iron Age

During the original excavation a few scattered sherds of Middle and Late Iron Age pottery were recovered from the upper fills of the northern half of the circular settlement enclosure ditch (ENC2) implying that this was still an open, albeit shallower, feature. However, no evidence of Iron Age occupation was found within the circular enclosed area (OA5) itself. The only significant feature was a pit ([4583]) deliberately dug close to the centre of OA5 for the interment of a bent Late Iron Age sword and scabbard (Brown and Medlycott 2013, 46 and 161).

No additional remains of Iron Age date were encountered during the recent excavations of Plots K, L and N.

Roman

By the Roman period the former Neolithic causewayed enclosure earthwork (ENC1) and its interior (OA1) within it appear no longer to have been significant landscape features and were disrupted by north-to-south aligned ditch D5. This ditch formed part of a probable rectilinear field system along with contemporary ditches D6, D7, D8 and [2596]/[2616] to the south and west (Fig. 9). Ditch D5, was in excess of 75m long, up to 2.25m wide and 0.76m deep, with a V-shaped profile in the south and a more rounded profile in the north. The ditch had two distinct sandy clay-silt fills, with the lower fill containing noticeably more flint stone inclusions. Given this uniformity it is possible that the upper fill in fact indicates the position of a later recut in the top of the in-filled ditch. Finds comprised only a few fragments of fired clay and burnt flint. This ditch had been previously recorded passing through Trenches HQ ([10000]) and HR ([10001]) and excavated in Trenches HD ([8953]) and HP ([8992]) where it was identified as being of Roman date (Brown and Medlycott 2013, 46). Also, it aligned with a ditch excavated *c.* 120m north in Plot G/H.

To the west, at least the northern half of the Late Bronze Age enclosure ditch (ENC2) was still apparent as a landscape feature, as Roman pottery and tile was recovered from its upper fills (Brown and Medlycott 2013, 46). Within this vague semi-circular area (OA9) were two inter-cutting oval pits [2941] and [2972]. Roman pottery broadly dating to the 1st to 3rd century was recovered from the later pit. A third pit [2535], roughly aligned on ditch [2596]/[2616] (see below) and cutting the in-filled enclosure ditch to the east, contained a burnt deposit including most of a ceramic jar of similar date.

Whilst the northern half of the Late Bronze Age enclosure ditch may still have been visible its southern half appears to have become infilled and levelled by the Roman period, if not earlier, with the two opposing areas partially separated by east-to-west ditch [2596]/[2616]. This ditch started roughly in the centre of the former circular enclosure and continued westwards for over 45m before being truncated by the modern tank trap. It consisted of two merging ditches ([2596] and [2616]) excavated in the original area, with [2616] being part investigated further west within Plot N as ditch [393]. Pottery from ditch segment [2596] suggested a 3rd- or early 4th-century date for this feature.

To the south of ditch [2596]/[2616] was an extensive open area (OA10) (Fig. 9) that may have extended all the way from a projected southwards continuation of ditch D5 in the east to north-to-south ditch D6 in the west, a distance of around 200m, and to the south presumably extended as far as the

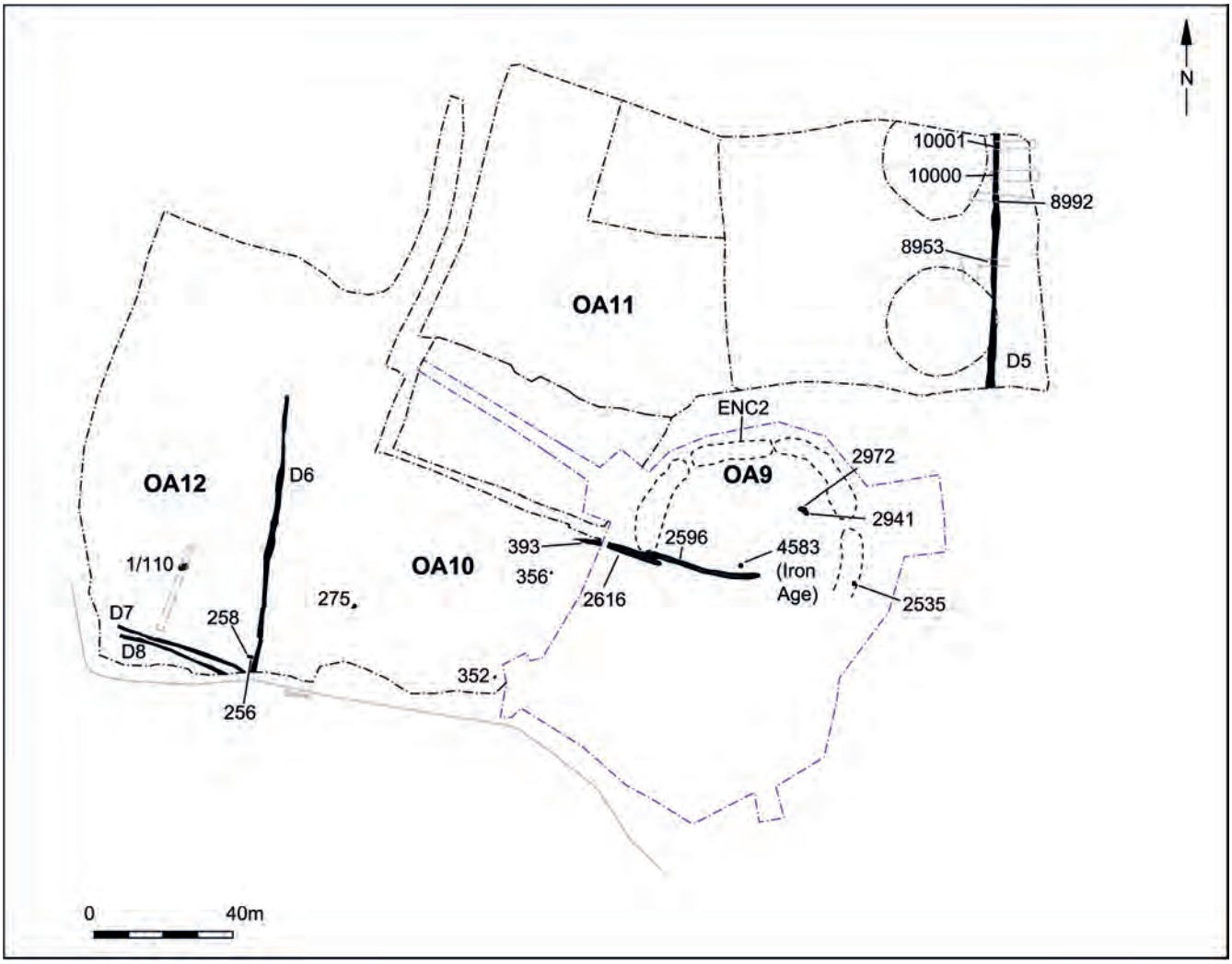


FIGURE 9: Site plan: Iron Age and Roman

watercourse. To the north of ditch [2596]/[2616], and perhaps incorporating semi-circular area OA9, was a second open area (OA11) mirroring that of OA10 to the south.

Two pits [275] and [356] containing undiagnostic pottery of Roman date were present within OA10. Pit [275], in the west of the area, was of irregular shape and measured 1.35m long and 0.30m deep. Environmental analysis of its dark charcoal-flecked fill identified a single charred grain of possible barley and oak charcoal. Pit [356], toward the centre of the area, was oval in plan, 0.57m long and 0.21m deep, and contained several pieces of daub. A third undated pit ([352]) located close to the southern edge of the site may also be contemporary. No archaeological remains of Roman date were identified in OA11.

The western sides of areas OA10 and OA11 were bounded by north-to-south ditch D6, which was intermittently observed for *c*.80m before becoming obscured to the north by root disturbance and by truncation by a former tennis court. The ditch was found to be up to 1.30m wide and 0.30m deep; finds comprised a small amount of animal bone, baked clay and Roman pottery.

A further open area is defined to the west of ditch D6, OA12, extending west beyond the development area but bounded to the south by broadly parallel WNW-ESE aligned ditches D7 and D8. Ditch D7, the northerly of the two, was in excess of 38m long, up to 0.76m wide and 0.28m deep and contained a few pieces of Roman roof tile (tegula). The more southerly ditch D8 was over 30m long, poorly defined, and shallow at only 0.09m deep. It contained only a few fragments of baked clay. The ditches appeared to converge towards the west where they were only 1m apart. Whilst it is possible that these ditches represent either side of a narrow track or funnelled way for stock it is more likely that they represent two phases of similarly aligned drainage ditch, perhaps D7 being a replacement for D8. Both were situated close to the existing water course and could be earlier versions of this feature.

In the south-east corner of OA12 were two undated and poorly-defined pits, [256] and [258], that are assigned to the Roman period due to their location. Both contained baked clay and fire-cracked flints, although there was no evidence of *in-situ* burning. Further north in OA12, a third undated pit ([1/110]) excavated in an earlier trial trench also contained baked clay and fire-cracked flint and may therefore also be contemporary.

Early Saxon

By the Early Saxon period the former land divisions had seemingly disappeared. The one exception is the northern half

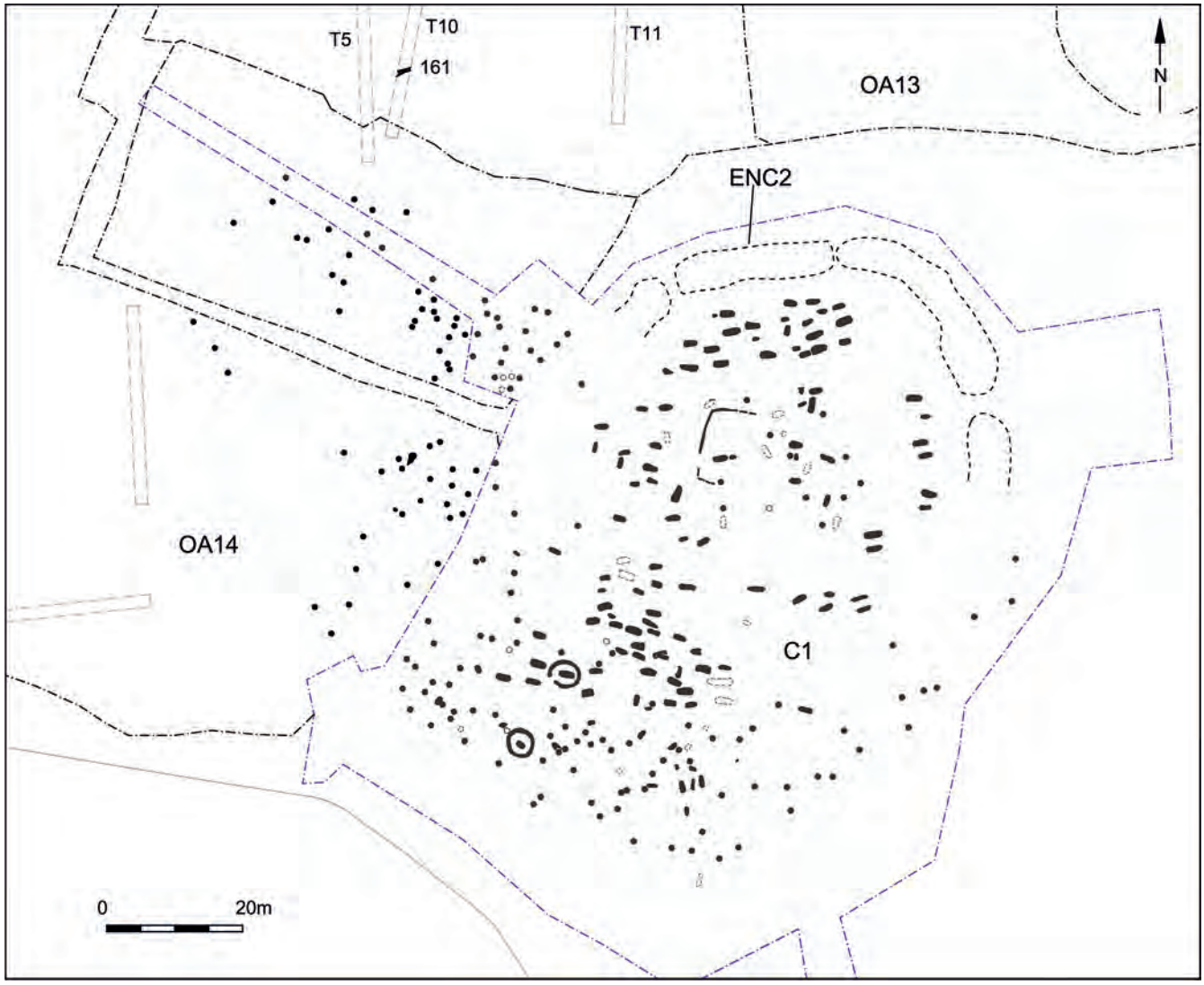


FIGURE 10: Site plan: Early Saxon

of the Late Bronze Age enclosure ditch (ENC2) which evidently endured sufficiently to provide a northern limit to the Early Saxon mixed rite cemetery (C1) (Tyler and Major 2005, 5). The cemetery largely extended south and west of this, with burials overlying the infilled enclosure ditch and continuing for 30m or more beyond (Fig. 10).

Within the 1981–91 excavation area, 143 cremation burials, and up to 139 inhumation burials (including twenty-five uncertainly identified and one horse-head burial) of 5th-, 6th- and possibly 7th-century date were excavated (Tyler and Major 2005, fig. 4). Most of the inhumation burials were found within the former circular enclosure or else to its south-west. The cremation burials were more widespread; a few were located within the former enclosure but the majority were spread to the south and west, with a further quantity extending around the outside of the former enclosure to the south-east. Although the 1981–91 excavations identified the northern, southern and eastern edges of this largely unenclosed cemetery, its western extent was not established; though Trench HA at least demonstrated that a lessening density of burials continued for some distance to the northwest (Tyler and Major 2005, 5 and fig. 4).

The Plot L and N excavations exposed the remaining western extent of the Early Saxon cemetery, revealing a further forty-five cremation burials and a number of cemetery-related features, but no further inhumation burials. Similarly unbounded on this side, burials extended *c.* 55m from the edge of the former circular enclosure (Fig. 10). Beyond the cemetery, the surrounding landscape within the development area has been designated as open areas OA13 (to the north) and OA14 (to the west). No contemporary remains were identified within these surrounding areas other than a shallow ENE-WSW aligned gully [161] in Trial Trench 10 that contained one sherd of Early Saxon pottery that might possibly be residual. The continuation of this gully was not observed in Trenches 5 or 11 to either side and may only have been a localised feature.

Cremation burials

A total of forty-five definite cremation burials (see burial gazetteer below) were excavated within Plots L and N (Fig. 11). Most of these consisted of a small pit containing a single ceramic vessel into which burnt human remains had been placed. Unurned burial [379] was the one exception. Details of all burials and cemetery-related features are included in the gazetteer. Overall there was a close similarity between the Plot L and N cremation burials and those of the 1981–91 excavation, as might be expected from components of a single cohesive cemetery site.

The grave pits were generally poorly defined, particularly where they were cut into the surrounding silty gravel and/or where the burial was heavily truncated. Surviving pit cuts, where discernible, were all roughly circular in plan and varied in depth between 0.02m to 0.22m, with the majority being less than 0.12m deep. Diameters were generally in the range 0.20m to 0.35m with the largest, for burial [314], being 0.6m. In all cases the depth and diameter of the pit depended greatly on the degree of truncation. In several instances there was no discernible cut and in some heavily truncated examples just the slightest of bowl-shaped depressions beneath the vessel remains could be discerned. Many of the deeper examples appeared to confirm that the pits were only ever cut large enough to accommodate the single vessel (Plate 3).

All of the burials had been truncated in antiquity to a greater or lesser degree, presumably by post-cemetery cultivation. In some instances the pottery vessel had clearly been fragmented by root action. Also, a small amount of material was inevitably lost from the top of a burial and vessel when it was initially exposed by machine. Most of the burials, particularly in the east of the site, were sealed beneath a thin layer of subsoil which, as it overlay already-truncated burials, must have been the base of a former plough-soil. The survival of the burial remains beneath this soil was directly related to the depth of the pit so that, in general, the cremation vessels that were buried the deepest survived the best.

The interred vessels were generally disturbed and fragmentary (Plate 4). Vessel forms, fabrics and decorative styles indicate that most of the burials from Plots L and N are likely to date to the late 5th and early 6th century. Most burials only contained basal and lower body sherds up to an estimated 30% completeness. Only eleven vessels (in burials [121], [124], [133], [202], [287], [298], [314], [337], [342], [355], [364]) were 40% or more complete, with the best surviving examples (75%+ complete) being vessels [122] (burial [121]), [126] (burial [124]), [134] (burial [133]), [202] (burial [200]), [313] (burial 314) and [350] (burial [355]). The pottery fabrics were soft and crumbly and in general fragile. The vessels comprised a range of bowls and jars of which a small proportion (20%) were decorated with a range of incised lines, bosses and stamps. Large and decorated vessel [313] had been repaired with a lead plug (RF17) and vessel [350] was unusual in that it had been buried on its side.

The vessel fills contained small fragments and flecks of burnt bone, were all 100% sampled and removed for off-site processing. In several instances the near-complete vessel and its contents were removed as one for later dismantling and analysis. The fills were mostly described as greyish brown clay silts or silty clays, some having occasional pebble inclusions. Few had a noticeable charcoal content. Grave goods were

PLATE 3: Early Saxon cremation burial 314 under excavation

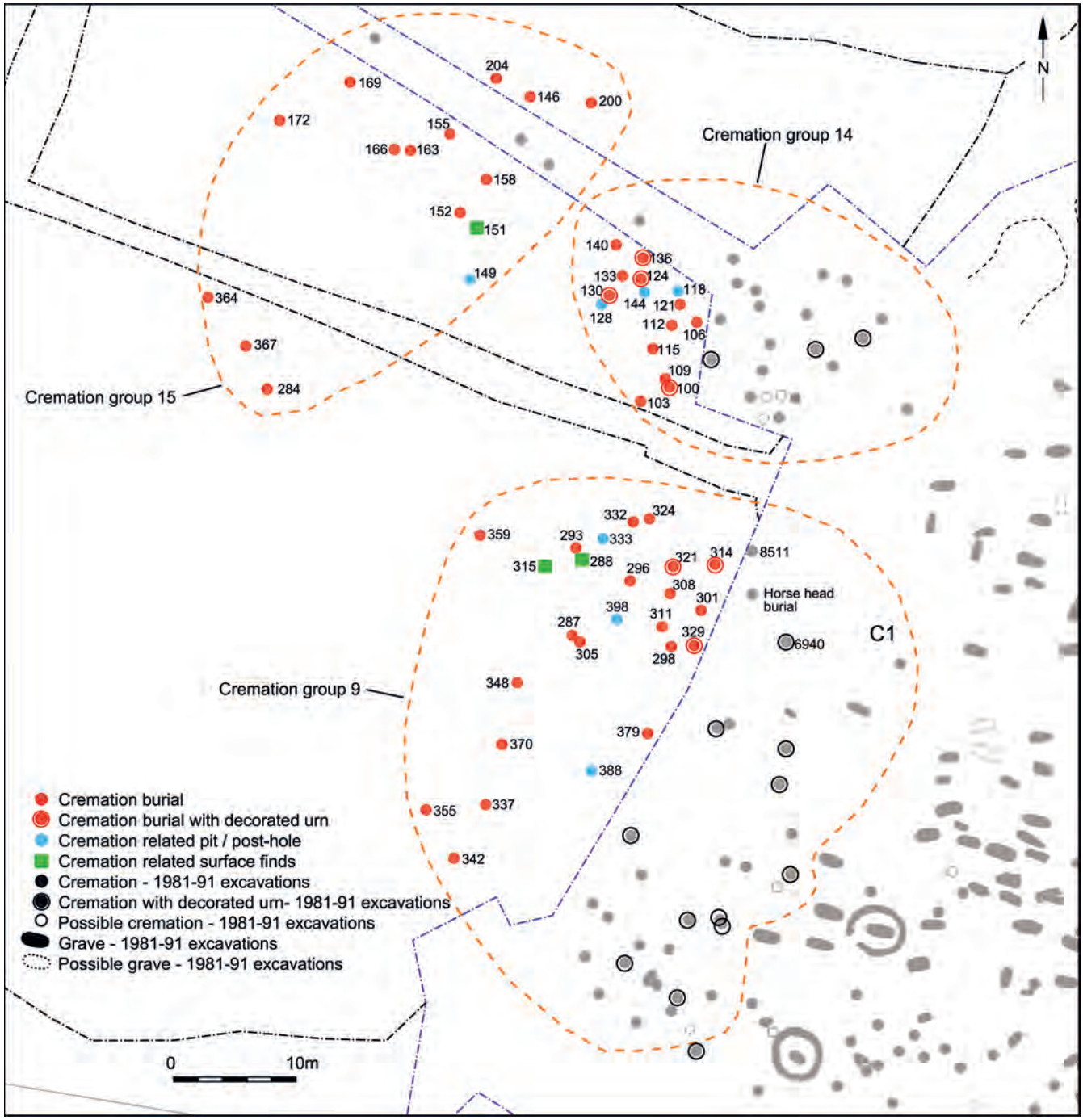


FIGURE 11: Excavated Early Saxon cemetery features

scarce, though three items (in addition to the fore-mentioned lead repair plug), consisting of a bone bead (RF18), a possible perforated coin (RF21) and an iron clip (RF22), were all recovered from vessel fill [312] in burial [314]. Other grave goods comprised fragments of copper alloy binding strip (RF23) in vessel fill [132] in burial [130], copper alloy tweezers with wire ring (RF16) in vessel fill [349] in burial [355], copper alloy fragments (RF15) in vessel fill [290] of burial [293] and an iron awl (RF20) in vessel fill [330] of burial [332]. In addition, vessel fill [327] in burial [329] contained 13.7g of cremated animal bone identified as large mammal ribs. There was no evidence of butchery, gnawing or pathology on the bones, though these remains should perhaps be regarded as evidence of the inclusion of food offerings on the pyre.

Over 7.5kg of cremated bone consistently white in colour and clearly burnt at high temperatures and was recovered from the cremation fills. The minimal charcoal content indicated that some degree of care had taken place during bone recovery from the pyre. Unsurprisingly, the greatest quantity of burnt bone (1,097.3g) was recovered from the largest and best preserved ceramic vessel [313], found in burial [314]. However, differences in weight of bone (61.6g to 247.1g) within other near-complete vessels (burials [121], [133] and [200]) indicated that various factors, such as partial collection of remains, age of deceased, as well as size of urn were likely also to be involved. Analysis of the bone has led to the estimation of age in thirty-three of the burials.

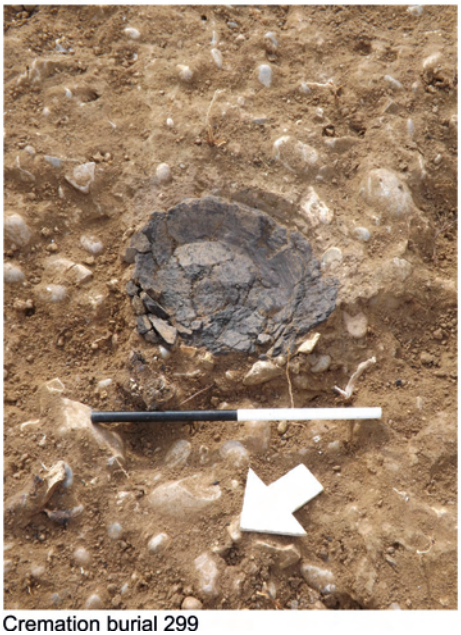
In ten burials ([124], [133], [136], [166], [200], [287], [298], [342], [355] and [370]) a definite backfill surrounding

Cremation burial 133


Cremation burial 200

Cremation burial 285

Cremation burial 292


Cremation burial 299

Cremation burial 313

PLATE 4: Selected *in situ* Early Saxon cremation burials

the vessel was identified. These fills were often poorly defined and similar in colour and consistency to the surrounding natural deposits. No finds were recovered from these backfills, other than a few small quantities of burnt bone that in all cases owed their presence to disturbance of the internment vessel. Burnt bone in the backfill [351] of burial [355] was clearly displaced from the vessel which had been buried on its side.

No instances of intercutting burials were recorded, suggesting the former presence of above-ground markers and the deliberate avoidance of earlier graves. The spacing between individual burials was variable, though generally increasing

to the southwest as grave density diminished. Collectively, the burials excavated in Plots L and N burials form three distinct clusters on the western periphery of the Early Saxon cemetery. The distribution and patterning of graves is further explored in the discussion.

Cemetery-related features

A small number of cemetery-related features (post-holes, pits and surface finds) were also present amongst the graves (Fig. 11). In the east of Plot L, three roughly equally spaced circular pits or post-holes ([118], [128] and [144]) formed a gently curving line that may have formed a boundary between two groups of burials. Each was located within 1.0m of a cremation burial so it also possible that instead these denote the positions of individual marker posts, their alignment being coincidental. Post-hole [144], situated in the middle of the line, was the largest and best preserved of the three with a diameter of 0.44m and a depth of 0.2m. The other two post-holes ([118] and [128]) were shallower and more heavily truncated. Two tiny flecks of burnt bone were noted in pit [128] and a single fragment of cremated endocranial bone was recovered from [118] along with fragments of baked clay and a single sherd of residual Roman pottery.

Pit [149], located *c*.10m west of post-hole [128], contained tiny flecks of burnt bone and charcoal. However, actual amounts were minuscule and irretrievable. This pit had a diameter of 0.3m and a depth of 0.10m. It is unclear whether this truncated feature was a pit containing pyre debris or remnants of a second unurned cremation burial. It can, however, be disregarded as a marker post as it was 5m from the nearest cremation burial.

In Plot N, a single sherd of Early Saxon pottery and fragments of iron rod (RF19) possibly from a large pin were recovered from irregular tear-shaped pit [333]. This pit was 1.9m long by 0.14m deep and was filled with dark grey brown sandy silt. It was located amongst a number of cremation burials and is regarded as a probable contemporary feature. It was not determined if the iron rod fragments constituted burnt pyre debris.

A single sherd of Early Saxon pottery was recovered from poorly-defined sub-circular pit [398], 0.63m long by 0.15m deep and filled with mid-greyish brown sandy silt. Two abraded sherds of Early Saxon pottery were also recovered from shallow, sub-circular pit [388]. Both of these features may be cemetery-related features. However, they were located near to a number of undated pits and post-holes (G23) possibly associated with the later Saxon settlement and so could alternatively be of this date if the pottery is considered residual.

Surface find-spot [288] consisted of a copper-alloy cruciform brooch (RF1), thirteen burnt glass beads (RF2–RF14) and a single sherd of Early Saxon pottery all lying together in a small pile. No evidence of a surrounding cut was found despite thorough hand-investigation and subsequent controlled lowering of the immediate vicinity by machine. This pile of artefacts appeared to be too intact to be displaced grave goods from a plough-disturbed cremation from elsewhere. No burnt bone was present nor was there any pottery underlying the beads and brooch as would be expected if the finds had been deposited in the base of a cremation vessel. It therefore seems reasonable to assume that these finds formed all or part of a 'placed deposit' of pyre debris and personal possessions in an ephemeral pit of which no trace remains. Significantly, perhaps, this pit was located only 1m south-west of tear-shaped pit [333].

Surface find-spot [315] consisted of seventy-one sherds of Early Saxon pottery all located in close proximity to each other. The sherds represent the truncated and very fragmented remains of a cremation urn. No fill was present and the cut was also no longer discernible. These were located 3m west of find-spot [288] and it is also conceivable, as pottery fabrics were similar, that the two finds groups were originally part of the same plough-disturbed grave.

The Early Saxon cemetery was in use up to the end of the 6th century and possibly into the 7th century on the basis of grave good evidence (Tyler and Major 2005, 2). Following the final burials, the active cemetery function of this location in the landscape appears to have gone out of use and the site left undisturbed for a period perhaps in excess of 200 years. This does not, of course, mean that its significance was immediately forgotten or that the cemetery did not continue to be respected and venerated for some period of time after it received its final interments.

Gazetteer of burials and other Early Saxon features

This gazetteer lists all burials and other features relating to the Early Anglo-Saxon cemetery, in feature number order. A total of forty-five cremation burials, seven cemetery-related features and three surface finds were recorded. All features were truncated, and some had also been disturbed by field drains and plough marks. Question marks indicate where the shape and dimensions of a pit are uncertain. All pottery is Early Saxon unless otherwise indicated and all identification of stamps references Briscoe's 1981 classification. Bead identification references Brugmann's 1997 classification. All cremated human bone is highly fragmented. Here, question marks indicate where the age of an individual has only been determined as probable. Illustrations of ceramic vessels and accompanying grave goods are presented, in burial order, in Figures 12–15.

Cremation burial [100] (Fig. 12)
No visible pit
Single vessel, urn fill [102]
Urn [101]: *c.*35% vessel of carinated bowl. Rim missing. Flat base. Fabric 4. Inner surface dark brown, outer and core dark grey to black. Top half of pot decorated with horizontal rows of stamps delineated by concentric necklines (grouped in twos). At least four rows. Two stamps used. Briscoe's types A5 bi (rosette circles with ten spokes) and A9c (composite circles with petalled edge). Max. girth approx. 150mm. Wt. 392g
Cremated human bone: 14.2g from a single sub-adult

Cremation burial [103] (Fig.12)
Circular pit, 0.2m diam., 0.15m deep
Single vessel, urn fill [105]
Urn [104]: *c.*25% of large globular jar. Base, lower body sherds and 4 rim sherds. Slightly concave base. Fabric 3a. Outer surface reddish-brown, inner and core dark grey. Thick-walled (max. thickness 7mm). Max. girth 200mm. Max. base diam. 110mm. Surviving ht. 65mm. Wt. 627g
Cremated human bone: 57.2g

Cremation burial [106] (not illustrated)
No visible pit
Single vessel, urn fill [108]
Urn [107]: Base (very disintegrated) and two body sherds. Fabric 3a. Dark reddish-brown throughout. Outer surface smoothed. Wt. 120g
Cremated human bone: 270.2g from single adult

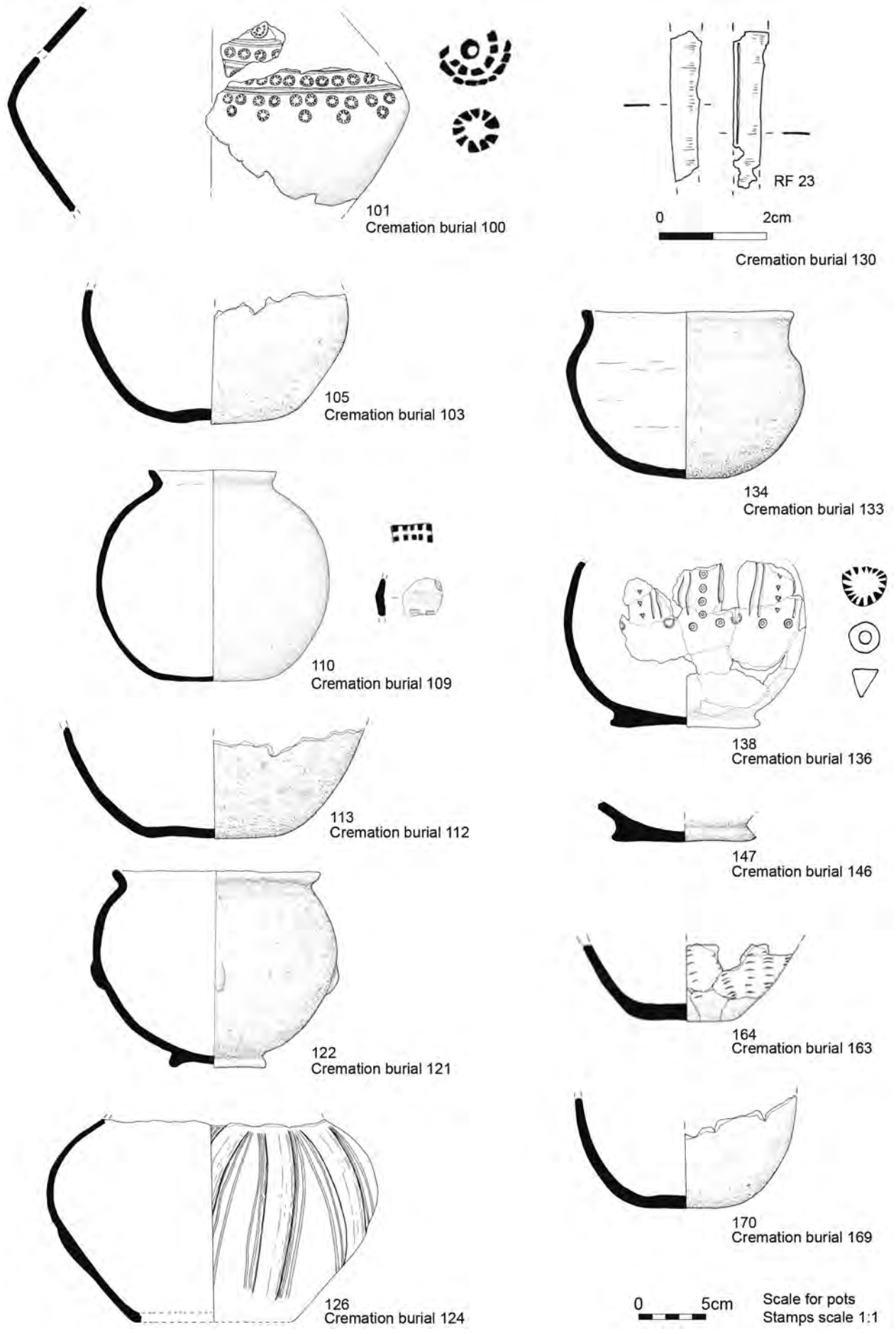


FIGURE 12: Early Saxon cremation urns and finds, burials 100–169

Cremation burial [109] (Fig. 12)
No visible pit
Single vessel, urn fill [111]
Urn [110]: Base and lower body sherds, and a rim sherd (the latter does not join but appears to be from the same vessel). Fabric 4. Outer surface patchy orange-brown to black. Everted, rounded rim. Slightly sagging base. Wt. 320g
Pottery: one decorated sherd from a separate vessel. Fabric 1a. Outer surface and core dark grey, inner dark reddish-grey. Bossed with deeply incised lines demarcating outline of boss. Stamps on and in between boss. One stamp used Briscoe's type C2aiii (grid rectangle). Wt.7g
Cremated human bone: 186.9g from single ?adult

Cremation burial [112] (Fig. 12)
Circular pit, 0.2m diam., 0.05m deep
Single vessel, urn fill [114]
Urn [113]: Base of large jar. Fabric 1a. Outer surface reddish-orange, inner and core reddish-brown. One large sherd, the rest disintegrated. Flat base. Thickness of wall at base 16mm. Max. diam of base 160mm. Wt.134g.
Cremated human bone: 6.1g

Cremation burial [115] (not illustrated)
No visible pit
Single vessel, fill [117]
Urn [116]: Base of jar (mostly disintegrated). Fabric 3a. Outer surface orange brown, inner and core black-brown. Max. wall thickness 14mm. Wt. 334g
Cremated human bone: 48.1g from single adult

Cemetery-related post-hole [118]
Oval pit, *c.*0.24m x 0.20m. Very truncated
Fill [120]
Pottery [119]: one residual sherd of Roman grey ware
Cremated human bone: 2g

Cremation burial [121] (Fig. 12)
Oval pit, 0.4m x 0.35m, 0.12m deep
Single vessel, urn fill [123]
Urn [122]: *c.*85% of globular bowl with footring and two lugs. Fabric 3a. Surfaces orange-brown, core black. Everted, uneven rim (30% extant). Two unpierced lugs, positioned asymmetrically across the pot. Max. rim diam. 150mm. Max girth 190mm. Max. base diam. 75mm. Wall thickness 9mm. Ht. 142mm. Wt. 712g
Cremated human bone: 61.6g

Cremation burial [124] (Fig. 12)
Oval pit, 0.5m x 0.42m, 0.18m deep
Single vessel, fill [127], backfill [125]
Urn [126]: *c.*75% of biconical decorated bossed urn. Rim missing. Fabric 1b. Smoothed outer surface dark brown, over reddish-brown inner and core. Flat base (very fragmented), twelve long bosses around girth, grouped in threes. Decoration comprises incised lines either side of each boss (two each side). Max. girth 235mm. Approx. base diam. 80mm. Max. Ht 175mm. Wt. 749g
Cremated human bone: 364.4g from single adult

Cemetery-related post-hole [128]
Circular pit, 0.22m diam., 0.09m deep
Fill [129]

Cremation burial [130] (Fig. 12)
?Circular pit
Single vessel, fill [132]
Urn [131] (not illustrated): *c.*35% of biconical decorated bossed urn. Slight footring base. Very fragmented. Rim missing. Fabric 1c. Dark grey throughout, outer surface smoothed. Decoration comprising concentric necklines (at least two), underneath which are a series of applied solid long bosses, demarcated with an incised line either side of each boss (not possible to reconstruct exact decorative scheme). Even walled max. thickness 7mm. Wt. 647g
Cremated human bone: 248.4g from single ?adult
Metalwork: Copper alloy strip fragments RF <23>. Incomplete. L 26.3mm; W 6mm tapering to 4.1mm; Th 0.6mm. Two fragments of thin copper alloy strip with corroded end and surfaces. Both are similar in size and form. One fragment has an incised line along the margin.

Cremation burial [133] (Fig. 12)
Circular pit, 0.3m diam., x 0.14m deep
Single vessel, urn fill [135], backfill [143]
Urn [134]: *c.*90% of globular bowl with sagging base and everted, rounded rim (50% extant). Sagging base. Fabric 1c. Dark grey with smoothed outer surface. Max. rim diam. 154mm. Max. girth 178mm. Max. base diam. 85mm. Wall thickness: 9mm at rim. Ht. 130mm. Wt.929g
Cremated human bone: 98g from single ?adult

Cremation burial [136] (Fig. 12)
Circular pit, 0.36m diam. x 0.14m deep
Single vessel, fill [139], backfill [137]
Urn [138]: *c.*30% *of* sub-biconical jar with footring and everted, rounded rim. Fabric 3a. Smoothed surfaces orange-brown, core brown-black. Decoration comprising a series of long bosses demarcated, either side of each boss, by incised lines and infilled with stamps (not possible to reconstruct complete decorative scheme). At least three stamps used Briscoe's types A2ai (multiple circle), A5bi (rosette) and E1ai (plain triangle). Max base diam. 90mm. Max. wall thickness 13mm. Wt. 697g
Cremated human bone: 553.1g from single adult

Cremation burial [140] (not illustrated)
Circular pit, 0.24m diam., 0.05m deep
Single vessel, fill [142]
Urn [141]: Base and body sherds. Base disintegrated. Fabric 3b. Dark reddish-orange throughout. Wt. 109g
Cremated human bone: 29.5g from single ?adult

Cemetery-related post-hole [144]
Circular pit, 0.44m diam., 0.2m deep
Fill [145]

Cremation burial [146] (Fig. 12)
?Circular pit, *c.*0.12m diam., 0.03m deep
Single vessel, urn fill [148]
Urn [147]: Footring base. Fabric 4. Inner and core reddish-brown. Outer black, smoothed. Max. base diam. *c.*90mm. Wt. 161g
Cremated human bone: 25.7g

Cemetery-related pit [149]
Circular pit, 0.3m diam. x 0.1m deep
Fill [150]

Surface find [151] (not illustrated)
Pottery: eleven body sherds, same as vessel [153] below. Wt. 59g

Cremation burial [152] (not illustrated)
?Circular pit, 0.26m diam., 0.08m deep
Single vessel, fill [154]
Urn [153]: *c.*25% of globular jar. Base and lower body. Base disintegrated. Fabric 3b. Outer surface orange-brown, inner and core brown-black. Max. wall thickness 11mm. Wt. 774g. Total (including sherds from 151) 833g
Cremated human bone: 249.5g from single ?adult

Cremation burial [155] (not illustrated)
No visible pit
Single vessel, fill [157]
Urn [156]: 40% of globular jar, base and lower body sherds. Flat base. Rim missing. Fabric 1c. Surfaces orange-brown, core black. Max. wall thickness 10mm. Wt. 375g
Cremated human bone: 23.6g

Cremation burial [158] (not illustrated)
Oval pit, 0.3m x 0.26m, 0.12m deep
Single vessel, fill [160]
Urn *[159]*: *c.*50% of globular jar. Base and lower body. Sagging base. Fabric 3a. Outer surface reddish-orange to reddish-brown, inner and core black-

brown. Max girth 165mm. Base diam *c.*100mm. Wall thickness 6mm. Ht. 102mm. Wt. 520g
Cremated human bone: 5.5g

Cremation burial [163] (Fig. 12)
Oval pit, 0.34m x 0.3m, 0.06m deep
Single vessel, fill [165]
Urn [164]: Base and body sherds from a globular jar. Base mostly disintegrated. Fabric 4. Several body sherds have finger-nail impressions in vertical rows, rudimentary decoration? Surfaces reddish-brown, core black-brown. Wt. 298g
Cremated human bone: 76.4g

Cremation burial [166] (not illustrated)
No visible pit
Single vessel, fill and backfill [168]
Urn [167]: Base and body sherds from a medium sized jar. Fabric 3b. Surfaces reddish-orange, core black-brown. Base diam. *c.*15mm. Wt. 270g
Cremated human bone: 27.6g from single ?adult

Cremation burial [169] (Fig. 12)
Circular pit, 0.46m diam. x 0.09m deep
Single vessel, fill [171]
Urn [170]: *c.*50% of globular jar with flat base. Rim missing. Fabric 3b. Surfaces reddish-brown, core black-brown. Base diam. *c.*130mm. Wt. 584g
Cremated human bone: 215g from single adult

Cremation burial [172] (Fig.13)
?Circular pit, 0.2m+ diam., 0.08m deep
Single vessel, fill [174]
Urn [173]: *c.*50% of large flat-based globular jar with everted, slightly beaded rim (25%). Fabric 3b. Outer surface orange-red, inner and core black-brown. Rim diam. *c.*150mm. Wt. 585g
Cremated human bone: 318.5g from single adult (aged 35-45 years)

Cremation burial [200] (Fig. 13)
Oval pit, 0.38m x 0.32m, 0.20m deep
Single vessel, fill [201], backfill [203]
Urn [202]: *c.*80% of high-shouldered jar (rim missing). Fabric 4. Fill shows that base was sagging (now disintegrated). Lopsided profile. Outer surface dark reddish-brown, inner and core black-brown. Ht. 160mm. Wt. 991g
Cremated human bone: 247.1g from single adult

Cremation burial [204] (Fig. 13)
Circular pit, 0.3m diam. x 0.06m deep
Single vessel, fill [205]
Urn [206]: *c.*50% of a large jar. Base and lower body sherds. Fabric 3a. Surfaces patchy reddish-brown to black. Inner and core dark grey. Max. base diam. 130mm. Wt. 679g
Cremated human bone: 454.4g from single adult

Cremation burial [284] (not illustrated)
No visible pit
Single vessel, fill [282]
Urn [283]: *c.*15% of ?sub-globular pot. Base and lower body sherds. Highly fragmented, profile not re-constructable. Rim missing. Flat base. Fabric 4. Outer surface dark brown, inner and core and core dark grey to black. Wt. 172g
Cremated human bone: 61.1g

Cremation burial [287] (Fig. 13)
Oval pit, 0.5m x 0.42m, 0.12m deep
Single vessel, fill [285], backfill [302]
Urn [286]: *c.*50% of sub-globular jar. Base and lower body sherds. Flat, rounded base. Fabric 4. Outer surface patchy dark orange-brown to dark grey, inner and core dark grey. Some sooting on both inner and outer surfaces. Max. base diam. *c.*120mm. Max base thickness 16mm. Wt. 754g
Cremated human bone: 289g from single adult

Surface find-spot [288] (Fig. 13)
Pottery: one base sherd. Fabric 4. Wt. 20g
Metalwork: RF1 Copper alloy brooch (288.1). Incomplete. L 58.8mm; Th 17.2mm; dimensions of head H 23.9mm; W 33.4mm. Cruciform brooch, Aberg Group II. Found with bead RF<2> attached to the reverse. The foot is missing, a recent break. Two applied knobs missing, remaining knob is fully rounded with a slightly flattened reverse but is detached. The bow is decorated with sets of transverse grooves at the top and bottom and two central vertical grooves. The head is undecorated. The mineralised iron pin is present but fragmentary; replaced organics are present within the corrosion product and adhering to the knob, consisting of flat fibres and possible z-spun threads
Glass: RF14 Glass bead (not illustrated). Incomplete, fragmentary. Monochrome translucent blue annular or disc. Brugmann type 'Blue'
RF12 Glass bead (288.12). Complete. H 10.1mm; W 9.5mm; diameter of perforation 3.2mm tapering to 2mm. Four-sided cylinder polychrome bead. Opaque white background with marvered blue/blue-green trails and opaque pink spot with red eye at centre. Similar to a bead from Springfield Lyons grave [4988] (Tyler and Major 2005, fig. 37 and 114) and type H4 bead at Mill Hill (Brugmann 1997, 60, G102616); also Mucking type P25 (Hirst 2009)
RF11 Glass bead (288.11). Complete. H 9.6mm; W 11.7mm; diameter of perforation 2.8mm tapering to 2.1mm. Medium globular polychrome bead. Opaque red ground with opaque white double crossing wave and opaque mid green spot. Heat affected. Brugmann type Dot34 or Koch20. Mucking type P236
RF10 Glass bead (288.10). Complete. H 10.2mm; W 14.3mm; diameter of perforation 2.5mm tapering to 3.3mm. Short globular polychrome bead. Translucent dark blue with opaque red, white and yellow 'crumb' decoration which has abraded out in places. Brugmann type 'mottled'. Parallels at Mucking (Hirst 2009) and Eastbourne (Clifford 2016)
RF13 Glass bead (288.13). Incomplete. H 10mm; W 14.5mm; diameter of perforation 3.2mm tapering to 0.9mm. Large globular polychrome bead. Opaque white ground with transparent blue double crossing trail and pale blue spot. Heat distorted and broken. Brugmann type 'Dot34 variant'. Grave [6033] (Tyler and Major 2005, fig. 39) contained a similar bead
RF9 Glass bead (288.9). Complete. H 9.9mm; W 13mm; diameter of perforation 3.8mm tapering to 2.2mm. Large globular polychrome bead. Opaque white ground with transparent blue double-crossing trail and pale blue spot. Brugmann type 'Dot34 variant'. Grave [6033] (Tyler and Major 2005, fig. 39) contained a similar bead
RF2 Glass bead (288.2). Complete. H 10mm; W 9.5mm; diameter of perforation 3mm tapering to 2mm. Four-sided cylinder polychrome bead. Opaque white background with marvered blue-green trails and opaque red spot. Similar to a bead from grave [4988] (Tyler and Major 2005, fig. 37) and type H4 bead at Mill Hill (Brugmann 1997, 60, G102616); also Mucking type P25 (Hirst 2009)
RF8 Glass bead (288.8). Complete. H 8.3mm; W 11.4mm; diameter of perforation 2.8mm tapering to 2.4mm. Large globular polychrome bead. Opaque ?dark green ground with opaque red double crossing trail and opaque yellow spot. Brugmann type '?Koch20 variant'
RF7 Glass bead (288.7). Complete. H 4.5mm; W 10.4mm; diameter of perforation 3.9mm. Medium annular monochrome bead. Translucent blue, heat bubbled surface. Brugmann type 'Blue'
RF5 Glass bead (288.5). Complete. H 5.1mm; W 8.6mm; diameter of perforation 3.5mm tapering to 2.4mm. Medium annular monochrome bead. Translucent blue, heat bubbled surface. Brugmann type 'Blue'
RF4 Glass bead (288.4). Incomplete. H 5mm; W 8.6mm; diameter of perforation 3.2mm. Medium annular monochrome bead. Translucent blue, heat bubbled surface. Brugmann type 'Blue'
RF3 Glass bead (288.3). Complete. H 7mm; W 11.6mm; diameter of perforation 2.7mm tapering to 1.3mm. Large lobed monochrome bead. Semi opaque pale yellow-green. Brugmann type 'Ribbed'. Parallels from Northampton (Brugmann 2004, fig. 102) and Eastbourne (Clifford 2016)
RF6 Glass bead (288.6). Complete. H 6.9mm; W 15.5mm; dimensions of perforation 5.4mm x 3.1mm. Medium annular monochrome bead. Translucent green black, heat bubbled surface. Also present in graves [2780], [4899], [4988], [6044] and [6533] (Tyler and Major 2005, figs 25, 34, 37, 40)

Cremation burial [293] (Fig. 14)
Circular? pit, *c.*0.2m+ diam., 0.08m deep
Single vessel, fill [290]
Urn [289]: *c.*30% of shouldered jar with footring base. Lower body sherds

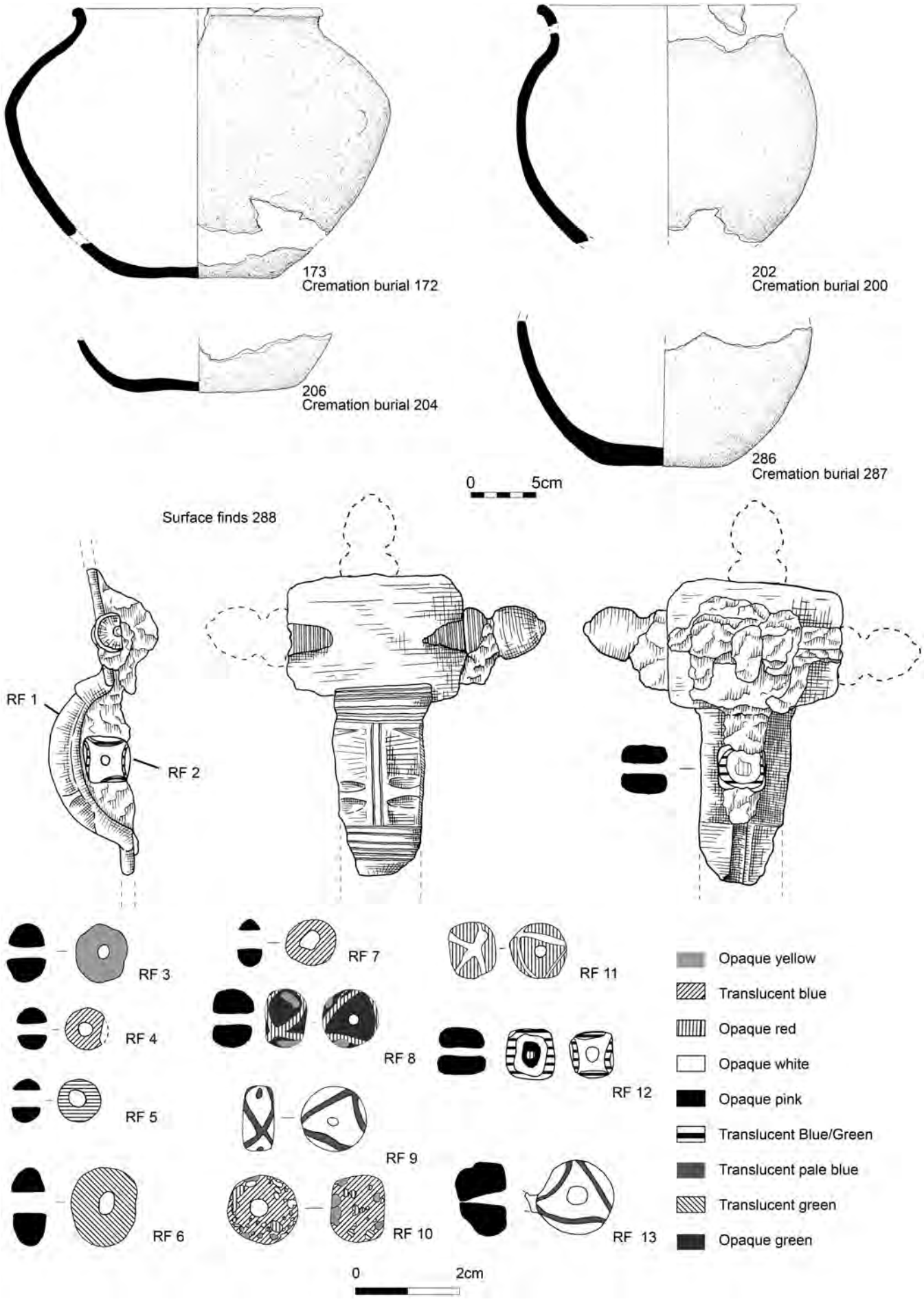


FIGURE 13: Early Saxon cremation urns and finds, burials 172–288

and slightly concave base with footring. Fabric 3a. Dark reddish-brown throughout. Max diam. of base: 80mm. Total Wt. 297g

Cremated human bone: 79.1g from single sub-adult

Metalwork: RF15 Small fragments of copper alloy were recovered from urn fill <5>

Cremation burial [296] (Fig. 14)
Oval pit, 0.17m x 0.13m, 0.05m deep
Single vessel, fill [294]

Urn [295]: Fragmented base. Fabric 4. Flat angular base. Dark grey throughout. Wt. 194g

Cremated human bone: 76.2g from single adult

Cremation burial [298] (Fig. 14)
Oval pit, 0.36m x 0.32m, 0.22m deep
Single vessel, fill [291], backfill [297]

Urn [292]: *c.*60% of large globular jar. Lower body sherds and base. Base highly fragmented. Surviving profile suggests flat, rounded base. Fabric 3a. Outer surface smoothed, dark grey/ brown throughout. Max. base diam. 110mm. Wt.1030g

Cremated human bone: 181.8g from single sub-adult

Cremation burial [301] (not illustrated)
Circular pit, 0.2m diam. x 0.05m deep
Single vessel, fill [299]

Urn [300]: Base and lower body sherds of ?globular pot. Fabric 4. Most of base disintegrated but appears to be slightly sagging. Wt. 249g

Cremated human bone: 19.3g from single adult

Cremation burial [305] (not illustrated)
No visible pit
Single vessel, fill [303]

Urn [304]: Base and lower body sherds. Fabric 4. Outer surface patchy orange brown to brown, inner and core black-brown. Wt. 67g

Cremated human bone: 34.2g from single adult

Cremation burial [308] (not illustrated)
No visible pit
Single vessel, fill [306]

Urn [307]: Base and lower body sherds. Flat base. Fabric 4. Outer orange brown. Inner and core black-brown. Wt. 78g

Cremated human bone: <1g

Cremation burial [311] (Fig. 14)
Sub-circular pit, 0.17m x 0.16m, 0.09m deep
Single vessel, fill [309]

Urn [310]: Base and lower body sherds. Slightly sagging base. Fabric 4. Smoothed outer surface dark brown to reddish-brown, inner and core black-brown. Thin-walled vessel (thickness at base 6mm). Max. base diam. 130mm. Wt. 252g

Cremated human bone: 24.5g from single infant (aged birth–6 months)

Cremation burial [314] (Fig. 14)
Circular pit, 0.6m diam., 0.2m deep
Single vessel, fill [312]

Urn [313]: *c.*85 % of biconical, carinated bossed urn. Flat, angled base. Rim missing. Fabric 1c. Hard, well fired. Outer surface smoothed dark grey, traces of burnishing. Inner surface smoothed dark grey. Core reddish grey. Decoration comprising concentric necklines (six) forming ribbing, underneath which are a series of applied solid long bosses, demarcated with an incised line either side of each boss. Bosses grouped in threes around the max. girth of pot (four groups). Some incised lines intersect to form pendant triangles. Repair to pot (lower body but not base) in the form of a lead plug. Max diam. of hole 14mm. Ht. 165mm (slightly compacted and rim missing). Max. girth 340mm. Max base diam. 140mm. Wt. 2679g

Cremated human bone: 1,097.3g from a single older adult

Metalwork: RF17 Lead repair to vessel 313. Complete. L 35.6mm; W 42.7mm; Th 8.5mm. Rounded.

RF21 Non-ferrous disc, perforated. Possible coin (not illustrated), identified from the x-radiograph.

RF22 Iron clip. Complete. L 30mm; W 19mm; Th 3.5mm. Iron strip forming rectangular loop, terminals taper and are not joined. Measurements taken from x-radiograph

Bone: RF18 Bone bead. Incomplete. H 7.7mm; W 15.6mm; diameter of perforation 3.6mm. Disc-shaped bone bead, approximately 50% remaining; has been subject to burning. Saw marks evident on surface

Surface find-spot [315] (not illustrated)

Pottery: Base, body and rim sherds of thick-walled jar. Rim upright, rounded. Base uneven, flat. Fabric 4. Outer surface orange-brown, core and inner brown-black. Max. wall thickness 11mm. Wt. 374g

Cremation burial [321] (Fig. 14)
Circular? pit, *c.*0.2m+ diam., 0.13m deep
Single vessel, fill [319]

Urn [320]: *c.*30% of biconical jar with footring. Base and lower body sherds. Fabric 4. Black-brown throughout. Decorated with a series of shallow long bosses (pushed out rather than applied). Panels of vertical decoration (both on and in between the bosses), each panel demarcated by incised vertical lines. Infill decoration comprises short diagonal lines (chevrons) and segmented crescent stamps (Briscoe's type G 2aii Segmented crescent). Max. base diam. 93mm. Wt. 260g (includes sherds from sieving of pit fill)

Cremated human bone: 7.3g

Cremation burial [324] (not illustrated)
Single vessel, fill [322]

*Urn [*323]: Base (very fragmented) and body sherds. Fabric 3b. Surfaces dark reddish-brown, core dark grey. Wt. 678g

Cremated human bone: 187.9g from single adult

Cremation burial [329] (Fig. 14)
Sub-circular pit, *c.*0.26m x 0.2m, 0.06m deep
Single vessel, fill [327]

Urn [328]: Base and lower body sherds. Flat base. Fabric 1a. Outer surface and core dark brown, inner orange brown. One body sherd has two vertically incised lines indicating that the urn had a decorative scheme utilising incised lines (and possibly other elements). Wt. 434g

Cremated human bone: 315.3g from single adult

Cremated animal bone: 13.7g

Cremation burial [332] (not illustrated)
Slight depression, 0.03m deep
Single vessel, fill [330]

Urn [331]: Base and lower body sherds. Flat base. Fabric 2. Surfaces patchy orange-brown, core orange to orange-brown. Wt. 243g

Cremated human bone: 82.1g from single adult

Metalwork: RF20 Iron awl (Fig.14). Incomplete. L 57mm; W 6mm. Triangular sectioned, pointed 'blade', tang broken. Measurements taken from x-radiograph

Cemetery-related pit [333]
Irregular pit, 1.9m x 0.9m, 0.14m deep
Fill [334]

Pottery: Base or body sherd. Fabric 1b. Orange-brown throughout. Wt. 3g

Metalwork: RF19 Iron rod fragments (Fig. 14). Incomplete. L74.7mm; D6.3mm. Circular sectioned rod fragments, unidentified. Two taper to a rounded point. Could be fragments of pin, key or other similar object

Cremation burial [337] (Fig.14)
Sub-circular pit, 0.3m x 0.25m, 0.07m deep
Single vessel, fill [335]

Urn [336]: *c.*40% of large globular pot. Base and lower body. Flat base. Fabric 2. Surfaces black-brown, core black. Base diam.125mm. Thick-walled, max. wall thickness.15mm. Wt. 1050g

Cremated human bone: 255.3g from single ?sub-adult

Cremation burial [342] (Fig. 14)
Circular pit, 0.34m diam., 0.10m deep
Single vessel, fill [340], backfill [345]

Urn [341]: *c.*50% of large globular pot. Base and body sherds. Flat base (fragmented). Fabric 4. Outer surface reddish-orange, core black-brown. Max. diam of base 250mm. Wt. 989g

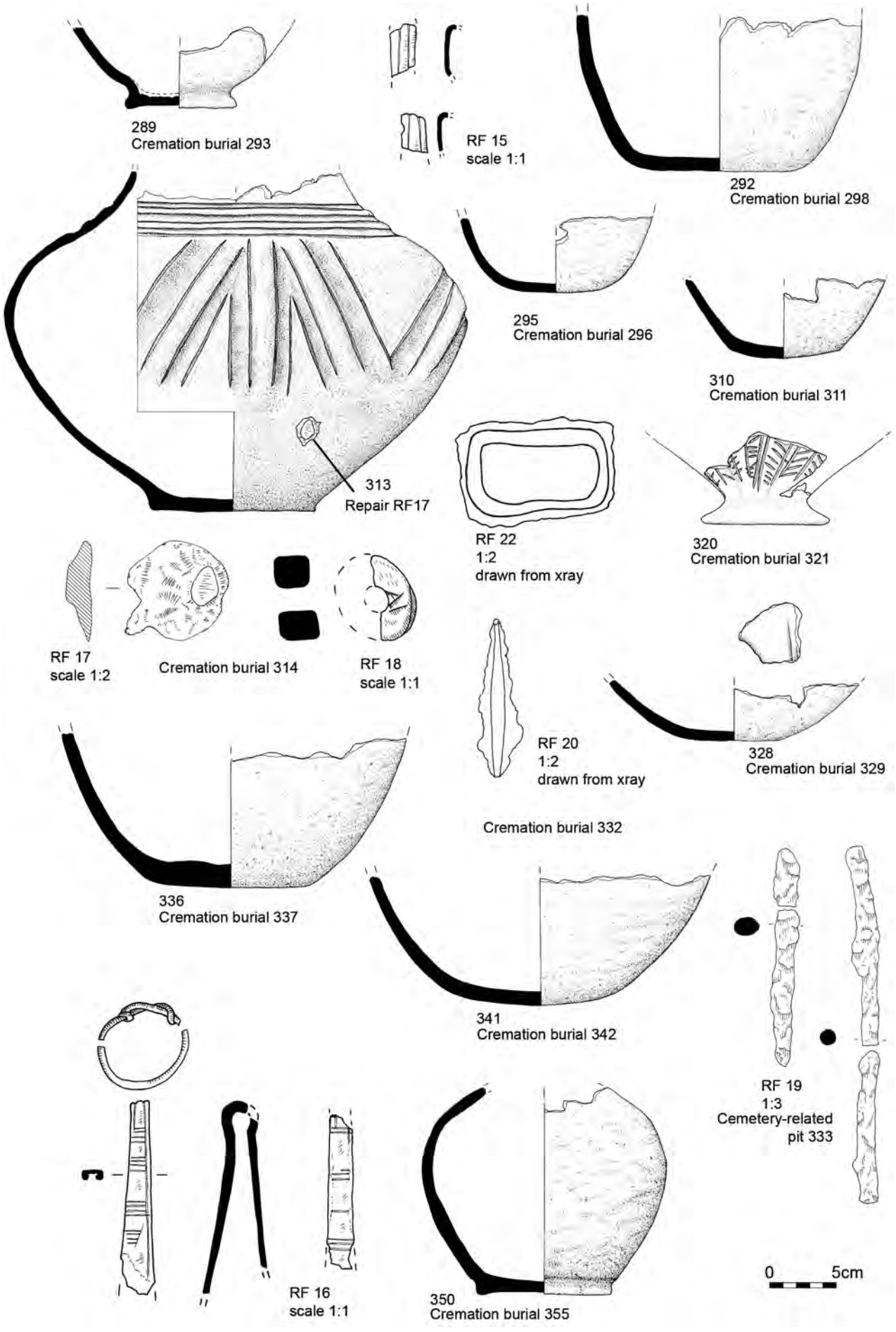


FIGURE 14: Early Saxon cremation urns and finds, burials 293–355

Cremated human bone: 392.6g from single adult

Cremation burial [348] (not illustrated)
No visible pit
Single vessel, fill [346]
Urn [347]: Base and body sherds from a medium sized jar. Fabric 1b. Outer surface reddish-orange to dark grey, inner black-brown, core dark grey. Wt. 179g
Cremated human bone: 10.9g

Cremation burial 355 (Fig. 14)
Sub-circular pit, 0.35m x 0.33m, 0.11m deep
Single vessel, fill [349], backfill [351]
Urn [350]: *c.*75% of pedestal-footed jar. Globular profile above foot-ring base. Everted, rounded rim. Fabric 1c. Surfaces reddish-brown, core black-brown. Max rim diam. 125mm. Max. base diam. 95mm. Wt. 504g
Cremated human bone: 300.2g from single adult
Metalwork: RF16 Copper alloy tweezers. Fragmentary. Arm dimensions L 36mm; W 5.9mm; Th 2.2mm. Ring dimensions D 19.8mm; Th 1.7mm Internal D 14.8mm. Decorated with four groups of four incised transverse lines within linear border

Cremation burial [359] (not illustrated)
Oval pit, 0.35m x 0.27m, 0.09m deep. Disturbed?
Backfill [358]
Pottery: five Sherds. Abraded. Fabric 1a. Wt. 2g
Cremated human bone: 2.2g

Cremation burial [364] (not illustrated)
Oval? pit, 0.23m+ x 0.18m+, 0.07m deep
Single vessel, fill [362]
Urn [363]: *c.*40% of globular jar. Base and lower body sherds. Slightly sagging base. Fabric 4. Dark reddish-brown throughout. Wt. 568g
Cremated human bone: 91.1g from single ?sub-adult

Cremation burial [367] (Fig. 15)
No visible pit
Single vessel, fill [365]
Urn [366]: Base and lower body sherds. Slightly sagging base. Fabric 4. Outer surface patchy orange to dark reddish-brown, inner and core black-brown. Max. base diam. 140mm. Wt. 276g
Cremated human bone: 17.1g from single ?sub-adult

Cremation burial [370] (Fig. 15)
Sub-circular pit, 0.27m diam., 0.09m deep
Single vessel, fill [368], backfill [371]
Urn [369]: *c.*30% of large flat-based pot. Base flat, angled. Fabric 1c. Outer surface dark reddish-brown, inner and core light reddish-brown. Max. base diam. 135mm. Wt. 1,087g
Pottery: one sherd intrusive prehistoric. Wt. 14g
Cremated human bone: 434.1g from single adult

Cremation burial [379] (not illustrated)
Oval pit, 0.5m x 0.37m, 0.06m deep
Fill [378] (unurned)
Cremated human bone: 104.5g from single adult

Cemetery-related pit [388]
Circular pit, 0.32m diam. x 0.13m deep
Fill [389]
Pottery: two Body sherds, abraded. Fabric 4. Surfaces orange, core grey. Wt. 2g

Cemetery-related pit [398]
Sub-circular pit, 0.63m x 0.57m, 0.15m deep
Fill [399]
Pottery: one body sherd. Fabric 4. Black-brown throughout. Wt. 3g

Late Saxon

In the Late Saxon period a settlement (OA16) was built over much of the southern part of the former cemetery (Fig. 16). Unlike the cemetery, the settlement did not extend right up to the northern former Late Bronze Age circular enclosure ditch (ENC2) though it is possible that vestiges of this ditch or its accompanying bank were still visible and formed a boundary to the northern extent of the settlement. The majority of the settlement, interpreted as a manorial complex, was investigated during the 1981–91 excavations (Tyler and Major 2005, 127–48) and consisted of at least sixteen buildings, including three post-built halls, arranged around a central farmyard. Three tentative phases of occupation were identified, probably all broadly dating to the 10th century, on limited dating evidence.

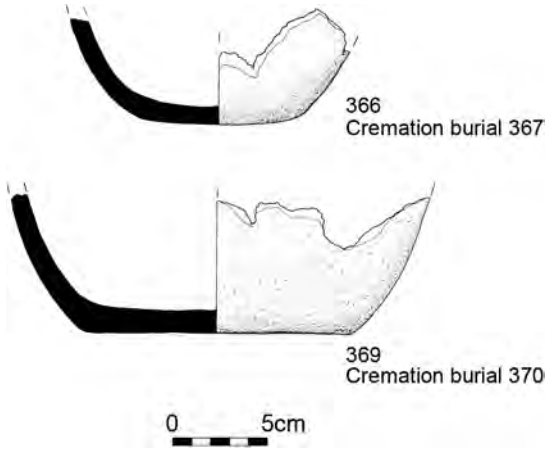


FIGURE 15: Early Saxon cremation urns and finds, burials 367–370

The eastern side of the manorial complex was bounded by north-to-south ditch D9 (Fig. 16). This ditch was traced across Plot K for some 30m, before becoming truncated and obscured to the north, and was established to be up to 1.8m wide and 0.57m deep with a fairly V-shaped profile. The ditch had previously been investigated in detail in the eastern extension to the original excavation area (as [6696]) where it was found to contain a small amount of Late Saxon pottery (Tyler and Major 2005, 143) and had been further recorded to the north and south in Trial Trenches HL, HG, HF and HS. Cumulatively, ditch D9 was traced for over 150m. The land to the east of this ditch, OA15, was most likely unenclosed pasture. Only two, shallow, rectangular contemporary pits [6712] and [6713] were excavated previously within it (Tyler and Major 2005, 148), both located just east of ditch D9. No further Late Saxon remains were found in that part of OA15 within Plot K or during investigations within Springfield Park to the east (Manning and Moore 2004).

The western side of the settlement was effectively bounded by north-to-south ditch D10, as no occupation features of potential Late Saxon date were identified in the open area (OA17) beyond it. Ditch D10 was over 50m in length, its south end being investigated in the 1981–1991 excavations as a shallow, poorly-defined curving linear feature [8253] and as a more substantial narrow boundary across Plot N. The original excavation identified its likely terminal, *c.*6m north of the present-day stream, and established its Late Saxon date (Tyler and Major 2005, 145), whilst within Plot N it was demonstrated to be 0.6m wide and a maximum of 0.24m deep. Although relatively well-defined, ditch D10 was not identified in Plot L, to the north, and is therefore presumed

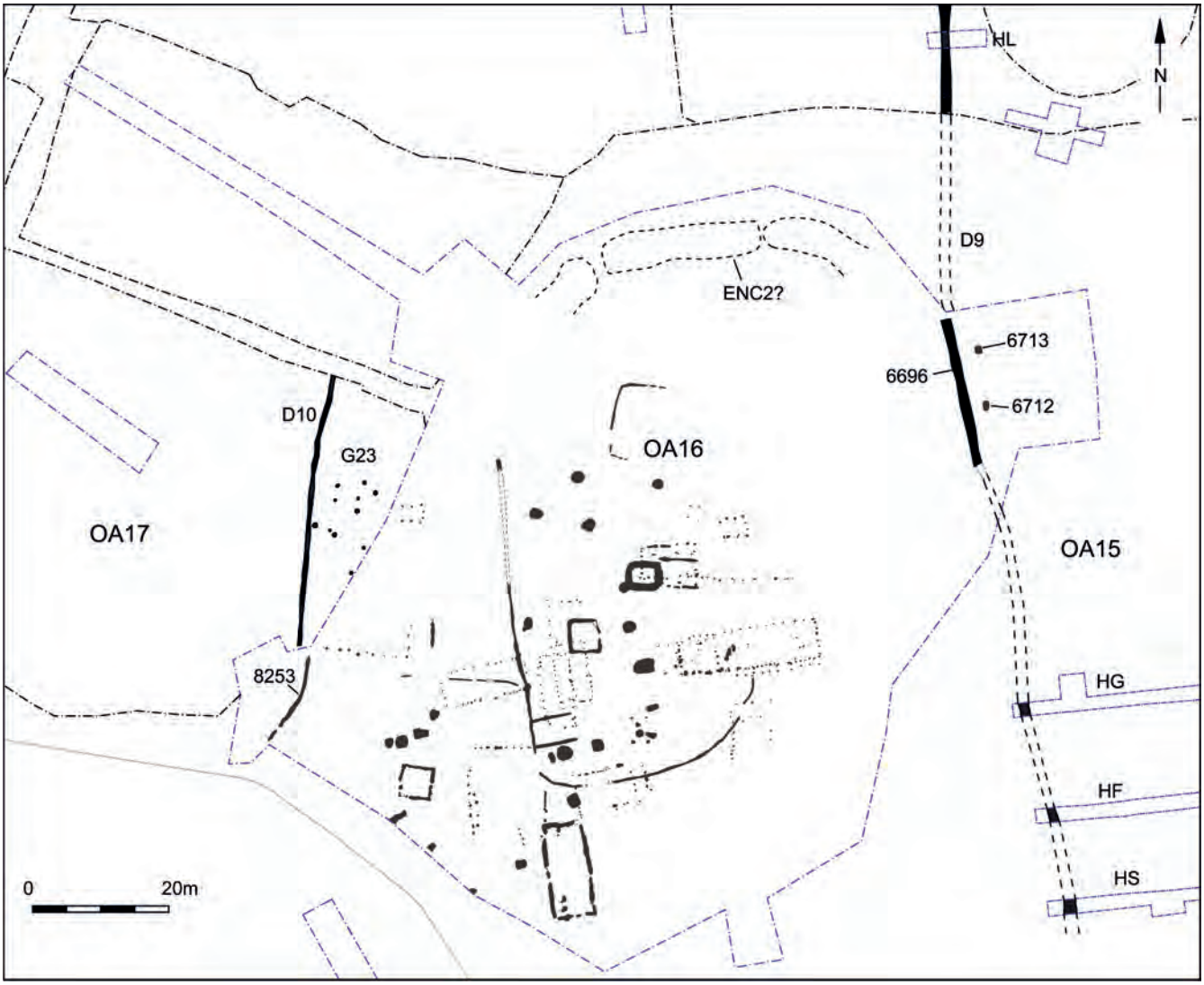


FIGURE 16: Site plan: Late Saxon

to have terminated in the *c.* 3m gap between these excavation areas.

Excavated within Plot N just east of D10, and therefore within the western fringes of the Late Saxon settlement, was a group of eleven small pits and post-holes (G23). Most were oval or sub-circular in plan and varied in length/diameter from 0.30m to 0.78m and in depth from 0.07m to 0.33m. No finds were recovered from any of their sandy silt fills. Significantly, all of these undated features were located to the east of Late Saxon boundary ditch D10; none were located to its west, implying that they respected the boundary and are therefore likely to be contemporary. Numerous small pits and post-holes were recorded in the adjacent original excavation area (Tyler and Major 2005, figs 3 and 117), some of which were interpreted to form small outbuildings and stock-enclosure fence-lines that extended beyond the site and it is possible that some of the G23 pits and post-holes form further parts of these structures, although, no meaningful patterning or continuation of alignments between the two sites could be readily discerned (Fig. 16).

As previously mentioned, no contemporary remains were identified west of D10 and, on the basis of the Plot K and L investigations, it can only be assumed that the settlement was surrounded by unenclosed agricultural land on its west side too.

Medieval and later

No remains of medieval date were identified during the excavations of Plots K, L and N. Medieval and post-medieval land use has been adequately summarised by Tyler and Major (2005, 200–2) and is not repeated here. In addition, two parallel ditches of post-medieval or later date were recorded in Plot K, one previously identified in Trench HN and the other in Trenches HL and HM. Also, the westwards continuation of the WW2 tank trap (Tyler and Major 2005, 2) was further traced across Plot N.

FINDS AND ENVIRONMENTAL REMAINS

A similar range of prehistoric and Early Saxon artefacts was recovered from the Plot K, L and N investigations as from the 1981–91 excavations, albeit of significantly lesser quantity. The larger and most important material assemblages are reported upon below while the remainder (prehistoric worked and burnt flint, fired clay, Roman pottery and tile, *etc.*) are alluded to in the site narrative where pertinent. Only thirty-seven pieces of worked flint were recovered, virtually all being

undiagnostic debitage (other than a single retouched piece) some of which is judged to be residual.

The only significant feature assemblage, eleven worked flints, was retrieved from pit [69], one of the Early Neolithic causewayed enclosure pits. The majority of this pit had been previously excavated during the 1981–91 investigations and a much larger group of 188 pieces from it is already published (Healy 2013, 84–5). This further material, essentially being more of the same, is therefore given only summary description in the site narrative text.

Prehistoric Pottery by Anna Doherty

The prehistoric pottery assemblage, which is of moderate size, is broadly similar to material previously recovered from the 1981–91 excavations (Brown 2013a and b). Summary quantification by stratigraphic period/phase is provided in Table 1. The earliest pottery comes from features associated with the Early Neolithic causewayed enclosure partially uncovered in Plot K. There is also a small amount of Late Neolithic/Early Bronze Age material. The majority of the assemblage is of later Bronze Age date. This includes a few Deverel-Rimbury sherds from Plot L as well as a fairly substantial post Deverel-Rimbury element, found in all three areas but especially concentrated in the fills of post-holes associated with building B1 in Plot K. A small number of undiagnostic Roman body sherds were also recorded for the archive but are not further discussed below.

The pottery from Plots L and K was recorded by Nick Lavender using the methodology devised by Nigel Brown (2013a and b) and set out in the previous publication. The Plot N pottery was initially recorded by the author according to site specific fabric series; however, the material from all three areas was subsequently reviewed and the different recording systems were concorded. All codes referred to below are consistent with those previously used in the 2013 publication.

Period/phase	Sherds	Weight (g)
1. Neolithic	22	168
2.1. Early Bronze Age	27	264
2.2. Middle Bronze Age	14	223
2.3 Late Bronze Age	584	4735
3. Roman	3	12
Residual in post-Roman deposits	40	63
Total	**690**	**5465**

TABLE 1: Quantification of prehistoric pottery assemblage by stratigraphic period/phase

Early Neolithic pottery

Four pits associated with the Neolithic causewayed enclosure, [52] [56], [57] and [69], produced small groups of Early Neolithic pottery; the latter appeared to be part of a feature previously excavated as [8950] in Trench HC during the 1981–91 excavations (Brown and Medlycott 2013, 8–11). The assemblage is relatively undiagnostic but probably belongs to a similar Mildenhall tradition as the other Early Neolithic pottery from the earlier Springfield Lyons excavations. With one exception (see below), all of the fabrics from these features were assigned to Brown's flint-tempered fabric groups B and C. Although broadly similar ware types were encountered in the later prehistoric assemblage, the Neolithic fabrics were subtly different, generally having denser, more laminar matrixes with slightly sparser and more ill-sorted flint. A further fourteen sherds of possible Early Neolithic pottery were identified in later features from Plot K.

Amongst the well-stratified Early Neolithic assemblage, only one rim sherd was recorded: a thin-walled and well-burnished bowl with an upright, slightly restricted neck and a rolled over rim (Fig. 17.1). This has a good parallel in the previously published assemblage (Brown 2013a, fig. 3.17.33). Also of some note is a pair of cross-fitting body sherds from pit [69] with several probable grain impressions on the internal surface.

A single abraded grog-tempered sherd (fabric M) with indistinct impressed decoration—possibly comb-stabbing—was also recovered from one of the Early Neolithic pits, [57]. This probably represents an intrusive Beaker sherd.

?Early Bronze Age pottery

Pit [374] in Plot N produced twenty-seven sherds, weighing 264g, in a slightly sandy grog-tempered fabric (M). Sherd edges are extremely abraded with no cross-fits across old breaks. Although clearly well broken and worn prior to deposition, the sherds seem to come from a single vessel (or two very similar vessels) and therefore does not appear to derive from mixed midden material.

The dating of this pottery is slightly ambiguous. Only the upper part of the profile is present and the wall orientation is uncertain. The vessel has a low cordon/wall carination *c*.50mm below the rim with a slightly hollow upper profile (Fig. 17.2). One of the non-fitting body sherds has a post-firing perforation of *c*.8mm in diameter. The upper profile of this vessel does have similarities to some Early Neolithic vessels from other regions. Carinations or cordons are associated with some of the earliest ceramics in Britain but are fairly uncommon in Mildenhall-style assemblages such as that from the 1981–91 excavations, which are typically of quite sinuous profile (Brown 2013a, 91). Furthermore, no regional parallels can be found for the use of grog-tempering in the Early Neolithic period and, on balance, this vessel seems more likely to belong to the Early Bronze Age. The upper profile is therefore perhaps best assigned to the Early Bronze Age Biconical Urn tradition. Although relatively little Early Bronze Age pottery was encountered in previous excavations, some possible Collared Urn was present (Brown 2013a, 94).

Middle Bronze Age Deverel-Rimbury (DR)

Middle Bronze Age pottery was recovered from Plot L, where ditch D1 and pit [179] both produced very small assemblages of thick-walled sherds exclusively in coarse flint-tempered fabric D, which formed only a minor element in other features from the site. The former also contained a diagnostic Deverel-Rimbury finger impressed cordon (Fig. 17.3). This material amounts to just twelve sherds, but it does perhaps suggest some continuing activity on the western part of the site prior to the establishment of the Late Bronze Age circular enclosure.

Late Bronze Age post-Deverel-Rimbury (PDR)

The majority of Late Bronze Age features and deposits produced only very small undiagnostic groups of flint-tempered body

sherds dominated by fabrics B and C. In a few cases, slightly larger assemblages were recovered which can probably be placed a little more precisely. One fairly substantial group from pit [189] in Plot L (89 sherds, weighing 338g) contained sherds exclusively in medium to coarse flint-tempered fabric C. This group produced a few small partial rim sherds, probably from jar forms. Whilst these are too fragmentary to be assigned to a specific form category, the absence of decoration and relatively coarse nature of the fabrics likely places them in the plain ware phase of the post-Deverel-Rimbury tradition. Overall, this is currently understood to belong to a date range of *c.*1150–800BC (Needham 1996). In the 1981–91 excavations, similar assemblages were excavated from the primary fills of the circular enclosure, estimated on the basis of radiocarbon dates to have formed *c.*1210–980 cal BC, whilst an association with evidence for the production of Ewart Park metalwork strongly indicated the latter part of this range (Brown 2013b, 107)

By far the largest groups of Bronze Age pottery derive from post-holes associated with building B1, quantified by fabric in Table 2. Given that these post-holes may only have been open over fairly short durations during the decommissioning of the building, this material can probably be viewed as a contemporary group and perhaps even as a structured deposit associated with the closing of this phase of domestic activity.

Fabric	Sherds	Weight (g)
A	2	18
B	24	200
C	199	1986
D	28	178
I	5	28
P	4	28
Q	1	8
V	6	62
Total	**269**	**2508**

TABLE 2: Quantification of pottery from building B1, by fabric

The building B1 assemblage is dominated by flint-tempered wares; the majority are in medium to coarse fabric C but there is also a wider range of slightly finer fabrics including some, such as I and P, which are sandier and contain little or no flint. Few feature sherds were recorded, but it is clear that the assemblage is largely undecorated. Plain forms include a bipartite jar of form C (Fig. 17.4). The very few decorated sherds include a shouldered jar similar to Brown's form E with pronounced finger-impressed cabling on the rim exterior (Fig. 17.5) and a sharply carinated bipartite bowl (form I) with fingernail decoration across both the rim and shoulder (Fig. 17.6). Overall this assemblage is probably comparable to material from the secondary group of fills from the circular enclosure. It is certainly much less decorated than material from the tertiary fills, estimated by radiocarbon to have been deposited *c.*840–690 cal BC (Brown 2013b, 111).

Also possibly from this period, towards the end of the plain ware phase or beginning of the decorated phase of the PDR tradition, is a heavily-fragmented but near-complete vessel from pit [377] (192 sherds, weighing 1.73kg), which appears to have been deliberately deposited. This is a shouldered jar with a slightly out-turned rim (Brown's form D) featuring light, crudely executed fingernail impressions on the shoulder (Fig. 17.7).

Illustrated Prehistoric Pottery Catalogue (Fig. 17)

1. Early Neolithic plain bowl with restricted upright neck and rolled rim. Thin-walled with well burnished surfaces (fabric B; Plot K; fill [72], pit [69])
2. Possible Early Bronze Age Biconical Urn (fabric M; Plot N; fill [375], pit [374])
3. Body sherd from DR urn with horizontal impressed cordon (fabric D; Plot N; fill [183], ditch [181], D1)
4. Small bipartite jar (form C, fabric B; Plot K; fill [15], post-hole [14]; building B1)
5. Upright necked jar with pronounced finger impressions on the rim some post-firing marks on neck area possibly post-depositional damage (form E, fabric C; Plot K; fill [18], post-hole [16]; building B1)
6. Open bipartite bowl with strong shoulder carination. Fingernail decoration on rim and shoulder (form I, fabric V; Plot K; fill [15], post-hole [14]; building B1)
7. Shouldered jar with a slightly out-turned rim light, crudely executed fingernail impressions on the shoulder (form I, fabric C; Plot N; fill [373], pit [374])

Early Saxon Pottery by Sue Tyler

Excavations at Plots L and N produced remains of fifty Early Saxon vessels (twenty-three from Plot L and twenty-seven from Plot N), all most likely used as cremation urns. The total weight of the combined assemblages is 22.508kg. This is a significant addition to the 120 cremation urns (the eleven inhumation accessory vessels are not included in this figure) recorded during the 1981–91 excavations (Tyler and Major 2005, 120–1) and brings the total number of cremation urns from this cemetery to 170 vessels. It is a characteristic of the cremation vessels from this cemetery that a relatively high percentage (40%) have most of their upper body missing (mostly ploughed away by subsequent agricultural land use) resulting in some vessels being too fragmentary to classify in terms of their forms and decoration. The identification of stamps follows Briscoe's 1981 classification.

Fabrics

The identification follows the *Fabric Series* used in previous analyses of pottery from the adjacent site at Springfield Lyons (Tyler and Major 2005, 120–1). Because of the incomplete nature of the pottery within this assemblage estimated vessel equivalents are not applicable.

1a. Quartz-sand tempered within a clay matrix containing few inclusions. Well sorted, dense rounded to sub-angular small to medium particles. Hard medium to well fired. Total weight of pottery in this fabric: 577g from four vessels, 3% of assemblage. Pot forms in this fabric: large flat-based jars, one (vessel 328) decorated with incised lines. Another sherd in this fabric (in cremation burial [109]) has bosses, incised lines and a stamp (Briscoe's type C2aiii, grid rectangle), however its profile is not reconstructable. Although the number of vessels in this fabric is small, it is worth noting that half are decorated. The percentage figure for this fabric is noticeably less than from the earlier excavations at Springfield Lyons (10%); this is most probably because Plots L and N have an unusually large amount of pots in fabric 1c, having iron oxide in their fabric. This could simply represent a different clay source.

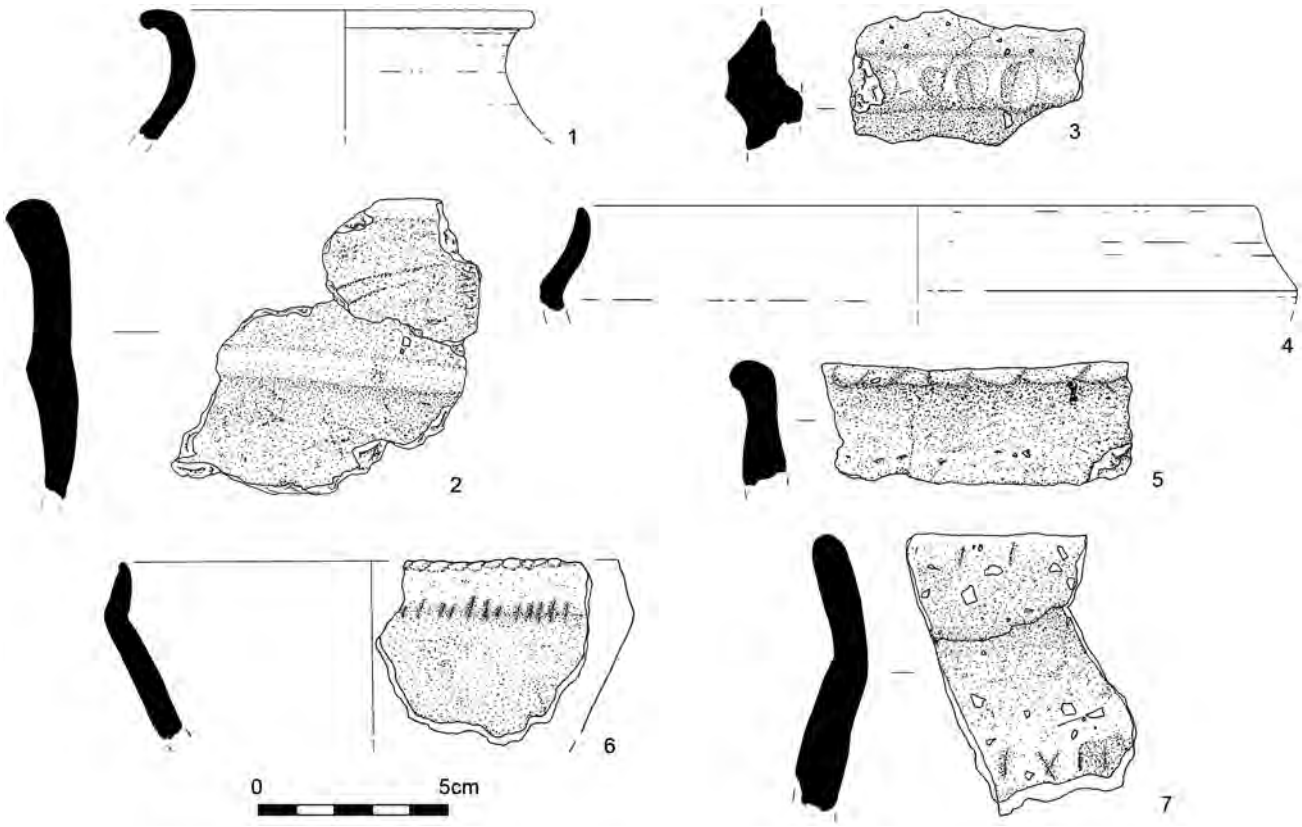


FIGURE 17: Prehistoric pottery

1b. As 1a but with varying quantities of mica and felspar. Total weight of pottery in this fabric: 941g from three vessels, 4% of assemblage. Pot forms in this fabric: large flat-based jars, flat-based biconical jar with bosses and lines (vessel 126). As with fabric 1a this seems to be a favoured fabric for decorated vessels. It is slightly under-represented in Plots L and N (5% from the earlier excavations).

1c. As 1a but with sparse to common iron oxide. Total weight of pottery in this fabric: 6,221g from six vessels, 28% of assemblage. Pot forms in this fabric: footring-based biconical urn with bosses and lines (vessel 131), flat-based biconical urn with bosses and lines (vessel 313), globular bowls, globular flat-based jars, globular jar with footring. This fabric has a wide range of forms and two out of the six vessels are highly decorated. As with fabrics 1a and 1b the well-sorted clay matrix and lack of organic tempering in these fabrics makes them particularly suitable for incising and stamping decorative schemes. Plots L and N have a larger percentage of pots in this fabric (only 2% from the earlier excavations), but this could simply reflect a new clay source.

2. An assortment of sandy fabrics whose quartz-sand particles are generally larger and more angular than 1a. Total weight of pottery in this fabric: 1,293g from two vessels, 6% of assemblage. Pot forms in this fabric: large flat-based jars. A coarse fabric used for large, undecorated pots. Pottery in this fabric from the earlier excavations produced a slightly larger percentage (10%).

3a. Organic temper within a clay matrix containing few inclusions. Total weight of pottery in this fabric: 3,997g from eight vessels, 17% of assemblage. Pot forms in this fabric: large globular flat-based jars, large globular jars with sagging base, globular jar with footring base and unpierced side lugs (vessel 122), sub-biconical jar with footring and everted rounded rim (vessel 138), shouldered jar with footring base (vessel 289). The majority of pots in this fabric are plain large jars in a variety of forms (biconical, globular and high-shouldered), most are flat-based but footring-bases also occur. One vessel (122) has unpierced side lugs placed asymmetrically above the maximum girth of the vessel. One decorated vessel occurs in this fabric (138) and its scheme of decoration uses long bosses, incised lines and stamps (at least 3 stamps used, Briscoe's types A2ai (multiple circle), A5bi (rosette) and E1ai (plain triangle). This fabric predominated at Springfield Lyons (40% of assemblage). However, the presence of iron oxide in much of the organic tempered pottery from Plots L and N means that only 17% is fabric 3a and 12% is fabric 3b (this only accounted for 2% of the 1981–91 excavation assemblage). A new iron rich clay source is the most likely explanation.

3b. Organic temper with common iron oxide within the clay matrix. Total weight of pottery in this fabric: 3,059g from six vessels, 13% of assemblage. Pot forms in this fabric: globular flat-base jars. There are no decorated forms in this fabric.

4. Tempered with quantities of medium to large organic matter and small to medium well-sorted dense quartz-sand (in varying proportions) within a clay matrix. Total weight of pottery in this fabric: 6,420g from twenty vessels, 29% of assemblage. Pot forms in this fabric: globular flat-based jars, globular sagging-based jars, high-shouldered jar (vessel 202), carinated bowl with lines and stamps (vessel 101), biconical jar with footring base (vessel 320) decorated with long bosses, lines and stamps (one stamp used) Briscoe's type G2aii (segmented crescent). The majority pots in this fabric are plain globular flat-based and sagging-based jars. However, two vessels are fairly ornate showing that fabrics with medium to large organic tempering were sometimes used for decorative vessels. Finger rustication is used on the outer surface of one vessel (164). This fabric is more common in the pottery from Plots L and N than the previous excavations (up from 20% from to 29%). If Plots L and N represent the latest parts of the cemetery then the increasing use of fabrics tempered with abundant medium to large organic temper is to be expected.

The following fabrics were identified in burial pottery from earlier excavations (Tyler and Major 2005, 120–1), but were not present in this assemblage:
5. Tempered with a mixture of shell and some quartz-sand within a clay matrix containing few inclusions. 0% of assemblage (7% from earlier Springfield Lyons excavations).
6. Tempered with a mixture of chalk and some quartz-sand. 0% of assemblage (4% from earlier excavations).

Recent studies of Saxon cremation pottery have seen little correlation of fabrics to form, form to decoration or decoration to fabric (see Hirst 2009, 557, in her discussion of cemetery II inhumation pots at Mucking). The site at Mucking provides

Pot fabric	Total weight	% fabric	Number of pots	Typical forms	Decoration
1a	577g	3%	4 (vessels 113, 328, 358 and decorated sherd in [109])	Large flat-based jars	Stamps C2aiii, incised lines
1b	941g	4%	3 (vessels 126, 334, 347) + U/S sherds	Large flat-based jars	Long bosses, incised lines
1c	6221g	28%	6 (vessels 131, 134, 156, 313, 350, 369)	Biconical bossed urn. Globular bowls. Globular flat-based jars. Pedestal-footed jars	Long bosses, incised lines
2	1293g	6%	2 (vessels 331, 336)	Large globular jars	None
3a	3997g	17%	8 (vessels 104, 107, 116, 122, 138, 159, 206, 289) + U/S sherd	Large globular jars. Pedestal footed jar with lugs. Footring jar with everted rim	Mostly plain but one example with lugs and one with long bosses and stamps x3 A2ai, A5bi and E1ai
3b	3059g	13%	6 (vessels 141, 151/153, 167, 170, 173, 323)	Globular flat-based jars	None
4	6420g	29%	20 (vessels 101, 110, 147, 164, 202, 283, 286, 288 (pot on surface), 295, 300, 304, 307, 310, 315, 320, 341, 363, 366, 389, 399)	Globular flat-based and sagging base jars, High-shouldered jar, Decorated carinated bowl, Pedestal-footed jar	Mostly plain but stamps G2aii used on pedestal footed jar (with bosses and incised lines) and carinated bowl A5bi, A9c (with concentric necklines). Finger-nail rustication on one jar.

TABLE 3: Early Saxon pottery fabrics in relation to forms and decoration

an opportunity to study potential differences between pot fabric usage and distribution in both settlement and cemetery contexts and specifically within the cemeteries to look at differing proportions of use in inhumation and cremation contexts. At Mucking cemetery II the inhumation accessory vessels showed roughly equal numbers of grass- and sand-tempered fabrics in contrast to the cremation pots where grass-tempered fabric predominated (Mainman 2009, 590). This is also the case for the Plot L and N cremation vessels (and the urns from the 1981–91 site) where fabrics 3a, 3b and 4 account for thirty-four out of the total of fifty cremation vessels. It is worth noting here that counting number of vessels (as opposed to weight of pot) gives a far more representative picture of comparative frequency of fabrics on site.

Forms and decoration

Most of the cremation vessels (70%) survive only as bases and lower bodies with only a small number having a complete profile from base to rim. This was also found to be the case with the cremation vessels from the 1981–91 excavations where only thirty-seven out of 120 cremation vessels had surviving rim sherds. At other Essex cemeteries similar results have been returned. Cemetery II at Mucking, Thurrock produced a total of 379 cremation pots but only 10% were complete or nearly complete (Hirst and Clark 2009, 588–9).

Where less than 50% of the pot survives the general term 'pot' has been used (or 'urn' where it is likely that the vessel was produced specifically for use as a container for cremated remains). Where the pot or urn has a tall 'shouldered profile' it is termed a jar; this is the most common vessel form within the assemblage. Further sub-divisions can be made: biconical/carinated jar (*e.g.* vessel 313, Fig. 14), globular jar (*e.g.* vessel 292, Fig. 14), sub-globular jar (*e.g.* vessel 286, Fig. 13). A pot with a more squat profile is termed a bowl. It seems reasonable to suppose that bowls were mainly used (although not exclusively) as inhumation accessory vessels in the cemetery, their shape being more suited to containing a small food offering than the comparative bulk of cremated remains.

The range of pot forms recovered from Plots L and N is broadly comparable to that from the earlier cemetery excavations at Springfield Lyons. Table 4 presents a comparative quantification. Two 'new' forms can be added to the cemetery forms previously recorded:

- High-shouldered jar with sagging base (vessel 202, Fig. 13)
- High-shouldered jar with footring base (vessel 289, Fig. 14)

It is difficult to precisely date Early Saxon plain vessels unless in association with diagnostic metalwork. However, it is generally agreed that high-shouldered forms appear towards the second half of the period, *i.e.* from the middle of the 6th century onwards. Their appearance coincides with a more common use of abundant coarse organic tempering (fabric 4 at Springfield Lyons). The occurrence of the high-shouldered form within Plots L and N suggests these are amongst the latest burials, on the periphery of the cemetery.

The most common vessel type from the Springfield Lyons cemetery (including Plots L and N) is the globular and sub-globular pot with flat base; a long-lived form not closely dateable. However, within Plots L and N there are also a small number of highly decorated vessels which would seem to represent an earlier fashion amongst cremation urns (late 5th

Pot form	No. of vessels		Notes
	SL	L & N	
Globular and sub-globular jar with sagging base	9	4	
Globular and sub-globular jar with flat base	55	15	SL cremation pot 2502, fig. 51 No. 1 has hole in base plugged with lead
Globular and sub-globular jar with foot-ring base	6	1	SL cremation pot 6942 has cross incised on base
Globular and sub-globular jar with foot-ring base and side lugs	2	1	
Globular and sub-globular jar with concave base	4	0	
Globular and sub-globular bowl with flat base	1	0	
Biconical and sub-biconical jar with sagging base	2	0	
Biconical and sub-biconical jar with flat base	18	0	SL cremation pot 6311 has cross incised on base. Plot N vessel 313 has lead plug repair to lower body.
Biconical and sub-biconical jar with foot-ring base	11	2	SL cremation pot 6508, fig. 62 No.1 has cross incised on base
Biconical and sub-biconical jar with foot-ring base and side lugs	1	0	
Biconical and sub-biconical bowl	1	0	
Carinated bowl	1	0	
Plain high-shouldered jar with foot-ring base	0	1	
Plain high-shouldered jar with sagging base	0	1	
Too fragmentary to classify	9	25	
Vessel totals	**120**	**50**	

TABLE 4: Quantification of Early Saxon cremation cemetery pot forms
(unstratified sherds not included. SL = 1981–91 Springfield Lyons, L & N = Plot L and N excavations)

to early/mid 6th century) and which might not be expected to be found here if, as seems likely, this part of the cemetery represents the final phase of burials. Bearing in mind that pots could be in use for a long period of time, as demonstrated by vessel 313 (Plot N) which had been repaired with a lead plug, one of two such repairs within the assemblage (the other from previously excavated plain cremation vessel 2502), it is still worth using the distribution of decorated vessels as a dating tool for the spread of the cemetery.

Cremation burials from the 1981–91 excavations were divided into phased groups (1–14) based on a number of shared characteristics (Tyler and Major 2005, 179–184). Most of the burials from Plots L and N could be accommodated within existing Groups 9 and 14 whilst a new group (15) has been created which encompasses all of the burials at the western edge of the cemetery.

The highly decorated vessels from Plots L and N do not occur in the most westerly part of the cemetery (Group 15). The predominant pot form in this peripheral group is the plain globular jar in organic tempered fabrics (fabrics 3a, 3b and 4). The highly decorated urns from Plots L and N cluster together within Group 9 (burials 314, 321, 329) and Group 14 (burials 124, 130, 136). One characteristic of previously identified Groups 9 and 14 was that both contained decorated cremation urns, interpreted as a possible family tradition for the use of decorated urns within this part of the cemetery (Tyler and Major 2005, 180). The decorated urns from the 1981–91 excavations were 6th-century types using similar decorative schemes to the pots from Plots L and N (see earlier Springfield Lyons burials [8854] and [8861], Tyler and Major 2005, fig. 63, 106), the use of stamps along with other decorative devices suggesting a mid-6th-century date range. It is therefore not unreasonable to see the cemetery spreading to the west during the course of the 6th century with the latest cremations in plain globular pots (Group 15) as the tradition for decorating vessels dies out.

As at other Essex Early Saxon cemeteries at Rayleigh (Tyler 2008, 38–41) and Mucking (Mainman 2009, 603), the predominant plain form within the cemetery assemblage is the globular or sub-globular jar with flat or slightly sagging base. In all cemeteries, the foot-ring base is most commonly associated with a biconical shape. However, the dating of such vessels is almost entirely reliant on associated pyre goods.

A selection of partially reconstructed vessels are shown in Plate 5. Only 20% of the vessels recovered from Plots L and N are decorated. This is a broadly similar figure to that for the earlier Springfield Lyons excavations where 27% of the pots were decorated. The low recorded incidence could partly be explained by the absence of most of the upper bodies of the urns (where the decoration would have most commonly

Decorative scheme	No. of vessels		Comments	SL examples	L&N examples
	SL	L&N			
Incised lines on globular or sub-globular jar with flat base	5	1	Pendent triangles and concentric lines	2533 fig. 59 6635 fig. 55 6645 fig. 56 6680 fig. 58 6940 fig. 59	328 Fig. 14
Incised lines and stamps on globular or sub-globular jar with flat base	7	0	Stamps: Circular segmented grid (type A3), Solid dot (type A1). Comb prongs: Solid triangle (type E1), Segmented circle (type A3), Cruciform circle (A4)	2507 fig. 59 8861 fig. 63 6321 fig. 54 6634 fig. 55 6638 fig. 56 6655 fig. 57 6954 fig. 60	
Incised lines, bosses and stamps on globular or sub-globular jar with flat base	2	1	Stamps: Segmented rosette (type), Comb prongs	6507 fig. 54 8853 fig. 63	Intrusive sherd with vessel 110. Form may not be globular. Fig. 12
Incised lines on globular or sub-globular jar with foot-ring base	1	0		6945 fig. 60	
Incised lines and bosses on biconical or sub-biconical jar with flat base	1	1	'Buckelurn'	6653 fig. 57	126 Fig. 12
Incised lines, bosses and stamps biconical or sub-biconical jar with flat base	6	1	'Buckelurn' Stamps: Solid dot (type A1), Rosette (Briscoe's type A5), Oval dot (type D1), Circle (A1b), Cruciform circle (A4)	2592 fig. 52 2594 fig. 52 6943 fig. 59 6765 fig. 58 6944 fig. 60 6959 fig. 61	313 Fig. 14
Incised lines and stamps on biconical or sub-biconical jar with flat base	1	0	Stamps: Cruciform circle (type A4)	6765 fig. 58	
Stamps on biconical or sub-biconical jar with flat base	1	0		6847 fig. 59	
Bosses on biconical or sub-biconical jar with flat base	1	0			
Lines and stamps on biconical or sub-biconical jar with sagging base	1	0	Stamps: Simple dot (type A1)	6815 fig. 58	
Incised lines on biconical or sub-biconical jar with foot-ring base	1	0		8592 fig. 62	
Incised lines and stamps on biconical or sub-biconical jar with foot-ring base	1		Stamps: double circle (type A1b) Segmented grid (type A3)	8854 fig. 63	
Bosses on biconical or sub-biconical jar with footring base	1	0		4598 fig. 64	
Incised lines and bosses on biconical or sub-biconical jar with foot-ring base	1	1		6640 fig. 56	131 (not illust)
Incised lines, bosses and stamps on biconical or sub-biconical jar with foot-ring base	4	2	'Buckelurn' Stamps: circular segmented grid (type A3), Finger tip impression surrounded by triangles (type E1), Diamond grid (F2), Multiple circle (type A2ai), Rosette (type A5bi), Plain triangle (type E1ai), Segmented crescent (type G2aii)	6313 fig. 54 6639 fig. 56 6763 fig. 64	138 Fig. 12 320 Fig. 14
Rusticated exterior on globular or sub-globular jar	0	1	May be rustication to assist handling rather than decoration		164 Fig. 12
Incised lines and stamps on carinated bowl with flat base	0	1	Stamps: rosette (type A5bi) Composite circle with petalled edge (type A9c)		101 Fig. 12
Total no. of decorated pots	**35**	**9**			
% of assemblage	**27%**	**20%**			

TABLE 5: Decorated Early Saxon pots (all stamps are classified using Briscoe's 1981 pot stamp classification. SL = 1981–91 Springfield Lyons, L&N = Plot L and N excavations)

PLATE 5: Selected reconstructed cremation vessels

been). This is demonstrated by vessel 328 (Fig. 14), where the plain base and lower body survive and a single body sherd has an incised curving line indicative of a decorative scheme. This pot could have been decorated with an intricate pattern, perhaps involving bosses and stamps, but it has fallen victim to truncation and can only be speculated upon.

Within the Plot N and L assemblage six highly decorated examples (vessels 101, 126, 131, 138, 313 and 320) are complete enough to show a range of decorative techniques used together to form a scheme typical of late 5th- to mid-6th-century cremation urns. Decoration includes incised concentric necklines (*e.g.* vessels 101, 313; Figs 12 and 14); incised vertical lines, usually grouped in sets of twos or threes and sometimes demarcating a panel of infill stamps or used to emphasise a boss (vessels 126, 131, 138, 313, 320, 328; Figs 12 and 14); hollow bosses (vessel 320; Fig. 14); applied solid bosses (vessel 131, 313; Fig. 14); rows of stamps (vessel 101; Fig. 12) or more random infill utilising stamps (vessel 320; Fig. 14). Table 5 presents the range of decoration present on different pot forms. It demonstrates that decoration occurs on a wide range of different forms, with flat-based globular pots showing as much decoration as biconical forms (although the latter appears to be favoured for complex schemes using bosses, incised lines and stamps). Table 5 also shows that flat-based pots are just as likely to have decoration as pots with a footring base. It is not unreasonable to suppose that some highly decorated, well-made vessels were produced specifically for use as cremation urns and possible candidates are discussed in more detail below.

Vessel 126 (Fig. 12)
Biconical decorated bossed urn. Rim missing (c.75% of vessel recovered). Fabric 1b. Twelve long bosses around girth, grouped in threes. Decoration comprises incised lines either side of each boss (two each side).

A biconical vessel with flat base in fabric 1b (sandy, medium to hard) decorated with long bosses demarcated by incised lines in between the bosses. The long-boss style is well represented in the total cemetery assemblage with eight cremation pots from Springfield Lyons having this style of decoration (*e.g.* 6640 fig. 56) sometimes with stamps also used (*e.g.* 6313 fig. 54, 8853 fig. 63) in addition to three further examples from Plot L. Incised lines can be used on the bosses or in between the bosses and often concentric necklines are used above the scheme of bossed decoration around the girth of the pot.

Vessel 313 (Fig. 14)
Biconical, carinated bossed urn. Flat, angled base (*c.*85% of pot recovered). Rim missing. Fabric 1c. Decorated with a series of shallow long bosses (pushed out rather than applied) Panels of vertical decoration (both on and in between the bosses), each panel demarcated by incised vertical lines. Infill decoration comprises short diagonal lines (chevrons) and segmented crescent stamps (Briscoe's type G 2aii Segmented crescent).

The form of the pot is biconical, carinated at its girth. This, combined with fabric 1c, a well-sorted sandy fabric (in this case well-fired and hard), suggests a date of manufacture sometime during the period AD450 to 550. The segmented crescent stamp is a fairly common form probably belonging to the early 6th century. Interestingly this vessel has a repair to its lower body in the form of a lead plug. In addition to occurring in previously excavated cremation urn 2502 at this cemetery (Tyler and Major 2005, fig. 51), repairs of this sort have been noted in Cemetery II at Mucking Thurrock (Clark 2009, 595). The repair to urn 2502 comprised a sizeable lead plug with the imprint of a coarse tabby weave fabric on its inner surface (most likely a woollen cloth), presumably used to push the plug into position. Interestingly repairs seem to have been made to pots manufactured in coarse fabrics with no decoration as often as they were made to much finer, highly decorated vessels. It could be argued that the act of repairing such a range of vessels supports the view that all pottery vessels were highly valued at this time as their production represented a sizeable investment in time (coil production being far more laborious than wheel-thrown wares). For a fuller discussion of the possible implications of the use of lead plugs in post-firing perforations in cremation vessels see Perry (2012, 43–52).

Vessel 320 (Fig. 14)
Biconical jar with footring. *c.*30% vessel present (base and lower body sherds). Fabric 4. Decorated with a series of shallow long bosses (pushed out rather than applied). Panels of vertical decoration (both on and in between the bosses), each panel demarcated by incised vertical lines. Infill decoration comprises short diagonal lines (chevrons) and segmented crescent stamps (Briscoe's type G 2aii Segmented crescent).

The use of stamps in addition to bosses and incised lines suggests a date of manufacture within the first half of the 6th century. The fabric (fabric 4) demonstrates that highly decorated vessels were produced in fabrics with some organic temper and not in exclusively hard-firing, finer sandy wares (fabrics 1a to 1c).

The pottery stamps used on the cremation vessels are fairly common types (see Table 5) with the exception of the plain triangle E1ai (from vessel 138; Fig. 14) and the grid diamond (from 1981–91 excavations cremation 6763). The common types: single circles, multiple circles, cruciform circles, rosette and segmented circles have been interpreted as sun symbols at other cemeteries (Briscoe 2009, 598), in particular Mucking, where rosette stamps (A5ai) are the most common type. No one sun symbol predominates within the combined assemblages from Springfield Lyons, there being a small number of examples from all types. Stamps using comb prongs (Briscoe's type N1aii) occur in later contexts at Mucking (late 6th to 7th century) (Briscoe 2009, 598). These are found on 1981–91 excavation pots 6507 (with long bosses and incised necklines), 6635 and 6638 (with incised pendent triangles and concentric lines) and 6943 (with bosses, incised necklines, pendent triangles and undulating incised lines). These 'impromptu' stamps can be paralleled on other Essex cemetery sites, including Hall Road, Heybridge, where a six-pronged stamp was used alongside a rosette stamp on a bossed vessel (Peter Thompson pers comm.).

A number of pots have evidence of smoothing (*e.g.* vessels 126 and 131) but only one example has traces of external burnishing (vessel 313); the most highly decorated urn in the assemblage and the only one with a repair. This supports the supposition that vessel 313 was an exceptional vessel within the assemblage, possibly representing a high-status burial.

The date range for the Plot L and N vessels mirrors that from the earlier excavation (*i.e.* late 5th to late 6th century). The vessels can be dated by form, decoration and fabric and find close parallels with the Mucking cemetery. Myres's (1977) dating of carinated and biconical pots has been shown to be too narrow (being produced for a longer period during the 6th century than he suggested). However, given their form, fabric and decoration, it is still probable that vessels 101, 126, 313 and possibly 131 belong to the period AD450 to 550.

The plain vessels are more difficult to date precisely. The use of plain lugged pots as urns (vessel 122; Fig. 12) is seen as a 6th-century practice, continuing on into the 7th (as shown at the Mucking cemeteries, Hirst and Clark 2009). The use of large amounts of organic temper in pottery is also seen as indicative of this date range. Most of the assemblage from Plots L and N therefore fits into a 6th-century context; however, with a high percentage of incomplete vessels, their more precise dating is problematic.

Registered Finds by Trista Clifford

A small number of registered finds were recovered from the excavation of Plots K, L and N. All were from burials or other contexts related to the Early Saxon cemetery and consisted of objects of bone, copper alloy, glass and iron.

Brooch

A single copper-alloy cruciform brooch (RF1) was recovered from surface find-spot [288]. The brooch is in a fairly poor state of preservation; only one half-rounded knob survives detached from the head plate (Fig. 13). The foot is missing. The side knobs were possibly attached via an iron wire which can be seen on the reverse of the object together with the mineralised remains of the pin. Textile remains within the corrosion product, possibly a z-spun thread. Undiagnostic organic material is present adhering to the knob but it is not clear whether this is textile.

While this brooch appears superficially to be a very close parallel for those from grave 4988 from the 1981–91 excavations (Tyler and Major 2005, 112), the form of the knobs places this brooch within Abergs Group II. The arrangement of the knobs and decoration of the head plate and bow are reminiscent of a brooch from Kempston with a shovel shaped foot (Aberg 1926, Fig. 95). However, the missing foot here precludes the parallel being drawn satisfactorily. In any case, at late 5th to early 6th century, the date and geographical extent of both is broadly similar (Aberg 1926, 59).

Beads

Fourteen beads were recovered. Surface find-spot [288] comprised thirteen glass beads (Fig. 13, selected objects). The remaining bone bead (RF18) was recovered from cremation urn fill [312] in burial [314] (Fig. 14).

Table 6 presents an overview of the bead group from [288]. Seven polychrome and six monochrome beads were recovered. The most numerous are the translucent blue annular (Brugmanns 'Blue' type) which have a date range of mid-5th to mid-6th century. One of these was fragmentary and two others have a bubbled, abraded surface. A single large 'black' annular, RF6, is in fact a very dark green colour. Several previously excavated graves contained similar beads (2780, 4988, 4899, 6044, 6533), together with small blue annular beads, and have a similar date range (Tyler and Major 2005, 114–5).

The pale yellow green lobed bead (RF3) is of a rare type thought to be related to the early Germanic bead fashion (Brugmann 2004, 34). Similar beads have been found at St Annes Road, Eastbourne (Clifford 2016) and Northampton (Brugmann 2004, fig. 102). A blue-green example of similar form came from grave 4988 at Springfield Lyons (Tyler and Major 2005).

RF10 is a large globular bead with translucent dark blue ground and marvered red, yellow and white crumb decoration. Guido (1999) suggests a largely continental distribution, although both Eastbourne and Mucking cemeteries also produced beads of this type (Hirst and Clark 2009).

Several variants of the same pattern—double crossing wave with a single row of spots—are also present. Opaque white with pale blue wave and spot (RF9 and RF13) are paralleled by an example from previously excavated grave 6033 (Tyler and Major 2005), whilst parallels for two others (RF8 and RF11) have yet to be found. RF13 shows distortion and breakage due to heating.

Two short cylinders both in opaque white glass with marvered blue/blue-green trails along the edges (RF2) and pink and red eye spots (RF12) have close parallels again within grave 4988 (Tyler and Major 2005). However, the examples within that grave have the colours of applied decoration reversed. They are similar to type H4 at Mill Hill (Brugmann 1997, 60) and type P25 at Mucking (Hirst and Clark 2009), dated to the 6th century or before.

Although the group contains a single bead of a type not recovered during previous excavation it compares chronologically with the wider bead assemblages. The location of RF2 within the corrosion product of brooch RF1 might suggest the group originally formed a string or part thereof attached to the brooch.

A single disc-shaped bone bead, RF18, was recovered from urn fill [312] (in vessel [313] of cremation burial [314]). Around 50% of the object remains and it has been subjected to high temperatures. Some saw marks are visible on the surface of the bead (Fig. 14). It has been suggested that bone beads may have been used as sword beads (Down and Welch 1990).

Perforated disc

A perforated disc, RF21, was identified from the x-ray of metalwork from cremation urn fill [312] (burial [314]; not illustrated). The disc appears to be non-ferrous and could be a coin. A very feint zig-zag line on the flan may be part of a bust; both perforated discs and perforated Roman coins are fairly frequent finds within Early Saxon grave contexts. Two perforated coins came from Springfield Lyons grave 4741 (Tyler and Major 2005, 113) and were suggested to have been the contents of a purse. In this case, the disc was recovered with iron nail fragments, lead vessel repair plug RF17 and iron clip RF22 (Fig. 14).

Tweezers

A small fragmentary set of copper-alloy tweezers, RF16, was recovered from cremation urn fill [349] (burial [355]), together with (and probably originally attached to) a copper-alloy wire ring with twisted closure (Fig. 14). The arms are

RF no	Form	PGL Type	Size	Length	Colour 1	Colour 2	Colour 3	Colour 4	Brugmann Type	Date (century)
4	Annular		Medium	Short	translucent blue				Blue	Mid 5th–mid 6th
5	Annular		Medium	Short	translucent blue				Blue	Mid 5th–mid 6th
6	Annular		Large	Short	semi translucent green black					5th–6th?
7	Annular		Medium	Short	translucent blue				Blue	Mid 5th–mid 6th
14	?Annular				translucent blue				Blue	Mid 5th–mid 6th
3	Lobed		Large	Short	semi opaque pale yellow green				Ribbed	5th–early 6th
10	Globular	Speckled/ crumb	Large	Short	semi translucent dark blue	opaque white	opaque red	opaque yellow	Mottled	5th–6th
9	Globular	double crossing wave; single row spots	Large	Short	opaque white	transparent pale blue			Dot34 var	5th–6th
13	Globular	double crossing wave; single row spots	Large	Short	opaque white	transparent pale blue			Dot34 var	5th–6th
11	Globular	double crossing wave; single row spots	Medium	Standard	opaque red	opaque white	opaque olive green		Dot34/ Koch20?	6th
8	Globular	double crossing wave; single row spots	Large	Short	opaque olive green	opaque red	opaque yellow		?Koch20	5th–6th?
2	Cylinder	line and eye spot	Medium	Standard	opaque white	blue	opaque red			5th–early 6th
12	Cylinder	line and eye spot	Medium	Standard	opaque white	transparent pale blue	opaque pale pink	opaque red		5th–early 6th

TABLE 6: Glass bead assemblage from surface find-spot [288]

decorated with four sets of four transverse lines within an incised linear border. Previously excavated cremation [8576] contained a similar pair of tweezers (Tyler and Major 2005, fig. 62). Two thin tapering strips of copper alloy with a feint incised line along one edge (RF23), retrieved from urn fill [132] in burial [130], may also be a pair of tweezers but are too poorly preserved to be certain (Fig. 12).

Objects of uncertain function

The fill of cemetery-related pit [333] contained two iron rod fragments of circular section (RF19) which may be part or parts of a larger object such as a pin, and a possible awl (RF20) was recovered from cremation urn fill [330] in burial [332] (both Fig. 14). These have been identified from the x-ray alone and are not well preserved enough to identify fully.

Cremated Human Bone by Elissa Menzel

A total of 7,644.1g of burnt bone was recovered from forty-five Early Saxon cremation burials from Plots L and N. The results of analysis are tabulated below (Table 7). Further details are included in the archive (Powers 2013; Menzel 2014).

Methods

All bone was processed in accordance with current standards (McKinley and Roberts 1993). The colour of the bone was described with reference to Wells (1960), Holden *et al.* (1995 a and b) and McKinley (2004). Age estimations were assessed using accepted standards (Schuer and Black 2000; Gustafson and Koch 1974; McKinley 1994a; Lovejoy *et al.* 1985). The fragmentary nature of the bone made age estimation difficult thus estimates were separated into four categories: infant (I), sub-adult (S), adult (A), and older adult (OA.) Insufficient bone survived for the estimation of sex for any of the individuals represented.

Demographic Data

No repeated elements or osteological inconsistencies were identified and each burial was considered to contain a single individual, suggesting a minimum of forty-five individuals.

Age	Number	% of aged individuals
infant	1	3.0
?sub-adult	3	9.1
Sub-adult	3	9.1
?adult	5	15.2
adult	20	60.6
older adult	1	3.0
Total	**33**	**100**

TABLE 7: Age at Death

Age estimation was possible for 73.3% (33/45) of the burials, including twenty-one adults, one each of middle age and older age, five probable adults, three sub-adults, three probable sub-adults, and one infant (Table 7). A fragment of the auricular surface from burial [172] enabled a more accurate adult age of between thirty-five and forty-five years old at death and burial [312] contained the remains of an older adult as evidenced by dental loss of the molar teeth, alveolar resorption and degenerative joint disease in the vertebral column. The presence of an underdeveloped canine tooth crown enabled the individual in burial [309] to be more precisely aged at birth—six months (± 3months) (White and Folkiens 2005, 366). Two burials contained evidence of pathological lesions, with evidence of Schmorl's nodes in the second lumbar vertebra of burial [124] and marginal osteophyte formation throughout the vertebral column of burial [312]. Although these degenerative indicators may be related to a level of manual labour, the strongest correlation is with advancing age. This indication of an advanced age in burial [312] is further supported by evidence of alveolar resorption of the first, second, and possibly third left mandibular molar sockets.

Pyre technology and ritual

The colour of burnt bone reflects the temperature of the pyre and the degree of oxidation during the cremation process. Burnt bone recovered from this site was consistently white in colour, with the exception of minimal grey or bluish colouring on the interior surfaces of some fragments indicating thorough oxidation and pyre temperatures in excess of 600°C (Holden *et al*. 1995 a and b).

Modern adult cremations are estimated to yield between 1,001.5–2,422.5g of bone, with an average of 1,625.9g (McKinley 1993). Only one burial ([312]) contained an expected amount of bone from an adult cremation, weighing 1,097.3g. The weight of bone recovered from the remaining burials ranged between less than 1g ([308]) and 553.1g ([136]). It is likely that some of the bone was lost due to truncation of the burial pits and urns; however, three of the vessels ([122], [134], [202]) were recovered in near-complete condition and contained 61.6g ([121]), 98g ([133]) and 247.1g ([200]). Burials [133] and [200] contained the remains of adult individuals; [121] was unable to be aged. The relatively low weight of bone may, in some cases, be related to age, with less bone present in non-adult cremations. It may also be attributed to partial collection of the remains from the pyre or retention of some of the remains from burial. The weight of bone interred may also be related to the size of the urn, as large vessel [313] contained the greatest amount of bone while the smaller vessel [134] contained only 98g. However, caution should be exercised with this theory as the weight of bone and the size of vessel are confounding variables. Smaller elements of the skeleton, such as tooth roots and small bones of the hands and feet were found in highly truncated features suggesting the burial rite may have preferred near-complete collection of remains in more cases than is evident. Equally, it is also clear that the burial rite included interment of the partial remains of individuals as well.

With 48% of the bone recovered from the greater than 10mm fraction, and 90% of the bone recovered from the greater than 4mm fraction, bone preservation was very good. The maximum fragment size was 86.9mm, from burial [312]. Burial [169] contained the largest percentage of fragments in the greater than 10mm fraction, with 67.5% of the bone in the largest fraction. Although, there was a severe amount of truncation this does not seem to have had a significant impact on fragment size of surviving bone, perhaps due to the protective nature of urned interments.

An examination of the pattern of identifiable bone present indicated that all areas of the body were represented, though not in all deposits.

Discussion and conclusions

During the 1981–91 excavations 143 cremation burials, containing a total of 25,570g bone, were excavated. The recovery of forty-five cremation burials at Plots L and N has completed the excavation of the Saxon cemetery at Springfield Lyons. Bone recovered during the 1981–91 excavations was deemed too fragmentary and sparse to merit a detailed analysis so, although the weight of each burial is included in the publication and Mays (2005) observations are discussed, there is no demographic data to include from those burials. Despite this, and the fact that the data present from Plots L and N comes from heavily truncated features, the current analysis lends itself to a discussion of the practice and rituals of cremation burials in south-east England during the Early Saxon period.

The collective assemblage from Plots L and N contains individuals from a range of ages, including infants, sub-adults, and adults, with degenerative changes suggesting some of the individuals attained a relatively old age. This age distribution is typical of Early Saxon cemeteries in East Anglia with similar demographics found at Great Chesterford, Essex (Evison 1994), Spong Hill, Norfolk (McKinley 1994a) and Rayleigh, Essex (Ennis 2008). Only single burials were found at Plots L and N; however, Mays (2005) did note the presence of a burial containing the remains of an adult and child recovered during the 1981–91 excavations. Double cremation burials are occasionally identified during the Early Saxon period, with the adult and child combination being the most common demographic found (McKinley 1994a).

Comparative data indicates that a low burial weight is common in East Anglia during the Early Saxon period. At Rayleigh, the total weight of burials ranged between 0.4–1,241.6g (mean 325.9g) (Powers 2008), whilst at Spong Hill

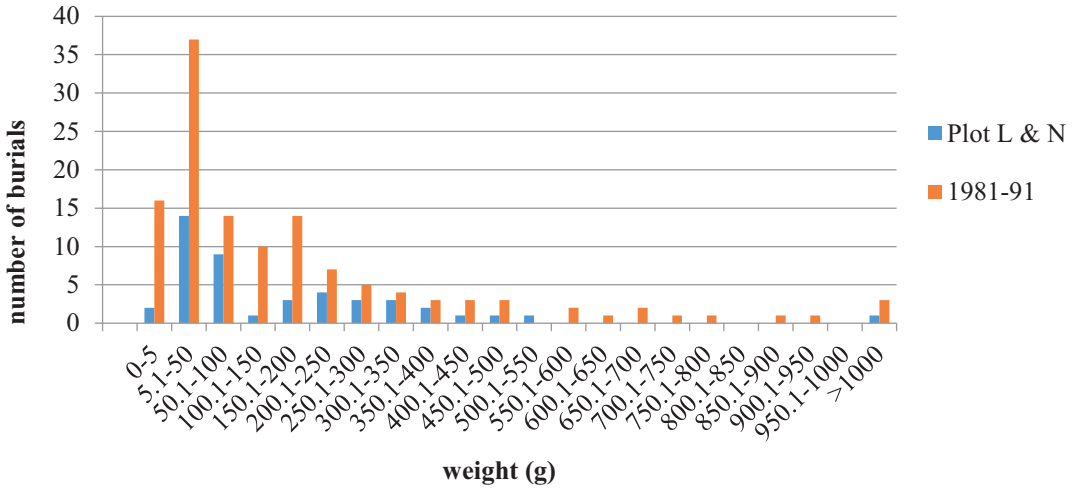


FIGURE 18: Comparison of bone weights from Plots L and N and 1981–91 excavations

the range was 117.2g–3,105.1g (mean 812.4g) (McKinley 1994a), and at Great Chesterford the range was 1g–1,395g (mean 344.7g) (Waldron 1994). Evidence of nearly intact vessels containing only small quantities of bone have also been found at Worthy Park, Hampshire (Hawkes and Grainger 2003) and Snape, Suffolk (Steele and Mays 2001) indicating that small amounts of bone deliberately placed in vessels as a 'token' collection of the individual were common (Hawkes and Grainger 2003, 113). Only four cremations excavated at Springfield Lyons ([314], [2839], [6960], [8576]) contained within or above the average range for an adult cremation. More than half (53%) of the burials contained less than 100g, with only 8% containing over 500g bone (Fig. 18). However, the high level of truncation of some of the features would suggest that more of the burials contained near-complete individuals.

There is no archaeological evidence of pyre sites containing charcoal and burnt bone at Springfield Lyons or in the local area to suggest that partial collection occurred. However, pyres are typically built on the surface and leave little to no archaeological indications of their presence. Collection of bone from a pyre would likely have been a time-consuming activity and the variation in burial weight may reflect time restrictions on collection (McKinley 1994a). It is possible that the cremation process took place elsewhere and the filled urns were brought to the site. Although the differing levels of truncation complicates the discussion of the weight of bone per burial it is apparent that both 'token' amounts and careful recovery of near-entire individuals was practised.

Seventeen cremation deposits (37.8%) from Plot L and N were comprised of 50% or more bone in the >10mm fraction. This compares to half of the burials from Spong Hill (McKinley 1994a) and over 70% of those from Rayleigh (Powers 2008). Modern cremations demonstrate that fragments of bone up to 250mm remain immediately after cremation (McKinley 1994a and b). The maximum fragment observed (86.9mm) at Springfield Lyons is approximately one third this size. The further fragmentation may in part be due to the pyre environment as opposed to modern crematorium processes. Movement of the bone during pyre tending or pyre collapse may have added to the breakage. It is unlikely that the further breakage was deliberate, as robust fragments of the temporal bone and vertebral bodies were present in the condition expected after cremation. The range of maximum fragment size at Springfield Lyons 8–86mm (mean 36mm), is similar to that seen at Rayleigh 4–62mm (mean 31mm) suggesting that fragment size from Early Saxon cremations is smaller than those found in modern cremations without deliberate breakage.

Although the severe truncation has compromised interpretation, no pattern was identified in the areas of the body which were present, and most burials contained a combination of skeletal areas. The absence of any apparent collection bias is consistent with findings from other Saxon cremation cemeteries (McKinley 1994a; Powers 2008).

Charred Macrobotanical Remains by Dawn Elise Mooney

Fifty-two bulk soil samples were collected during the Plot K, L and N excavations to recover environmental remains such as charred plant macrofossils, wood charcoal, fauna and mollusca, as well as retrieve burnt bone. These samples mostly derived from urned and unurned cremation burials dating to the Early Saxon period. The samples were processed by flotation. Flots and residues were retained on 500µm and 250µm meshes respectively, and air dried. The dried residues were passed through graded sieves of 8mm, 4mm and 2mm and each fraction sorted for environmental and artefactual remains. The dry flots were scanned under a stereozoom microscope at 7–45x magnifications and their contents recorded. Identifications of macrobotanical remains have been made through comparison with published reference atlases (Cappers *et al*. 2006; Jacomet 2006; NIAB 2004), and nomenclature used follows Stace (1997). The results of the various analyses (Ennis 2012 and 2013; Mooney and Le Hégarat 2014) are summarised here, and comparisons with previous work on the site are made.

Results

No environmental remains were recovered from samples collected from predominantly prehistoric features excavated in Plot K. Samples from Plots L and N produced very few environmental remains, mostly comprising very small quantities of charred wood fragments. Bronze Age layer [372] produced a moderate assemblage of charred cereal grains, including small-sized wheat (*Triticum* sp.) and barley

(*Hordeum* sp.). However, the majority of the cereal caryopses were poorly preserved and could not be identified. Chaff was absent from this assemblage and wild seeds were limited to infrequent grass (Poaceae) caryopses. Various samples from the Early Saxon cremation burials produced occasional cereal grains, some of which were identified as barley, and a single fragment of charred hazelnut (*Corylus avellana*) shell. Infrequent wild seeds of plants found in arable and anthropogenic environments were also noted (Table 8).

Discussion

The combination of wheat and barley caryopses found in Bronze Age layer [372] is comparable to assemblages recorded in pits within the Bronze Age circular enclosure (Murphy 2013, 126–40), which identified a range of crops including emmer (*Triticum dicoccum*), spelt (*Triticum spelta*), bread wheat (*Triticum aestivum*), six-row hulled barley (*Hordeum vulgare*), and field beans (*Vicia faba*). Unlike this Plot N sample, cereal chaff was found in most samples examined by Murphy (2013), which may indicate a different origin for the two assemblages, with that from Plot N probably representing fully-processed grain derived from food waste (Mooney and Le Hégarat 2014).

The paucity of charred plant remains from the Early Saxon cremation burials correlates with earlier investigations at the site (Murphy 2005), where small quantities of grain and chaff of bread wheat, spelt, rye (*Secale cereale*), barley and oats (*Avena* sp.) were identified along with arable weed plants. These plants are likely to represent material derived from cremation pyres, with cereal and arable weed plants used as kindling. However, the very low quantities of charcoal recovered from the samples suggest that care was taken to remove separate cremated human remains from pyre material where possible. This lack of charcoal was also noted in cremation burials at Heybridge (Newton 2008) and Rayleigh (Ennis 2008) and at Spong Hill (McKinley 1994a), where it is suggested that the bone may have been cleaned after cremation before being placed in the urns.

DISCUSSION

The following discussion concentrates on the results of this recent work and highlights areas where new insights have been gained. For the most part, the comprehensive discussions in the two publication reports for the 1981–91 Springfield Lyons excavations (Tyler and Major 2005; Brown and Medlycott 2013) still stand good and are not reiterated here.

Neolithic

Excavations within Plot K have further clarified the position and nature of the causewayed enclosure, though little new insight has been gained regarding its interior. Three new pits were excavated along the arcing line of the boundary, and the northern end of a pit previously part-excavated during earlier trenching in 1991 was further investigated. Most of the previously excavated pits were comparatively deep and appeared to be the product of re-cutting on numerous occasions. However, northernmost pits [8952] and [8994] were found to be shallower and to lack the repeated re-cuts and complex fill sequences of those to the south. The three newly-investigated causewayed enclosure pits ([57 *et al.*], [52] and [65]), all located between [8952] and [8994], confirm this trend of northward decreasing depth and complexity. They also demonstrate that the deposition of cultural material within the enclosure pits also seems to decrease northwards.

One noticeable feature of the excavated causewayed enclosure pits was the very gravelly nature of many of the fills. Indeed, many had a quite natural appearance and would have been doubted as archaeological features had it not been for the recovery of the occasional sherd of pottery or struck flint. Similarities between pit fill and natural may also have led to the failure of a 1980s geophysical survey to identify the curving line of the enclosure pits in the unexcavated south-east corner of the development area (Johnson 1992); the presence of which was later confirmed by exploratory trenches HG and HS. Brown and Medlycott (2013, 149–50) noted that some hollows within the enclosure pits were filled with gravel not likely to have derived from the immediate vicinity and perhaps deliberately brought in. In one case the redeposited gravel contained the large part of a plain bowl. Elsewhere it seemed that particular types of 'natural material' were selected as infilling over more readily available deposits. In Plot K, bowl-like depressions filled with gravel and silty sand in the bases of enclosure pits [57] and [65] may also be examples of this phenomenon.

		Plot L						Plot N				
	Sample Number	18	21	24	28	29	32	4	6	15	18	28
	Fill	154	171	139	160	108	202	291	294	327	340	378
	Burial No.	152	169	136	158	106	200	298	296	329	342	379
Plants of economic interest	*Hordeum* sp. grain	–	–	1	–	–	–	–	1	–	1	–
	Cerealia indet. grain	1	–	–	1	–	1	1	–	1	–	–
	cf. *Corylus avellana* nut shell	–	1	–	–	–	–	–	–	–	–	–
Wild plants	cf. *Anthemis cotula* seed	–	–	–	–	–	–	1	–	–	–	–
	Galium sp. seed	–	–	–	–	–	–	–	–	1	–	–
	Galium/Asperula seed	–	–	–	–	1	–	–	–	–	–	–
	Poaceae indet.	–	–	–	–	–	–	–	–	–	–	1
	Polygonum/Rumex	1	–	–	–	–	–	–	–	–	–	–

TABLE 8: Charred plant macrofossils recorded in samples from Early Saxon cremation burials

Two other Neolithic features, pit [56] and a poorly-defined and over-cut pit [8956] previously excavated in Trench HD, were located in the enclosure interior, within *c.*2m of its causewayed boundary pits. As these were located in the area potentially occupied by an accompanying bank it may be the case that they pre-dated the main construction phase of the enclosure. Alternatively, the pits may have been located within gaps in the bank or the bank have been set back several metres from the edge of the ditch as has been postulated to be the case elsewhere (Oswald *et al.* 2001, 43). A number of other features ([8898], *etc*.) were located in a similar position further south in the eastern projection of the original excavation area (Brown and Medlycott 2013, Fig. 2.1).

While the newly-revealed Neolithic causewayed enclosure pits do not extend the known line, they do confirm the course of the enclosure and fill in some of the gaps, showing that the distribution of perimeter pits is frequent and closely-spaced though not necessarily particularly uniform. The frequency of spacing suggests that another three or four such pits are likely to be preserved beneath the southern oak tree and that the 9m-wide gap between pits [65] and [8994] is significant and might indicate the position of a major entranceway.

Re-examination of aerial photographic evidence has led to the mapping of the curving arc of the Neolithic causewayed enclosure ditch (Brown and Medlycott 2013 fig 5.1; Oswald *et al*. 2001, fig. 4.12) which has been borne out by excavation, although the existence of an outer ditch to the north is not proven. The shape of the causewayed enclosure boundary is uncertain; it may be that it is a simple arc cutting off land between two stream lines or it may be a much larger circular feature extending way beyond the Business Park development area. Oswald *et al.* (2001, 63) notes that some causewayed enclosures plotted as arcs may really be much larger but have had their downslope portions obscured by colluvial build-up, which may be the case in this particular instance. However, extensive fieldwork undertaken by Wessex Archaeology prior to the development of the Springfield Park Industrial Estate, to the immediate east of the site, failed to locate the eastwards continuation of the enclosure (Manning and Moore 2003). Middle Neolithic pottery was reportedly recovered from a surface layer construed as 'just within or immediately outside the causewayed enclosure' (Brown and Medlycott 2013, 151) and which does at least suggest continuing use of the vicinity later in the Neolithic period.

Bronze Age

There can be little doubt that the Early Neolithic causewayed enclosure continued as a major feature of the landscape into the Late Neolithic and Early Bronze Age periods. In this transitional period pottery accumulated in the upper fills of the enclosure pits as well as in a few features cutting the top of them. Contemporary pottery was also recovered from a number of pits within the enclosure interior and several pits in the open area (OA2) to the west. This pit digging appears relatively localised to east and west of the centre of the former enclosure arc with only a solitary pit of this date present in Plot N and one sherd of Beaker pottery recovered from the top of an enclosure pit in Plot K. The recovery of Late Neolithic/ Early Bronze Age material from causewayed enclosure sites appears common and should be interpreted here, as elsewhere, as indicative of later re-use of its surviving vestiges after a considerable time, rather than continuing activity from the earlier Neolithic period (Oswald *et al.* 2001, 138).

No remains or finds of Middle Bronze Age date were found associated with the former Early Neolithic enclosure. However, further west, a tentative rectilinear field system was imposed on the landscape. Two new land units (OA3 and OA4) were created north and south of field boundary ditch (D1). Within OA3 was a Middle Bronze Age pit [179] and a small collection of undated features that might represent the remains of a small timber structure.

The absence of identifiable Middle Bronze Age activity in the original 1981–91 excavation area led to the observation that this contrasts with other parts of the Chelmer Valley (Brown and Medlycott 2013, 151). However, the presence of Middle Bronze Age remains within Plot N has confirmed that the site is not unusual in this respect and is in fact in keeping with other near-by sites such as the Springfield Cursus (Buckley *et al.* 2001) and the Boreham Interchange Site (Lavender 1999).

The most significant feature of the Late Bronze Age continued to be the circular enclosure and its internal settlement remains excavated as the original focus of the 1981–91 excavations. At the time, few contemporary features were found beyond the circular enclosure leading to conjecture that there may have been an empty zone immediately outside kept clear of contemporary occupation (Brown and Medlycott 2013, 159). The results of the more recent fieldwork concur with this as no new features have been found within 30m of the enclosure ditch.

Land further west of the circular enclosure, within Plot N, was ostensibly used for agriculture, with the imposition of a new north-to-south aligned rectilinear field system. Roughly parallel north-to-south aligned ditches D2 and D3, one noticeably shorter than the other, divided the area west of the enclosure into three separate fields (OA6, OA7 and OA8). It is possible that these fields were used to grow cereal crops as charred grains of wheat and barley were recovered from an environmental sample taken from a dark silty clay and charcoal patch within OA7. With a lack of additional boundary features it is conjectured that open area OA6 continued both north and south of the circular enclosure, perhaps merging with former OA1 to the east as the old Neolithic boundary (ENC1) disintegrated. Within this area, in Plot K, was a short length of undated ditch D4 tentatively dated to the Late Bronze Age that might have sub-divided off building B1 from the wider area.

Circular post-hole building B1 was located *c.*70m north-east of the circular settlement enclosure and *c.*75m south-west of a rectangular post-built structure investigated within Springfield Park and interpreted as a focus of Late Bronze Age agricultural and domestic activity (Manning and Moore 2003, 19). A domestic function for building B1 is suggested by its circular shape and by the presence of over 2.5kg of Bronze Age pottery. With a diameter of around 5m, the building is of smaller size than Structure A—the central roundhouse within the main circular settlement enclosure—and of an apparent different design to Structures B and C which appear to lack a defined entrance porch (Brown and Medlycott 2013, 38–9). Roundhouses of similar size and shape have, however, been excavated elsewhere within Essex, for example building 152 at the North Ring, Mucking (Bond 1988, 13). It is not certain

whether either of the two extramural structures (building B1 and the rectangular post-built structure) is contemporary with the settlement enclosure or with one another, though the rectangular structure is described as short-lived (Manning and Moore 2003, 19). It might be significant that both were located within the area of the earlier Neolithic causewayed enclosure, which perhaps persisted as an earthwork at this time. Indeed, it has been postulated that the unusual causewayed design of the circular enclosure consciously imitated that of its Neolithic predecessor (Brown and Medlycott 2013, 159).

Although Late Bronze Age sword-making mould and casting debris was found in the enclosure terminals of the circular enclosure ditch (Needham and Bridgford 2013), no evidence of contemporary metalworking was identified elsewhere within Plots K, L and N. However, a distinctive sherd of pottery recovered along with casting mould debris in one of the ditch terminals was noted to be from the same bowl as vessel sherds recovered from post-hole [8984] in Trench HO, within Plot K (Brown and Medlycott 2013, 159). This led to speculation that the functions of the two vicinities could in some way have been associated during the Late Bronze Age, perhaps with Plot K being the location of the metalworking activity. However, the complete absence of metalworking structures or debris across this subsequently investigated area means this possibility can be dismissed. The presence of the Late Bronze Age sword moulds at Springfield Lyons therefore remains enigmatic.

Roman

Parts of a rectilinear Roman field system were revealed during the original 1981–91 excavation and its associated trenching and more recently during the excavation of Plots K, L and N. The field system appears extensive and continued into Plot G/H although was not evident in Plot C. The field boundaries were not aligned perpendicular to the Roman road *c.*300m to the north and may therefore have respected an east/west track leading off of it, perhaps located south of Plot C. The entire Roman finds assemblage was very small, suggesting the absence of settlement in the immediate vicinity.

Early Saxon

The Plot L and N excavations have revealed the presence of another forty-five cremation burials (forty-six if pottery surface find [315] is included) and a number of cemetery-related features, including possible marker posts and pits containing possible pyre debris. No new inhumation burials were identified. Combined with the 143 cremation burials recorded during the 1981–91 excavations, the total number of potential cremation burials has therefore risen to 189. There were also 114 definite inhumation burials and a further twenty-five *possible* inhumation burials giving an overall cemetery total of at least 328 individuals. It is feasible that a few outlying cremation burials may lie as yet undiscovered in the unexcavated ground to the south-east of the 1981–91 area or else in the thin strips of unexcavated land between the plots, but on balance it is likely that more-or-less the full extent of the cemetery (C1) has been revealed and its virtually complete excavation is a significant achievement.

These recently excavated cremation burials are consistent with those from the original excavation area in terms of levels of truncation and survival of graves, pottery forms, fabrics and decoration, and the small number and restricted range of grave goods. However, two new types of high shouldered jar can be added to the list of pottery forms present in the cemetery. Pottery dating is also consistent, with the new burials, of mostly 6th-century date, fitting into the wider late 5th- to possible 7th-century timeframe identified for the cemetery following the 1981–91 excavations. Geographically and chronologically, the new burials can be located within previously identified burial Groups 9 and 14 (Tyler and Major 2005, 179–184) which include burials containing decorated pots of probable 6th-century date and within a new geographically distant group (15) which contains pottery possibly dating to the second half of the 6th century and may represent some of the latest cremation burials within the cemetery (Fig. 11).

One advance on the original excavation results has been the undertaking of a full analysis of the cremated bone, though the absence of such data for the previously excavated graves has prevented meaningful comparison and compilation of this aspect of the cemetery data. It has been possible to estimate the age of 75% of the burials and in two instances identify pathological lesions that may be associated with advancing age. The age estimations included infants, sub-adults and up to twenty-six adults, one of which was middle aged and one who was older. In common with other sites in south Essex (Heybridge, Mucking Cemetery II, Rayleigh, *etc.*) adults make up the greater proportion of the burials with smaller numbers of sub-adults and infants. The older individual was significant as he/she was recovered from cremation burial [314] and had been interred in the large and decorated high-quality pot. This pot may have dated to the early 6th century on the basis of its stamped decoration and was clearly highly prized, or even curated, as it had been repaired with a lead plug. The accompanying grave goods included a possible perforated coin, an iron clip and a bone bead, the latter, if it was a sword bead, perhaps indicating that the deceased was a male.

Interestingly, cremation burial [314] was located within *c.*2m of horse head burial [8577] excavated at the edge of the 1981–91 site, which can be paralleled elsewhere and is a likely indicator of status (Tyler and Major 2005, 6-10). Burial [314] was one of a cluster of seven cremations, along with [298], [301], [308], [311] [321] and [329], situated to the west of the horse head, of which three ([314], [321] and [329]) contained highly decorated urns, the use of which has been interpreted as a possible family tradition within this part of the cemetery (Tyler and Major 2005, 180). Three of these burials ([301], [314] and [329]) have been identified as adults, one ([298]) was identified as a sub-adult and one ([311]) an infant. Burial [329] was the only burial to contain burnt animal bone in addition to the cremated human remains. It was noted at Spong Hill that animal bone was slightly more common in male cremations than female (Mckinley 1994a, 99). If so, it would appear possible that at least two adult male burials ([314] and [329]) had been interred, perhaps deliberately, in relative close proximity to the horse head. Of the two burials nearest to the horse head within the original excavation area, [6940] contained a decorated urn and fragments of iron, [8511] just a plain pot.

A second cluster of decorative urns (in burials [124], [130] and [136]) was noted within Group 14. All three were probably adult burials and were all located north of the line of three post-holes ([118], [128] and [144]), adding weight

to the assumption that the post-holes are genuine cemetery marker features. To the south, within Cremation Group 9, there is also a noticeable pattern regarding the deposition of pyre/grave goods. The proximity of possible 'placed deposit' of brooch and beads [288] to pit [333], containing iron rod fragments, has already been noted. In addition, grave/pyre goods were also present in near-by cremation burials [293] and [332]. Fragments of copper alloy were found in burial [293] and an iron awl was recovered from burial [332]. It is also worth noting that cremation Group 15, at the western edge of the cemetery, was not only less ostentatious in its use of plain jars as burial vessels but it also contained no evidence of pyre/grave goods.

The close proximity of some of the burials to each other may perhaps reflect a kinship connection. The closest burial pairing was between sub-adult burial [100] and probable adult burial [109] which were positioned only 0.3m apart. Other relatively close burials included adult burials [287] and [305] and probable adult burial [166] with un-aged burial [163].

It was not possible to determine the sex of individuals from the cremated bone remains. Indicators such as pyre/grave goods predominately more associated with one sex rather than another were also scarce, with perhaps the beads from placed deposit 288 being the most likely indicator of a female presence, though not actually recovered from a burial itself, and the single bead in burial [314], if it is a sword bead, being the most likely indicator of a male presence.

Charred plant remains from the burials included weed plants possibly used as kindling for the cremation pyres. Cereal grains were also recovered that may have been accidentally included with the kindling material or have been deliberately deposited as some form of offering to the dead. The former is more likely and was the preferred explanation for charred grains found in the cemetery at Rayleigh (Ennis 2008, 55). In burial [329] large mammal ribs were identified that may have been placed on the pyre as a joint of meat, perhaps as part of a real or symbolic meal to accompany the deceased on their last journey. Cremated animal remains have been found at most of the Early Saxon cremation cemeteries in Essex and would appear to be a relatively common occurrence elsewhere (Lucy 2000, 112).

Other than remnants of the Late Bronze Age enclosure ditch/earthwork forming a northern boundary to the cemetery, no definite boundary features defining the edges of the cemetery were present. It would thus appear that the cemetery was open on all sides and that the burials simply petered out to the west at some distance from the cemetery's core. The cemetery contained at least 328 individuals and occupied a fairly widespread area of *c.*8,400sq m. On the basis of numbers of individuals it would appear to be about half the size of the fully excavated mixed rite Cemetery II at Mucking, which contained a minimum of 739 individuals, but in actual area it was slightly larger, as Cemetery II covered a slightly more concentrated area of approximately 7,230sq m (Hirst and Clark 2009). Other excavated cemeteries within Essex appear to have fewer individuals, for example 194+ at Great Chesterford (Evison 1994), 145+ at Rayleigh (Ennis 2008), 66+ at Heybridge (Newton 2008) and 63+ at Mucking Cemetery I (Hirst and Clark 2009). However, in all these cases the full extent of the cemetery could not be excavated either as a result of extensive quarrying, as at Great Chesterford and Cemetery I at Mucking, or the confines of the development area, as at Heybridge and Rayleigh.

In keeping with most cemetery sites in the region, no evidence for any pyre sites was identified, these presumably long since removed along with the original ground surface, and the location of this part of the funerary ritual remains unknown. Similarly, no evidence was found within Plots K, L and N or in other near-by fieldwork for any associated Early Saxon settlement evidence and it is presumed that this was located beyond the extent of the business park. At Heybridge the nearest known settlement evidence was over 1km from the cemetery (Newton 2008) and at Rayleigh it was over 2.5km (Ennis 2008). In northwest Kent, it has been demonstrated that cemeteries and settlements may be situated some distance apart, implying that the model of adjacent cemeteries and settlement as found at Mucking is not the norm (Tyler 1992; 1996). It is perhaps interesting to further note that, similarly to the Springfield Lyons cemetery, the cemetery at the Heybridge Chalet site was located over (possibly within?) the remnants of a Late Bronze Age occupation enclosure. A preference for such sites as the locations of Early Saxon cemeteries may be hinted.

Late Saxon

It is clear that the bulk of the Late Saxon manorial settlement was located within the original 1981–91 excavation area. Relatively few remains of Late Saxon date were encountered within Plots K, L and N and no new dating evidence was recovered. However, the recent work has further established the credentials of north-to-south ditch D9 as the eastern counterpart to the narrower settlement boundary ditch D10, previously excavated as [8523], to the west. To the north, the settlement is believed to have been bounded by the remnants of the Late Bronze Age settlement earthwork, and to the south may have respected the line of the existing stream (Tyler and Major 2005, 197). Beyond the confines of these settlement boundaries there was no obvious evidence of any contemporary east-to-west ditches sub-dividing the surrounding land into smaller land units and these areas are therefore likely to have been large open fields. There are only a small number of extensively excavated Late Saxon settlement sites in the country (Hamerow 2014, 35) and although relatively poorly dated, the *c.*10th-century settlement at Springfield exhibits a range of structures (rectangular halls, detached kitchen buildings, possible tower), features (hearths, room sub-divisions, *etc.*) and layout typical of these sites (*e.g.* Bishopstone, East Sussex; Porchester, Hampshire; Goltho, Lincolnshire; West Cotton and Raunds Furnells, Northamptonshire). Indeed, its adherence to the compact and perpendicular 'courtyard' plan form is striking (Thomas 2010, 204–6). However, other than Wicken Bonhunt in its 11th-century phase (Wade 1980), there are few comparable sites in Essex and a recent study suggests that the settlement shares close similarities, both in status and form, with only the 'thegnly' settlement at Portchester Castle, Hampshire (Welch 2012, 121).

CONCLUSION

The excavation of Plots K, L and N has furthered our understanding of the nationally important multi-period site at Springfield Lyons and its place in the landscape. Although little has been found to contradict the interpretations and

conclusions of the earlier excavations at the site, the increased area of investigation of its immediate vicinity has provided affirmation and confidence. It is evident that the major enclosure features of the prehistoric landscape continued to exert influence well beyond their active use; the Late Bronze Age settlement enclosure surviving as earthwork vestiges well into the historic period and clearly providing a focus for the location of the Early Saxon cemetery and its successor later Saxon manorial settlement. However, the precise nature of the relationship between the cemetery and the manorial complex remains undetermined, with no obvious indication of interplay between the two being recognised in the archaeological record.

The near full excavation of the Early Anglo-Saxon cemetery is a notable achievement that adds statistical relevance to its comparison with other cemetery sites. Few other such cemeteries in the region can claim to have been as comprehensively excavated. Similarly, few Late Saxon manorial settlements have been excavated in their entirety and, particularly, appreciably beyond the immediate environs of their building complexes. Although little substantive contemporary land use has been discerned outside the manor complex, it has been instructive to demonstrate this.

Not all of the Chelmer Business Park has yet been developed and there is still potential in the south-east corner of the site where further remains of Bronze Age and Neolithic date are likely to survive, particularly those relating to the Neolithic causewayed enclosure—perhaps the most enigmatic of the periods of land use demonstrated by this site and its remains.

ACKNOWLEDGEMENTS

Archaeological excavations within Plots K and L were undertaken by the former Essex County Council Field Archaeology Unit (ECC FAU) on behalf of Churchmanor Estates PLC. Excavations within Plot N were undertaken by Archaeology South-East (ASE) on behalf of CHP Limited. Thanks go to the various members of ECC FAU and ASE staff who worked on the project. Jenny Glazebrook of East Anglian Archaeology and Maria Medlycott of Essex County Council are thanked for their supply of, and permission to use, the published base plans from the 1981–91 excavations. Finds from Plot K were analysed by the late Alan Jacobs and Helen Walker, the Plot L human bone was analysed by Natasha Powers (Museum of London Archaeology) and prehistoric pottery by Nick Lavender. Plot N flint was analysed by Karine Le Hégarat and fired clay/daub by Trista Clifford. Illustrations were produced by Andrew Lewsey and Antonio Reiss.

BIBLIOGRAPHY

Aberg, N. 1926, *The Anglo-Saxons in England during the early centuries after the invasion* (Uppsala)

Bond, D. 1988, *Excavation at the North Ring, Mucking, Essex: A Late Bronze Age Enclosure,* E. Anglian Archaeol. 43

Briscoe, T. 1981, 'Anglo-Saxon Pot Stamps' in Brown, D., Campbell, J. and Hawkes, S.C. (eds), *Anglo-Saxon Stud. Archaeol. Hist.* 2, 1–37

Briscoe, T. 2009, 'Regional identity of stamps' in Hirst, S. and Clark, D. 2009, *Excavations at Mucking Volume 3: The Anglo-Saxon Cemeteries, Excavations by Tom and Margaret Jones, Parts i and ii,* (London, Museum of London Archaeology), 598–602

British Geological Survey 2015, Geology of Britain viewer, available: http://mapapps.bgs.ac.uk/geologyofbritain/home.html (Accessed 18 September 2018)

Brown, N. 2001, 'The Bronze Age enclosure at Springfield Lyons in its landscape context', *Essex Archaeol. Hist.,* 3rd Ser., 32, 92–101

Brown, N. 2013a, 'Neolithic pottery' in Brown, N. and Medlycott, M., *The Neolithic and Bronze Age Enclosures at Springfield Lyons, Essex: Excavations 1981–1991,* E. Anglian Archaeol. 149, 90–97

Brown, N. 2013b, 'Late Bronze Age pottery' in Brown, N. and Medlycott, M., *The Neolithic and Bronze Age Enclosures at Springfield Lyons, Essex: Excavations 1981–1991,* E. Anglian Archaeol. 149, 98–122

Brown, N. and Medlycott, M. 2013, *The Neolithic and Bronze Age Enclosures at Springfield Lyons, Essex: Excavations 1981–1991,* E. Anglian Archaeol. 149

Brugmann, B. 1997, 'Typology and dating' in Parfitt, K. and Brugmann, B., *The Anglo-Saxon cemetery on Mill Hill, Deal, Kent,* Soc. for Medieval Archaeology Monogr. 14, 32–94

Brugmann, B. 2004, *Glass beads from early Anglo-Saxon graves: a study of the provenance and chronology of glass beads from early Anglo-Saxon graves, based on visual examination* (Oxford)

Buckley, D.G., Hedges, J.D. and Brown, N. 2001, 'Excavations at a Neolithic Cursus, Springfield, Essex, 1979–85, *Proc. Prehist. Soc.* 67, 101–62

Cappers, R.T.J, Bekker, R.M., and Jans, J.E.A. 2006, *Digital Seed Atlas of the Netherlands,* Groningen Archaeolog. Seri. 4 (Netherlands, Barkhuis)

Clifford, T. 2016, 'The Beads' in Doherty, A. and Greatorex, C., *The Archaeological excavation of an Iron Age site and Anglo-Saxon cemetery at St Annes Road, Eastbourne, East Sussex,* SpoilHeap Monogr. 11, 129–139

Down, A. and Welch, M. 1990, *Chichester excavations 7: Appledown and The Mardens*

Ennis, T. 2008, *An Early Saxon Cemetery at Rayleigh, Essex: excavations at the former Park School 2003–2004*, E. Anglian Archaeol. 127

Ennis, T. 2012, *Plot K, Chelmsford Business Park, Springfield, Chelmsford, Essex. Archaeological Excavation*, unpubl. ECC FAU report

Ennis, T. 2013, *Plot L, Chelmsford Business Park, Springfield, Chelmsford, Essex. Archaeological Excavation*, unpubl. ECC FAU report

Evison, V. 1994, *An Anglo-Saxon Cemetery at Great Chesterford, Essex*, Counc. Brit. Arch. Res. Rep. 91

Germany, M. and Saunders, H. 2015, 'Mid Chelmer Valley ring-ditch cropmarks' in Germany, M. 'Continuity and Change in the Mid Chelmer Valley—archaeological excavations at Old Hall and Generals Farms, Boreham, 2007', *Essex Archaeol. Hist*., 4th Ser., 7, 62–3

Guido, M. 1999, *The Glass Beads of Anglo-Saxon England, c.AD400–700,* Rep. Res. Comm. Soc. Antiq. London 58

Gustafson, G. and Koch, G. 1974, 'Age estimation up to 16 years of age based on dental development', *Odontologisk Revy*, 25, 297–306

Hamerow, H. 2014, *Rural Settlements and Society in Anglo-Saxon England* (Oxford)

Hawkes, S.C. and Grainger, G. 2003, *The Anglo-Saxon Cemetery at Worthy Park, Kingsworthy, near Winchester, Hampshire*, Oxford Univ. School Archaeol. Monogr. 59 (Oxford)

Healy, E. 2013, 'The Flints' in Brown, N. and Medlycott, M., *The Neolithic and Bronze Age Enclosures at Springfield Lyons, Essex: Excavations 1981–1991,* E. Anglian Archaeol. 149, 75–90

Hirst, S. and Clark, D. 2009, *Excavations at Mucking Volume 3: The Anglo-Saxon Cemeteries, Excavations by Tom and Margaret Jones, Parts i and ii* (London, Museum of London Archaeology)

Hirst, S. 2009, 'The Grave goods', in Hirst, S. and Clark, D. 2009, *Excavations at Mucking Volume 3: The Anglo-Saxon Cemeteries, Excavations by Tom and Margaret Jones, Parts i and ii* (London, Museum of London Archaeology), 480–575

Holden, J.L., Phakley, P.P. and Clement, J.G. 1995a, 'Scanning electron microscope observations of incinerated human femoral bone: a case study', *Forensic Science International* 74, 17–28

Holden, J.L., Phakley, P.P., and Clement, J.G. 1995b, 'Scanning electron microscope observations of heat-treated human bone', *Forensic Science International* 74, 29–45

Jacomet, S. 2006, *Identification of cereal remains from archaeological sites*, 2nd edn., unpubl. manuscript (Archaeobotany Laboratory, IPAS, Basel Univ.)

Johnson, A.E. 1992, *Springfield Lyons, Essex: magnetic Survey Feasibility Study*, unpubl. Oxford Archaeotechnics rep. 009592/SLE/ECC

Lavender, N.J. 1999, 'Bronze Age and Medieval sites at the A12 Boreham Interchange, Springfield, Chelmsford: excavations 1993', *Essex Archaeol. Hist*,, 3rd Ser., 30, 1–43

Lovejoy, C., Meindl, R., Pryzbeck, T. and Mensforth, R. 1985, 'Chronological metamorphosis of the auricular surface of the ilium: a new method

for the determination of age at death', *American Journal of Physical Anthropology* 68, 47–56

Lucy, S. 2000, *The Anglo-Saxon Way of Death* (Stroud, Sutton)

Mainman, A. 2009, 'Classification of fabrics' in Hirst, S. and Clark, D. 2009, *Excavations at Mucking Volume 3: The Anglo-Saxon Cemeteries, Excavations by Tom and Margaret Jones, Parts i and ii* (London, Museum of Archaeology), 589–94

Manning, A. and Moore, C. 2003, 'A Late Bronze Age site at Springfield Park, Chelmsford', *Essex Archaeol. Hist*., 3rd Ser., 34, 19–35

Mays, S. 2005, 'The cremations' in Tyler, S. and Major, H., *The Early Anglo-Saxon Cemetery and Later Saxon Settlement at Springfield Lyons, Essex*, E. Anglian Archaeol. 111, 10–13

McKinley, J.I. 1993, 'Bone fragment size and weights of modern British Cremations and the Implications for Interpretation of Archaeological Cremations', *International J. of Osteoarchaeology* 3, 283–287

McKinley, J.I. 1994a, *The Anglo-Saxon Cemetery at Spong Hill, North Elmham, Part VIII: The Cremations*, E. Anglian Archaeol. 69

McKinley, J.I. 1994b, 'Bone fragment size in British Cremation Burials and its Implications for Pyre Technology and Ritual', *J. of Archaeol. Science* 21, 339–342

McKinley, J.I. 2004, 'Compiling a skeletal inventory: cremated human bone' in Brickley, M. and McKinley, J.I. (eds), *Guidelines to the Standards for Recording Human Remains* (British Association for Biological Anthropology and Osteoarchaeology and Institute for Field Archaeology), 9–12

McKinley, J.I. and Roberts, C.A. 1993, *Excavation and Post-excavation Treatment of Cremated and Inhumed Human Remains,* Institute for Field Archaeol. Paper 7 (Southampton and Reading, BABAO and IFA)

Menzel, E. 2014, 'Cremated Bone' in Ennis, T., *Plot N, Chelmsford Business Park, Springfield, Chelmsford, Essex: Post-Excavation Assessment and Updated Project Design,* unpubl. ASE report

Mooney, D.E. and Le Hégarat, K. 2014, 'The Environmental Samples' in Ennis, T., *Plot N, Chelmsford Business Park, Springfield, Chelmsford, Essex: Post-Excavation Assessment and Updated Project Design,* unpubl. ASE report

Murphy, P. 2005, 'The environmental evidence' in Tyler, S. and Major, H., *The Early Anglo-Saxon Cemetery and Later Saxon Settlement at Springfield Lyons, Essex*, E. Anglian Archaeol. 111, 149–163

Murphy, P. 2013, 'Carbonised plant remains from Neolithic, Late Bronze Age and Roman contexts' in Brown, N. and Medlycott, M., *The Neolithic and Bronze Age Enclosures at Springfield Lyons, Essex: Excavations 1981–1991,* E. Anglian Archaeol. 149, 126–140

Myres, J.N.L. 1977, *A corpus of Anglo-Saxon pottery* (Cambridge Univ. Press)

Needham, S. 1996, 'Chronology and Periodisation in the British Bronze Age', *Acta Archaeologia* 67, 121–40

Needham, S. and Bridgford, S. 2013, 'Deposits of clay refractories for casting bronze swords' in Brown, N. and Medlycott, M., *The Neolithic and Bronze Age Enclosures at Springfield Lyons, Essex: Excavations 1981-1991*, E. Anglian Archaeol. 149, 47–74

Newton, A.A.S. 2008, 'A Late Bronze Age to Early Iron Age enclosure and an early Anglo-Saxon cremation cemetery at the Chalet Site, Hall Road, Heybridge, Essex', *Essex Archaeol. Hist,* 3rd Ser., 39, 57–123

NIAB 2004, *Seed Identification Handbook: Agriculture, Horticulture and Weeds*, Second edition (Cambridge, National Institute of Agricultural Botany)

Oswald, A., Dyer, C. and Barber, M. 2001, *The Creation of Monuments: Neolithic Causewayed Enclosures in the British Isles* (English Heritage)

Oxford Archaeology. 2006, *Land of Chelmer Village Way, Chelmsford, Essex: Archaeological Evaluation Report*, unpubl. OA report

Perry, G. 2012, 'A Hole for the Soul? Possible functions of post-firing perforations and lead plugs in Early Anglo-Saxon cremation urns' in Jervis, B. and Kyle, A. (eds), *Make Do and Mend: Archaeologies of Compromise, Repair and Reuse,* Brit. Archaeol. Rep., Int. Ser., 2408, 43–52

Pocock, M. 2006, *Springfield Business Park, Plots G and H, Chelmsford, Essex: Archaeological Evaluation and Excavation,* unpubl. ECC FAU report

Powers, N. 2008, 'Cremated human remains' in Ennis, T., *An Early Saxon Cemetery at Rayleigh, Essex: excavations at the former Park School 2003–04,* E. Anglian Archaeol. 127, 46–50

Powers, N. 2013, 'Cremated Human Remains' in Ennis, T., *Plot L, Chelmsford Business Park, Springfield, Chelmsford, Essex. Archaeological Excavation*, unpubl. ECC FAU report, 20–26

Robertson, A. 2006, *Plots C, M and N, Chelmsford Business Park, Springfield, Chelmsford: Archaeological Evaluation Interim Summary,* unpubl. ECC FAU report

Schuer, L. and Black, S.M. 2000, *Developmental Juvenile Osteology* (Academic Press Inc)

Stace, C. 1997, *New Flora of the British Isles* (Cambridge Univ. Press)

Steele, J. and Mays, S. 2001, 'The Cremated Bone' in Filmer-Sankey, W. and Pestell, T. (eds), *Snape Anglo-Saxon Cemetery: Excavations and Surveys 1824–1992,* E. Anglian Archaeol. 95, 227–8

Thomas, G. 2010, *The later Anglo-Saxon settlement at Bishopstone: a downland manor in the making*, Counc. Brit. Arch. Res. Rep. 163

Tyler, S. 1992, 'Anglo-Saxon settlement in the Darent valley and environs', *Archaeologia Cantiana* 110, 71–81

Tyler, S. 1996, 'Early Saxon Essex *c*.400–700', in Bedwin, O. (ed.), *The Archaeology of Essex: Proceedings of the Writtle Conference*, 117–129

Tyler, S. and Major, H. 2005, *The Early Anglo-Saxon Cemetery and Later Saxon Settlement at Springfield Lyons, Essex*, E. Anglian Archaeol. 111

Tyler, S. 2008, 'Pottery' in Ennis, T., *An Early Saxon cemetery at Rayleigh, Essex: excavations at the former Park School,* E. Anglian Archaeol. 127, 38–41

Wade, K. 1980, 'A settlement site at Bonhumt Far, Wicken Bonhunt, Essex', in Buckley, D.G. (ed.), *Archaeology in Essex to AD 1500*, Counc. Brit. Archaeol. Res. Rep. 34, 96–102

Waldron, A.W. 1994, 'The Human Remains' in Evison, V., *An Anglo-Saxon Cemetery at Great Chesterford, Essex,* Counc. Brit. Archaeol. Res. Rep. 91, 64–66

Welch, M. 2012, 'A review of the archaeology of the East Saxons up to the Norman Conquest', *Essex Archaeol. Hist.*, 4th Ser., 3, 110–22

Wells, C. 1960, 'A study of cremation', *Antiquity* 34, 219–37

White, T.D. and Folkiens, P.A. 2005, *The Human Bone Manual* (Elsevier Inc.)

Archaeological Fieldwork at Site R, Bradwell Quarry, near Braintree, 2001–2011

Mark Germany

With contributions by Luke Barber, Anna Doherty, Val Fryer, Elissa Menzel, Elke Raemen, Sue Tyler and Helen Walker

Archaeological excavation and monitoring carried out in advance of mineral extraction across the northern part of Bradwell Quarry (Site R) in the period 2001–11 recorded the remains of Middle Bronze Age pits, one or more Middle Iron Age farmsteads, an Early Saxon cremation burial and a 12th- to 15th-century peasant holding. The settlements were thinly scattered and they appeared to suggest that the c.71ha extent of Site R had only ever been sparsely and intermittently occupied. Other archaeological features comprised former boundary ditches and their layout suggested that the field pattern as it existed before the Second World War had at least partly originated during the medieval period.

INTRODUCTION

Archaeological monitoring and excavation funded by Blackwater Aggregates intermittently preceded various phases of mineral extraction across the north half of the original permission area (Site R) of Bradwell Quarry between 2001 and 2011. The archaeological work was carried out by the Essex County Council Field Archaeology Unit and was undertaken in accordance with an archaeological scheme specified by The Guildhouse Consultancy in consultation with the Essex County Council Historic Environment Management team (ECC HEM 2000; Guildhouse Consultancy 2000). The site archive will be deposited with Colchester Museum under the site code RHRA01.

Bradwell Quarry occupies largely flat-lying ground (*c*.50m OD) and is situated south of the A120 and the River Blackwater, near Bradwell-Juxta-Coggeshall, 6km east of Braintree and 200m north-east of Silver End (NGR TL 582000 221000) (Fig. 1). It was the site of Rivenhall Airfield during the Second World War and large parts of that airfield's three runways were still *in situ* when the archaeological work began (Stait 1984).

The underlying geology of Bradwell Quarry comprises Kesgrave Sands and Gravels, overlain by Boulder Clay. The surrounding rural landscape largely comprises isolated houses and farms, arable fields and winding lanes.

BACKGROUND

Rivenhall Airfield was built in 1943. The RAF and USAF jointly operated it and although it was closed in January 1946, it was kept in reserve for ten years (Stait 1984). Reclamation of its site for farmland began soon after the Second World War.

There were no known archaeological sites within Bradwell Quarry before the archaeological work took place (Oxford Archaeological Associates 1997). The southern half of the airfield was fieldwalked in 1991. This identified fifteen concentrations of surface artefacts, although none of these lay within Site R (Medlycott 1991). A subsequent geophysical survey of the fieldwalking concentrations detected no significant archaeological anomalies (Johnson 1992).

FIELDWORK METHOD

Site R consisted of fifteen contiguous mineral Extraction Phases (Fig. 1; EP 1.1–1.4, 2.1–2.3, 3.1–3.3, 4.1–4.3, and 5.1–5.2) stripped and quarried over a period of ten years, working from west to east. Monitoring of the machine-removal of both topsoil and concrete airfield infrastructure was reduced to monitoring of topsoil only after it became apparent that any features within the footprints of the runways had been destroyed by the airfield's construction. The archaeological features within the surrounding areas of topsoil were truncated by modern agriculture by *c*.0.3m. The most severely ground-reduced parts of Site R comprised its east half and the course of the east-west runway. The least truncated were EP 1.3, 1.4 and 2.1, possibly because they coincided with a natural dip in the landscape and were therefore deeper than the construction impact of the runway.

Archaeological remains dating to the Middle Bronze Age, Middle Iron Age, Roman, Early Saxon, medieval and post-medieval to modern periods were encountered in EP 1.3, 1.4 and 2.1 and to a lesser extent in EP 1.2, 3.3 and 4.2. The features cut Chalky Boulder Clay and mainly comprised pits, post-holes, ditches and gullies. Most contained only one or two fills, nearly all of silt clay, and these often comprised basal fills of redeposited or eroded-in natural, beneath latest fills of brownish grey/greyish brown redeposited topsoil. There were no buried layers and feature clarity against the surrounding Boulder Clay was generally good.

EXCAVATION RESULTS

The findings of the archaeological work are presented in chronological order.

While context numbers are used to identify discrete features such as pits, and individual excavated segments across ditches, extensive linear features have been accorded group numbers (G1, G2 etc.) for ease of reference and brevity of description.

Middle Bronze Age

Five Middle Bronze Age pits containing artefacts represent the earliest tangible use of Site R for farming and domestic occupation. Pits 293, 304 and 306 were located near the southern edge of EP 2.1, pit 512 within the central part of EP 3.3 (Figs 2 and 6), and pit 187 in the north-east part of EP 1.4. The pits of EP 2.1 were elongated and sub-circular in plan and moderate to steep sided, measuring 0.25m, 0.74m and 0.55m deep respectively. Their fill sequences consisted of single and double deposits of greyish brown silty clay and were probably

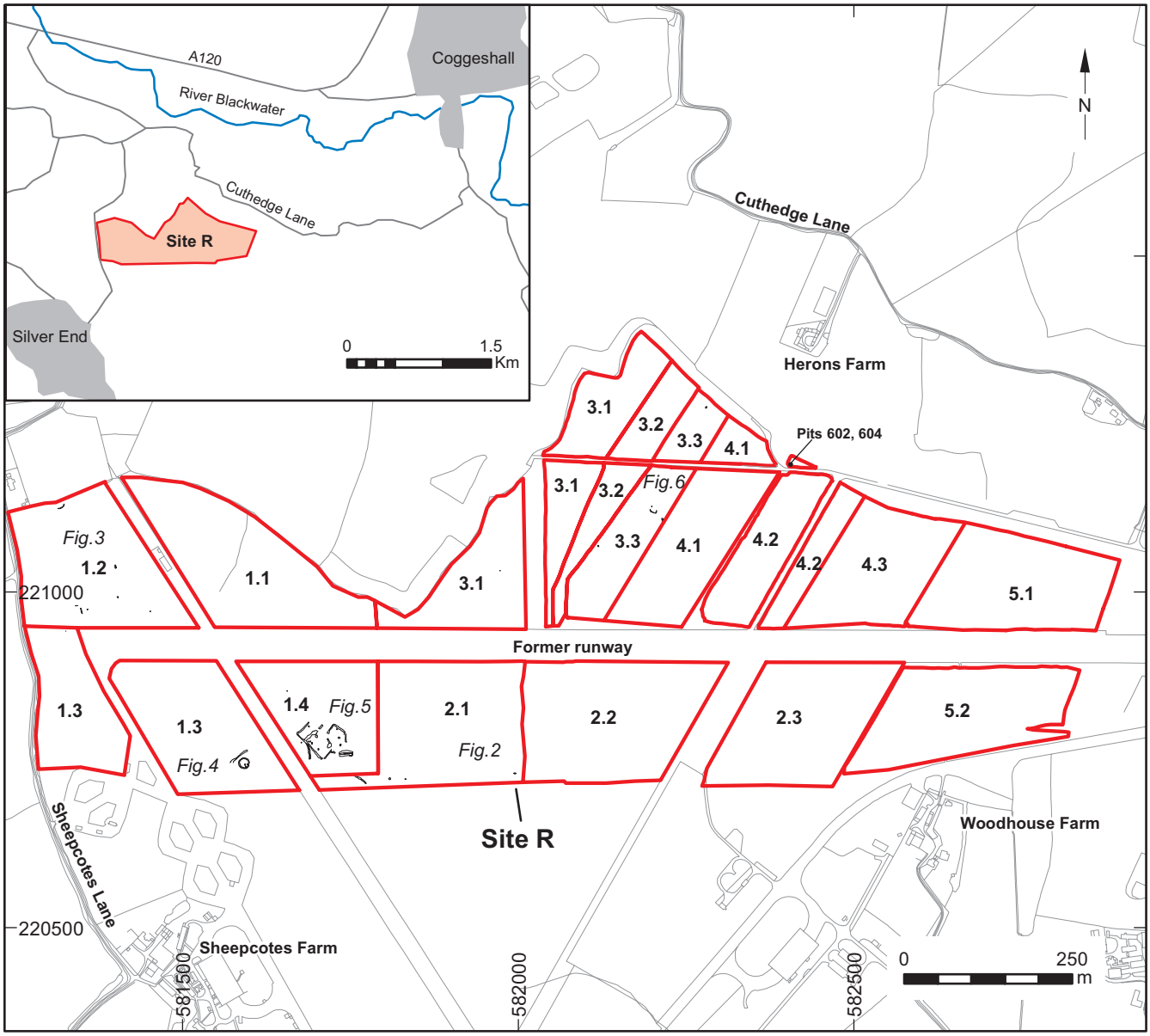


FIGURE 1: Site R, Bradwell Quarry. Site Location

derived from the surrounding topsoil. Sherds of Middle Bronze Age pottery represented most of their artefacts and were mainly present in pit 304, accompanied by fragments of animal bone, cylindrical loom-weight and fire-cracked flint. Pit 304 was further distinguished by also containing a large lump of saddle quern. The pits' contents probably represent domestic processing and production activity, perhaps associated with nearby settlement, although Site R revealed no Middle Bronze Age building remains to confirm this. The distribution of the artefacts in each of the pits was unstructured, although pre-selection is evident in their pottery assemblages. Two undated pits, 311 and 315, were present nearby. They contained pieces of fire-cracked unworked flint, but no other finds.

Isolated pit 512, in EP 3.3, was a steep-sided, 0.5m deep, sub-circular feature with slightly undercutting sides and a flat base (Fig. 6). Its fill of dark grey silt contained forty-five sherds of unabraded Middle Bronze Age pottery deriving from six or more incomplete vessels, accompanied by several flint flakes, two fire-cracked stones and fragments of cattle teeth. Much of the pottery was represented by upper body sherds, making it possible that it had been deliberately pre-selected.

Pit 187 in the north-east part of EP 1.4 (Fig. 5) was a steep-sided circular feature measuring 1.2m wide and 0.44m deep. It had a steep-sided profile and a concave base and its fill sequence comprised a bulk fill of dark grey silty clay above a minor fill of redeposited natural, possibly implying that it had been deliberately backfilled. Artefacts were present within its latest fill only and these were thinly scattered. They included six sherds of Middle Bronze Age pottery and seven pieces of fire-cracked flint. Other finds were a flint flake and a small amount of very degraded animal bone.

Middle Iron Age

The Middle Iron Age features mainly comprised a roundhouse (G1) and its overlying replacement (G2) in the south-eastern quarter of EP 1.3 (Fig. 4), a thin scatter of gullies, pits and part of a possible roundhouse gully (G4) in EP 1.2 (Fig. 3), two conjoined pits (602 and 604) in the north-western corner of EP

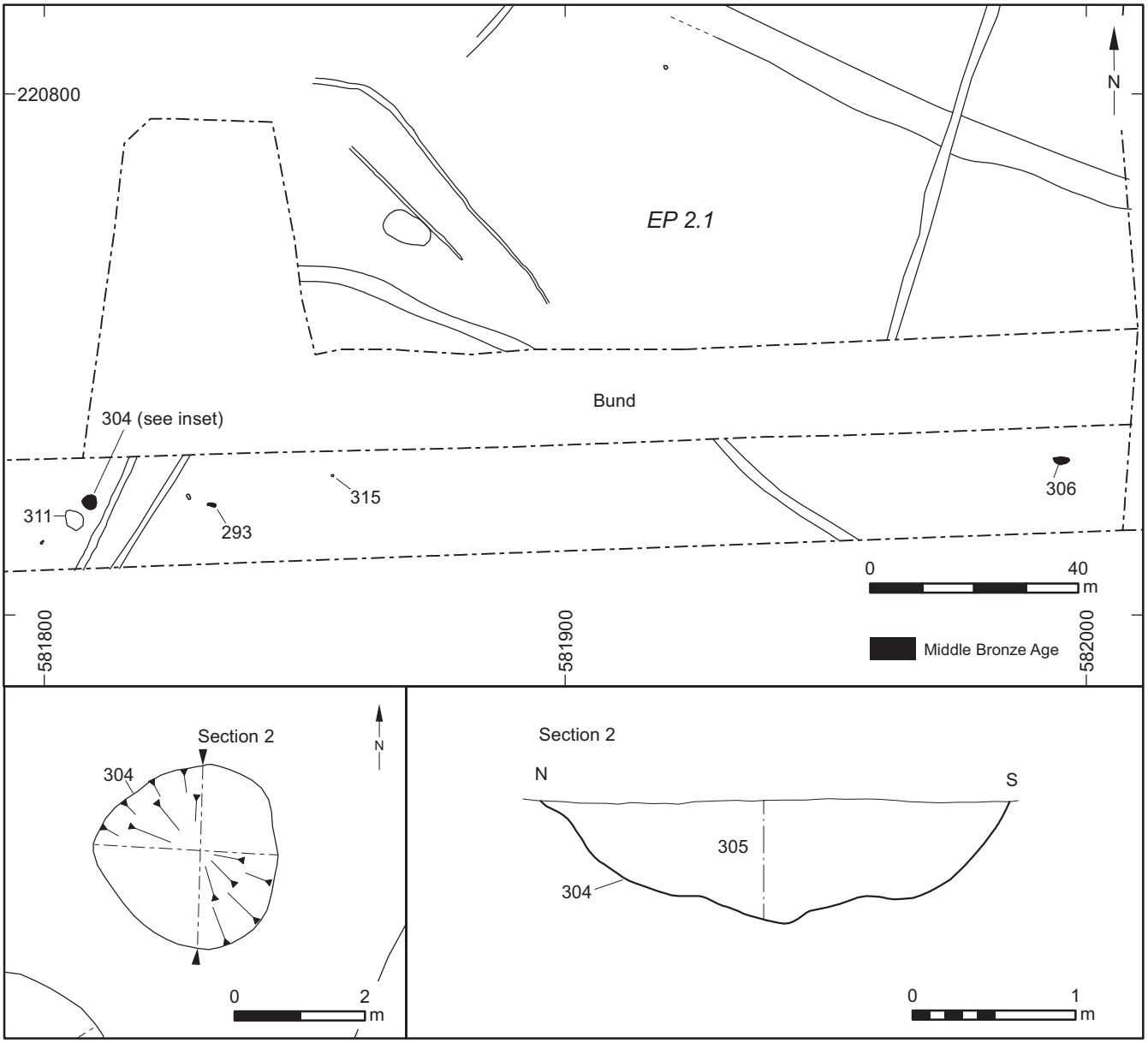


FIGURE 2: Middle Bronze Age and Roman. Quarry extraction phase 2.1

4.2 (Fig. 1), and small pits (119 and 123) and residual finds in EP 1.4 (Fig. 5). The buildings and other features of EP 1.2 and 1.3 are probably remnants of one or two small farmsteads and their adjacent ancillary areas.

The Middle Iron Age features of EP 1.2 consisted of a curvilinear gully (G4), near its northern edge, and a thin scatter of mostly discrete features *c*.150m to its south and south-east (10, 12, 14, 17, 22, 26 and 67; Fig. 3). Gully G4 was possibly a remnant of a roundhouse as it was shallow and curvilinear, with a projected diameter of *c*.13m; though no structural or hearth-like remains were identified within its projected circumference. Outlying gully 12 and ditches 14 and 26 to the roundhouse's far south are suggested to be remains of enclosures since they run roughly perpendicular to each other. Present within all of the features, including pits 10, 17 and 22, were low to moderate amounts of Middle Iron Age pottery, together with fragments of baked clay and degraded animal bones of dog, pig, sheep/goat and cow.

Roundhouse G1 and its overlying replacement G2 in EP 1.3 were defined by closely intercutting circular gullies with interior diameters of *c*.15m (Fig. 4). Gully G1 was investigated in seven locations (segments 32, 38, 39, 54, 64, 72 and 76) and, although much of its circuit had been truncated by its successor (G2), where complete in segment 64 it was established to be *c*.0.87m wide and 0.41m deep and to have moderate sloping sides and a concave base. Its single fill contained no artefacts, but was flecked with charcoal. Gully G2 was superimposed on G1 and was noticeably wider and deeper than its predecessor, typically measuring 1.4m wide and 0.6m deep. Furthermore, it was slightly off set to the north and east, and interrupted by a 2.6m-wide entrance on its east side. Where excavated, this gully contained a consistent sequence of three fills that were darker and more charcoal-rich than that of its predecessor (G1). Segment 78 of gully G2 presented hints of a recut, perhaps implying that the ring-gullies were occasionally maintained and cleared of their contents.

It is unclear as to whether circular gullies G1 and G2 represent eaves-drip gullies or wall foundation trenches, and there were few remains within their interiors to assist clarification. Shallow, roughly linear gully G3, cut by G2,

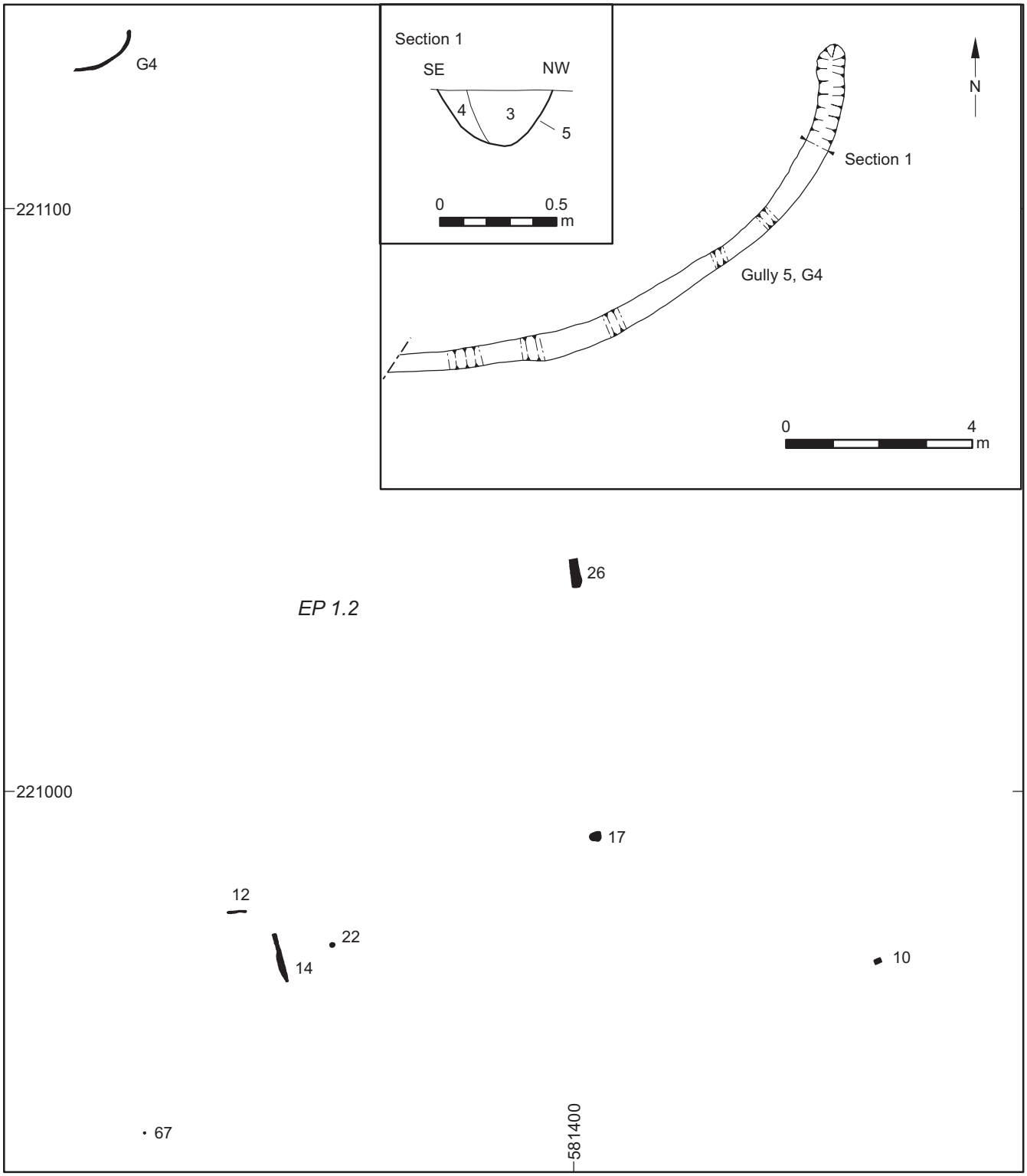


FIGURE 3: Middle Iron Age. Quarry extraction phase 1.2

incorporated a small post-hole (60) and is conjectured to have constituted an internal division within roundhouse G1. Elongated irregular pit 74 cut gully G1 and was perhaps an internal feature within roundhouse G2. Pit 44 was cut by gully G1 and was therefore apparently un-associated with either structure.

Artefacts were mostly recovered from the fills of roundhouse gully segments 39, 41, 52, 64 and 76 and these largely comprised small to moderate amounts of Middle Iron Age pottery, with baked clay and animal bone.

North-east/south-west aligned ditch 88 passed north-west of both roundhouses, although its full course was unable to be traced (Fig. 4). Finds from the earliest of its three fills comprised Middle Iron Age pot sherds and fragmented animal bone. This ditch is likely to have been associated with one or both roundhouses, although its function remains unclear. Perhaps it was part of a surrounding enclosure or a boundary between areas of different land use.

Intercutting pits 602 and 604 in the far north of EP 4.2 (Fig. 1) also contained small quantities of burnt flint,

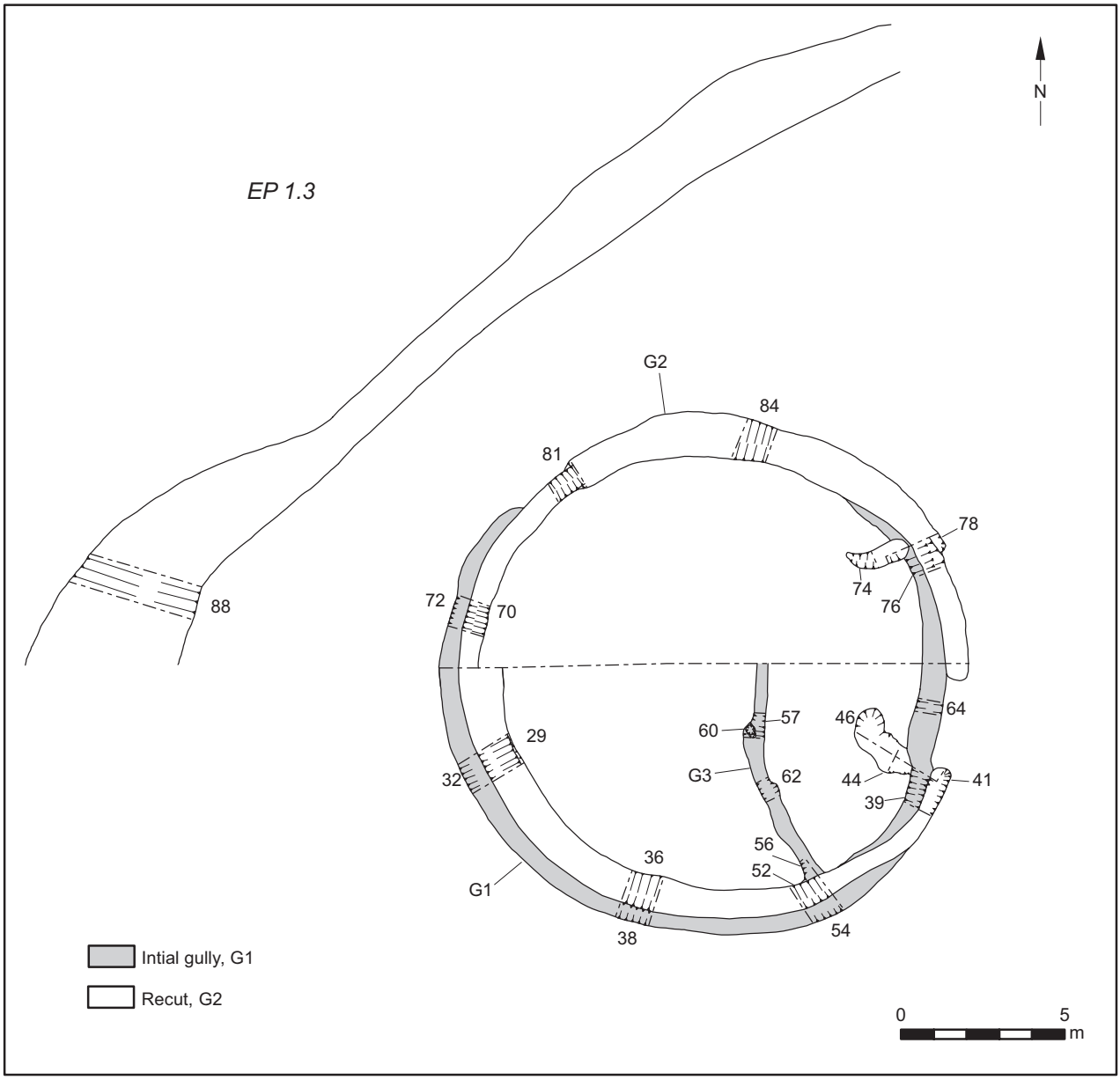


FIGURE 4: Middle Iron Age roundhouses G1 and G2. Quarry extraction phase 1.3

Middle Iron Age pottery and animal bone. They were broad and shallow and they had an average depth of *c*.0.25m. They sat isolated from roundhouses G1 and G2 and were therefore perhaps unrelated to them.

Gully 12, and pits 17, 22 and 67 in EP 1.2, and ring-ditch segment 39 in EP 1.3 contained small amounts of cremated human bone. Pieces of cremated bone were also present in ditch 26, although the precise location of that feature within EP 1 was inadvertently not recorded. With one exception, none of these features contained more than 15g of bone and all of the bone which was present within each of them was thinly spread. Pit 67, the single exception to this, was a small shallow, steep-sided, flat-based feature, measuring 0.1m deep. Its single fill comprised very dark grey silt and contained 287g of concentrated cremated bone. It included no artefacts and is assumed to be of Middle Iron Age date via its apparent association with nearby Middle Iron Age features 12, 17 and 22.

Relatively few of the bones were diagnostic although a neonate and a child aged 7 to 15 are probably represented by those from pits 22 and 67 respectively. None of these features were overtly graves, with the probable exception of pit 67.

Pieces of Middle Iron Age pottery were present as residual items within medieval features in EP 1.4, *c*.150m east of the roundhouses of EP 1.3. Pits 119 and 123 in the west part of EP 1.4 were possibly in use during the Middle Iron Age, although their dating evidence was slight, in that it solely comprised one sherd of Middle Iron Age pottery apiece. Both pits contained single fills and measured less than 0.13m deep.

Early Saxon

Early Saxon remains lay beneath and immediately south-west of the medieval holding in EP 1.4 and consisted of ditch G5 and pit 104 (Fig. 5). The ditch had a V-shaped profile and was roughly 0.9m deep. It contained a lower deposit of dark grey silt clay (162) within segment 157 and within that were the fragmented remains of most of a mid 5th- to 7th-century pot, accompanied by 30g of cremated human bone, some of which adhered to the pot sherds. Early Saxon pot sherds were present within the ditch's other segments as well and

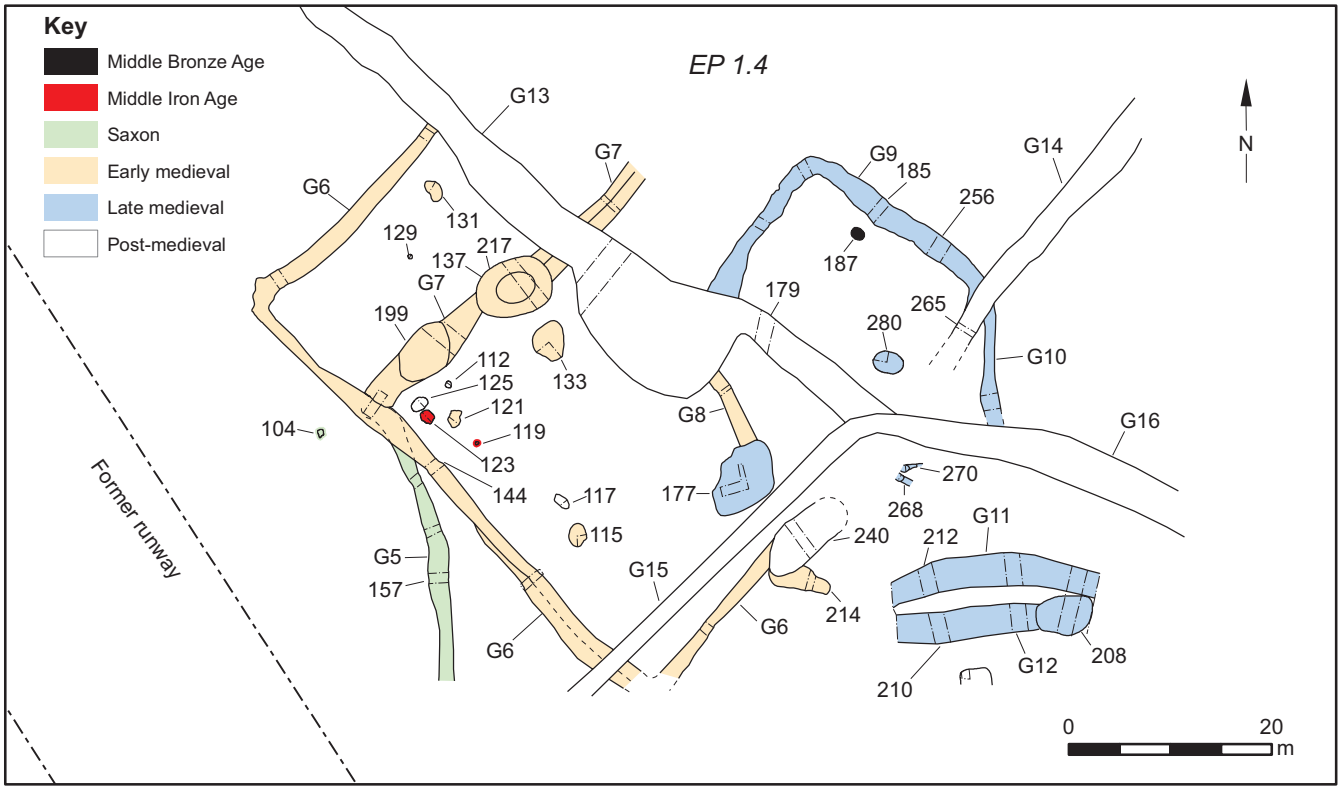


FIGURE 5: Middle Iron Age, Early Saxon and Medieval. Quarry extraction phase 1.4

these were accompanied by animal bones and residual sherds of Middle Iron Age pottery. None of the ditch's interventions revealed medieval pot sherds. Pit 104 was situated to the north-west of the ditch and was a small and shallow cut. Its single fill contained occasional flecks of charcoal and thirty-five fragments of Early Saxon pottery, together with residual Middle Iron Age pot sherds and a moderate amount of animal bone, mainly sheep and cattle molars. It is possible that the Early Saxon pot and cremated bone in ditch segment 157 originated from pit 104 and are in fact part of a redeposited cremation burial. The Early Saxon remains are small in number, but nonetheless suffice to indicate that human occupation and funerary activity were taking place with the bounds of EP 1.4 during that period.

Medieval and post-medieval

Medieval remains were present in EP 1.4 and EP 3.3; the former constituting a 12th/13th-century peasant holding which was subsequently redefined and modified during the late 13th to early 15th century (Fig. 5), and the latter a late 12th- to early 13th-century pit containing crop processing debris (Fig. 6). The remains of the holding were fragmentary due to overlying post-medieval/modern ditches and modern airfield-related truncation.

The EP 1.4 holding

The holding's earliest features included three sides of a sub-divided rectangular enclosure, the external boundary of which was defined by a 1.5m wide, 0.3m to 0.6m deep, ditch G6 with a V-shaped profile which, due to truncation, petered out towards the north-east (Fig. 5). The enclosure's dimensions remain uncertain, although it was clearly 50m wide and more than 36m long. Its stratigraphic and pottery dating suggest it to have been largely infilled during the 12th–13th century and to have remained evident as a shallow earthwork *c.*200 years later. Ditch G7 represented the enclosure's sub-division. It contained sherds of 12th- to 13th-century pottery and its duration was probably short, since it was cut by a shallow pit (199) and a steep-sided waterhole (217), both of which were no longer in use by the mid-13th century.

The waterhole was more than 2.2m deep. Its base was not exposed and it had steep sloping sides. Its fills were equally steeply inclined and these mainly comprised tipped backfills of yellowish brown and brownish grey silt clay, which became richer in charcoal towards the surface. The uppermost part of the waterhole comprised a 0.7m-deep oval, central depression (137) which may have developed as the backfills of the pit settled. It contained deposits of yellowish brown and dark greyish brown silt clay and it appeared to have been deliberately capped. Accompanying artefacts comprised pieces of 12th- to 13th-century pottery, lava quern and baked clay.

The enclosure included no structural remains to firmly demonstrate that it had been occupied by buildings and it may have been used as a paddock for livestock, although ditches G6 and G7, waterhole 217 and five 12th- to 13th-century pits (115, 121, 129, 131 and 133) each contained small to moderate amounts of oyster shell, animal bone, baked clay and medieval pot sherds, indicative of domestic occupation. A short length of ditch (G8) within the southern end of the G6 enclosure may constitute another sub-division of its interior, but was obscured by later truncating remains. Pieces of 13th-century Hedingham Ware pottery were part of its content.

To the north-east of the enclosure was a late 13th- to early 15th-century enclosure defined by ditch G9, the south-west and south-east sides of which were perhaps no longer present because they had been destroyed by overlying post-

medieval ditches G13 and G14. It was smaller in area and it was probably imposed whilst the bounds of enclosure G6 were still identifiable. Groups of residual late 13th- to 14th-century pottery, possibly originating from G9, were retrieved from segments 179 and 265 of nearby post-medieval/modern ditches G13 and G14 respectively. Ditch G9 measured *c*.2m wide and had a moderate to steep-sided profile measuring 0.54m to 0.65m deep. Single fills lay in each of its segments. A sizeable pit (280) partly occupied the enclosure's interior. It was at least 0.4m deep and its single fill contained more than 100 sherds of late 13th- to 14th-century pottery. Some of the sherds implied use of Hedingham Ware jugs and cooking-pots.

Ditch G10 was sited immediately south-east and was probably in use during the late 13th to early 15th century. Its size and profile were similar to those of G9 and it came off its east corner, making it possible that it had once been part of G9, either initially or during a subsequent embodiment.

Other late 13th- to early 15th-century archaeological features comprised a large tree hole (177) in enclosure G6, and fragments of gullies (268 and 270) and ditches (G11 and G12), south-east of enclosures G6 and G9. A large, 1m-deep, pit (208) was also present and was possibly a quarry pit or a soakaway. It cut infilled ditch G12 to the south-east and it contained a latest fill of brownish grey silt clay resting on top of a primary fill of redeposited natural. Its only finds comprised eleven sherds of mid 13th- to 14th-century pottery, all from its latest fill.

Ditches G11 and G12 were only traced for a short distance. They had variable profiles and ditch G12 was roughly twice as deep as G11, each measuring *c*.1.10m and 0.5m deep respectively. Most of their interventions contained single deposits from which late 13th- to 14th-century pottery was retrieved, along with an iron rake or harrow tooth of tapering square section (*cf.* Goodhall 2011, nos F30 and F31) and a fragment of medieval or later roof tile in ditch G11. The relation of these two ditches to the remains of the rest of the site is uncertain.

Post-medieval/modern field ditches (G13 to G16) intersected and represented the corners of four fields and although one of those ditches (G13) is unrecorded by historic Ordnance Survey maps, it nonetheless was probably in use during the post-medieval/modern period since it contained a ceramic drain pipe. The four fields were components of an extensive landscape of roughly rectilinear fields and it seems probable from their close correlation with medieval enclosure ditches G6 and G9 that their constructors reused, extended and built upon surviving boundaries, the courses of which were probably still represented by earthworks and/or hedgerows.

EP 3.3 Service Area

All but one of the medieval features in EP 3.3 formed a small centrally located cluster. Those of the cluster comprised gully G17 and pits 523, 527 and 530, most of which were only broadly datable (Fig. 6). The gully survived in fragmentary form and parts of it were no longer present because of truncation. Pit 519 lay separate from these and was located *c*.170m to the north-east.

The pits of the centrally-located cluster sat north and south-east of the gully. They contained less than three sherds apiece and were probably in use during or after the 12th to early 13th century. None of them was more than 0.5m deep. The primary and latest fills of pit 523 included flecks of heat-reddened clay, although there was no evidence for *in situ* burning. The gully curved slightly and had a shallow concave profile. Single fills occupied each of its segments and contained flecks of baked clay and charcoal. Its dating evidence comprised a large quantity of late 12th- to early 13th-century pottery sherds, including fragments of cooking-pots.

Pit 519 to the north-east had three deposits and was 0.9m deep. Its primary fill included carbonised plant remains, occasional large fire-cracked stones, frequent lumps of heat-reddened clay and three large sherds of later 12th-century cooking-pot rim. Three pieces of late 12th- to early 13th-century medieval coarse ware and a large fragment of Roman roof tile were also present. Plant remains other than carbonised wood included chaff, cereal grains and small numbers of oat and barley grains, providing evidence for crop processing and crop production on a rotational basis.

FINDS AND ENVIRONMENTAL REMAINS

Sherds of Middle Bronze Age, Middle Iron Age, Early Saxon, medieval and post-medieval pottery form the bulk of the Site R finds assemblage and are accompanied by fragments of Middle Bronze Age saddle quern and loomweight, and a small to moderate amount of animal bone. Other finds included scraps of baked clay and iron, details of which can be found in the site archive. Carbonised environmental remains are represented by a single bulk sample, sourced from medieval pit 519 in EP 3.3.

Middle Bronze Age Pottery by Anna Doherty

An assemblage of 215 sherds, weighing 2,816g, of Ardleigh-style Deverel-Rimbury pottery was excavated, largely deriving from four widely-dispersed pits in EP 2.1 and EP 3.3 (Table 1).

Broad fabric description	Archive fabric codes	Sherds	Weight (g)	ENV
Flint-tempered coarse wares	FLIN1, FLIN4	21	278	11
Moderately coarse flint-tempered wares	FLIN5	7	183	3
Flint-tempered fine wares	FLIN3	13	62	2
Grog-tempered coarse wares	GROG4	74	1526	10
Moderately coarse grog-tempered wares	GROG3, GRFL2	26	279	13
Grog-tempered fine wares	GROG2, GRFL1	74	488	29
Total		**215**	**2816**	**68**

TABLE 1: Quantification of Middle Bronze Age pottery, and Estimated Vessel Number (ENV)

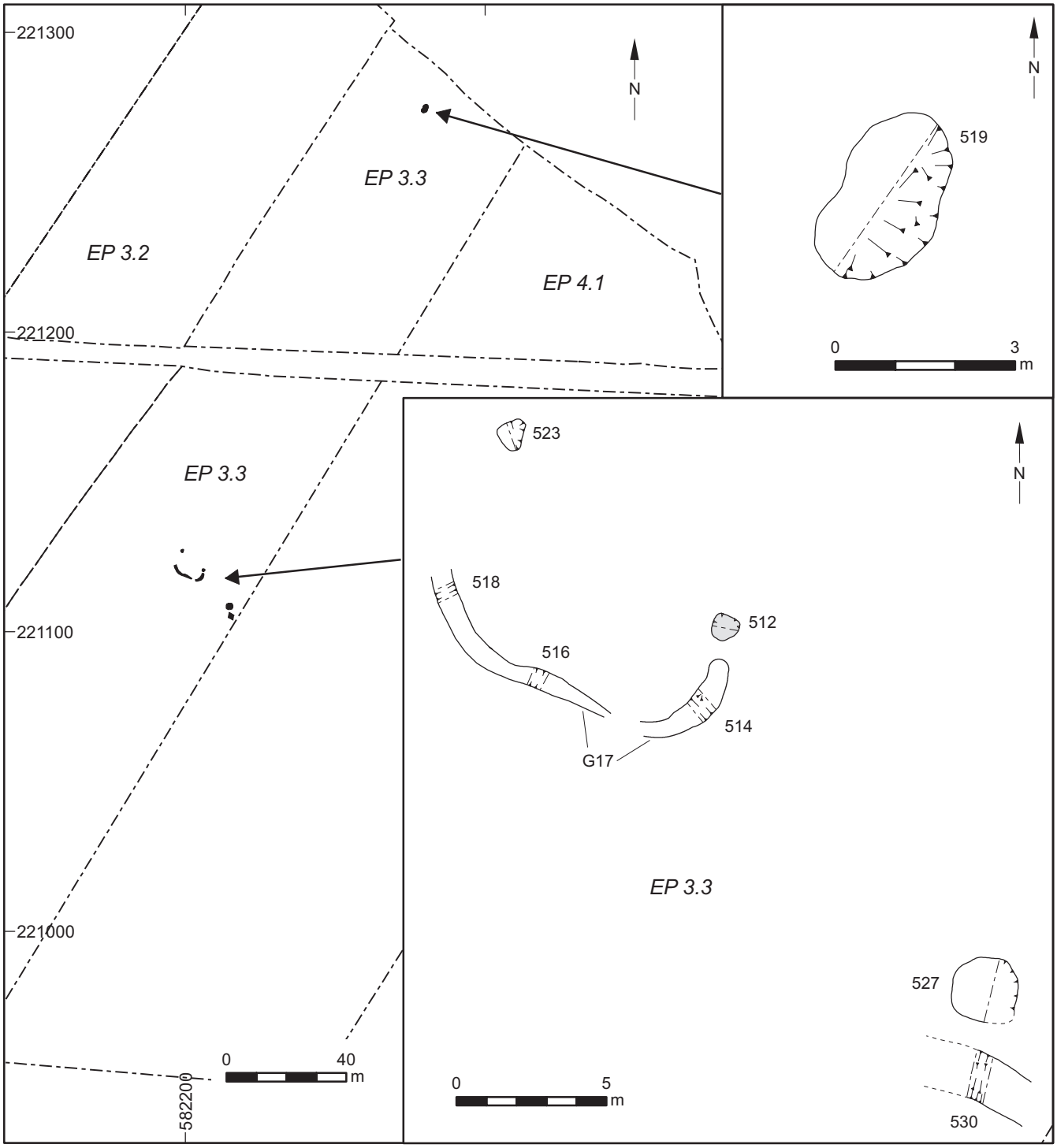


FIGURE 6: Middle Bronze Age and Early Medieval. Quarry extraction phase 3.3

The pottery was recorded using a site-specific fabric type series in accordance with the guidelines of the Prehistoric Ceramics Research Group (PCRG 2010).

The most notable group comes from pit 304 in EP 2.1 where just over 1.5kg of pottery from a small number of vessels was associated with other fairly complete finds including a quern and loomweight. The majority of this group is made up of sherds from a coarsely grog-tempered Barrel Urn with a row of horizontal finger impressions directly below the rim and an applied horizontal cordon with very pronounced finger impressions/pinches (Fig. 7.1). Most of these sherds are from the upper body, representing half of the rim circumference and probably about a third of the entire vessel. Substantial portions of rim profiles from two other vessels were also noted, though, in each case, these probably represent less than 10% of the whole. The first is a smaller, thinner walled Barrel Urn in a flint-tempered fabric with a horizontal row of fine finger impressions (Fig. 7.2) whilst the second is a very thin-walled vessel in a well-burnished flint-tempered fine ware, possibly representing a Globular Urn (not illustrated). Also of note in this group is a small rim sherd from a relatively thin-walled urn in a fine grog-tempered ware with distinctive groupings of fingernail impressions (Fig. 7.3). Similar markings have been noted at the local type-site assemblage from Ardleigh (Brown 1999, 82–82). There, parallels were drawn with similar marking on Collared Urns (Tomalin 1995), with the

suggestion that they may represent ideograms or maker's marks.

The other pit groups (pits 293, 306 and 511) are largely grog-tempered but contain some grog-tempered wares with flint inclusions and some purely flint-tempered fabrics; however, the proportion of the latter varies from 6% of estimated vessels in pit 306 to 41% in pit 511. These groups also produced less complete vessel profiles than 304. Despite being one of the larger groups (sixty-five sherds, weighing 0.56 kg), pit 306 produced only one feature sherd: a small rim from a thin-walled urn in a finely grog-tempered fabric, featuring a post-firing perforation (Fig. 7.4). A similar small urn/cup was also noted in pit 293, which also contained few other featured sherds (Fig. 7.5).

Pit 511 contained a slightly larger group of diagnostic pieces but, unlike in pit 304, these are predominantly single sherds from different vessels. These include a small rim with multiple vertical cordons or bands of finger impressions, as well as a finger-impressed rim (Fig. 7.6) and a Barrel Urn with a finger-impressed horizontal cordon and fingernail-impressed rim (Fig. 7.7). Also appearing within this group is a coarsely flint-tempered but surprisingly thin-walled Barrel Urn-derived form of apparently quite large diameter (*c.*240mm) (Fig. 7.8) and two further small rims from thin-walled small urns in fine grog-with-flint fabrics (not illustrated). Although there is still relatively little supporting radiocarbon evidence, it is thought that predominantly grog-tempered Ardleigh assemblages tend to be earlier, with a gradual shift to flint-tempered wares towards the late 2nd millennium (Brown 1999, 78). This might suggest that 511, with its much higher proportion of flint-tempering, is of slightly later date to the other pit groups from EP 2.1. Certainly, the coarsely flint-tempered but thin-walled vessel (Fig. 7.8) is comparable to some transitional Deverel-Rimbury/Post Deverel-Rimbury forms. On the other hand, the vertical bands of decoration on vessel 7.6 are perhaps more reminiscent of the more complex earlier styles of Ardleigh decoration.

Discussion

It is probably significant that pit 304 lacks body sherds of the type usually found in Middle Bronze Age settlement features. Broken mixed sherd assemblages were the norm in ditches and pits at Stansted Airport, for example (Leivers 2008, 17.7–17.8). By contrast, the material from pit 304 is in good condition and only one small body sherd appears to be from a vessel other than the substantial feature sherds described above. This demonstrates that the pottery is unlikely to derive from heavily-mixed midden waste. Each of the three larger, very recognisable, portions of vessels also seems to represent a different functional or stylistic type: a large heavy-duty urn, a medium sized vessel and a fine globular urn. It could therefore be speculated that different vessel types were deliberately chosen for deposition. The small rim sherd with potentially diagrammatic marks might also imply an element of deliberate curation and placing of vessels which carried particular personalised meanings.

The deliberate deposition of Deverel-Rimbury pottery in non-funerary features is less common in the Ardleigh stylistic area in north Essex and Suffolk than in other regions such as the Thames Valley or Sussex Downs but the recurrent association of domestic items like querns, loomweights and large portions of pottery vessels in pit deposits is well known in southern Britain. Deposition of this type is often associated with the abandonment of domestic structures. These acts have been interpreted as deliberate and deeply symbolic and the breakage and deposition of everyday objects has been equated with domestic, agricultural and human life-cycles (Brück 2006). However, it is worth noting that there is currently no clear-cut evidence for permanent Middle Bronze Age settlement at Bradwell Quarry so it seems possible that these objects were transported some distance from their domestic context of use. Indeed, the three other features which contained diagnostic Middle Bronze Age pottery, pits 293 and 306 in EP 2.1 and pit 512 in EP 3.3, included some moderate-sized groups, which were more fragmented and mixed in character. Pit 306 in particular contained sixty-five sherds with a very high proportion of undiagnostic body sherds from different vessels. This material seems less likely to form a special or deliberate deposit and may therefore imply that there was some domestic activity which has not left behind structural or other stratigraphical evidence.

Illustrated Middle Bronze Age pottery (Figure 7.1–8)

Fill 305 of pit 304

1. Barrel Urn with a row of horizontal finger impressions directly below the rim and an applied horizontal cordon with very pronounced finger impressions/pinches; surfaces are coarsely wiped (GROG4)
2. Small thin-walled Barrel Urn with neat horizontal row of finger impressions (FLIN5)
3. Small thin-walled urn with distinctive cluster of fine fingernail impressions possibly representing ideograms or makers marks (GROG2)

Fill 307 of pit 306

4. Thin-walled urn of slightly closed profile with post-firing perforation (GROG2)

Fill 294 of pit 293

5. Thin-walled urn/cup of small diameter (*c.*110mm) (GROG2)

Fill 512 of pit 511

6. Urn with multiple cordons/bands of vertical finger impressions below the rim as well as finger impressions along the rim (FLIN4)
7. Barrel Urn with finger-impressed horizontal cordon and fingernail impressions along the rim (FLIN5)
8. Thin-walled Barrel Urn-derived form (FLIN1)

Middle Iron Age Pottery by Anna Doherty

Features in EP 1.2 and 1.3 produced 428 sherds of Middle and Late Iron Age pottery, weighing 3.57kg. A few undiagnostic sherds in similar fabric types found in other areas of the quarry have been recorded for the archive but excluded from this report. The pottery was recorded using the same methodology as the Middle Bronze Age assemblage although some of the Late Iron Age fabrics were recorded using codes from the Essex regional Late Iron Age/Roman type-series (Biddulph *et al.* 2015; Doherty *et al.* 2015). Full fabric descriptions are available in the archive and a summary quantification of broader fabric groupings is provided in Table 2.

The majority of the prehistoric features in EP 1.2 and 1.3 produced pottery of typical Middle Iron Age character. Fabrics in these groups are remarkably homogeneous; *c.*85% are in quartz-rich wares and the remainder are similar fabrics containing sparse flint. One or two sherds occurred in non-

Ware group	Archive fabric codes	Sherds	Weight (g)	ENV
Flint-tempered wares	FLIN2; FLIN3	6	35	5
Quartz-rich wares	QUAR1; QUAR2	286	2022	218
Quartz-rich wares with sparse flint	FLQU1; FLQU2	37	287	28
Grog-tempered wares	GROG1; GROGC; GROGRS; BSW2	92	1178	58
Shelly wares	ESH	7	47	3
Total		**428**	**3569**	**312**

TABLE 2: Quantification of Iron Age pottery fabrics from EP 1.2 and EP 1.3

FIGURE 7: Middle Bronze Age Pottery

sandy more densely flint-tempered wares but these are all isolated within their deposits and may represent residual earlier material. This is probably a chronologically significant aspect of the assemblage because transitional Early/Middle Iron Age assemblages from Eastern England typically still retain quite a large component of flint-tempered wares and this suggests that the whole phase of activity began well into the Middle Iron Age, almost certainly post *c.*300 BC and perhaps somewhat later. Unfortunately, the few Iron Age features which are demonstrably earlier within the stratigraphic sequence, such as the original ring-ditch cut in EP 1.3, contained very small quantities of fairly undiagnostic pottery and these are not demonstrably earlier in ceramic terms.

The only reasonably substantial stratified group comes from replacement ring-ditch G2, but this amounts to just over 100 sherds from eight interventions so it is clear that pottery was fairly sparsely distributed within its fills and therefore perhaps more likely redeposited in backfills rather than being deliberately placed or discarded *in situ*. Potentially the earliest feature sherd in this group is a necked jar with finger impressions along its rim (Fig. 8.1). Forms of this type clearly have their origins in the decorated Post-Deverel-Rimbury tradition of the earliest Iron Age and remain very common in transitional Early/Middle Iron Age assemblages. At Little Waltham (Drury 1978) this type of decoration occurs a number of times in illustrated groups belonging to Periods II (mid-3rd to late 2nd century BC) and III (late 2nd to mid-1st century BC) (*e.g.* fig. 42, no. 6; fig. 44 no. 74; fig. 45 nos 94 and 110). These forms could well have been residual in later features however, and it should be noted that the precision of the date ranges assigned to the stratigraphic phases at Little Waltham is probably open to question because there were no scientific dates or metalwork associations. In ring-ditch recut G2 at Site R, the sole possible early type was directly associated with other more typically later Middle Iron Age forms including a shouldered jar with upright neck (Fig. 8.2) and a well-formed

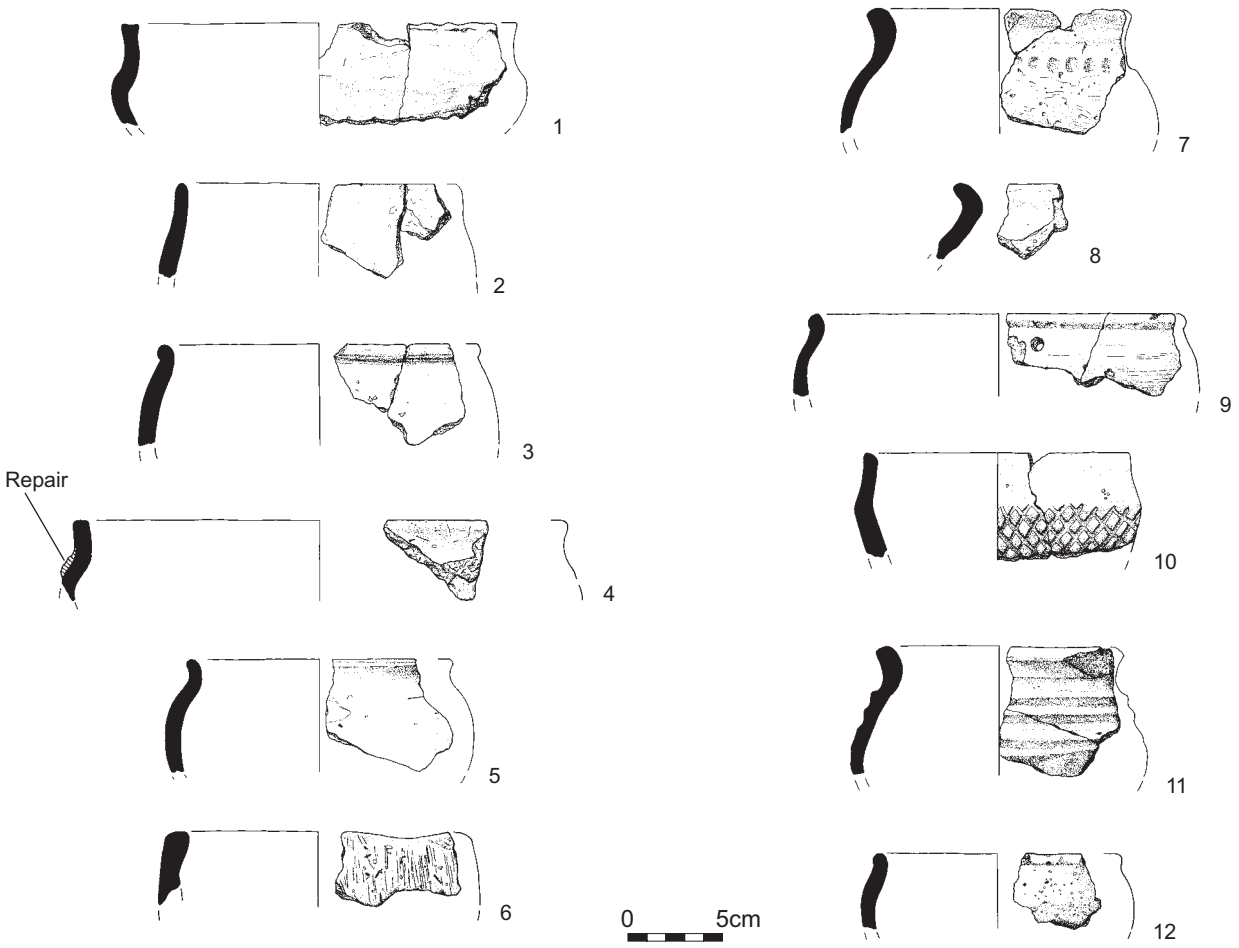


FIGURE 8: Middle Iron Age Pottery

bead-rim jar (Fig. 8.3). Also found in the ring-ditch recut was a necked jar with evidence of repair in antiquity with a tar-like adhesive (Fig. 8.4).

Several features in EP 1.2 are clearly of slightly later date. At least one of these small stratified assemblages gives the appearance of being a transitional Middle/Late Iron Age group. This assemblage of nineteen sherds from pit 17 is largely similar to those from the main Middle Iron Age phase, being mostly composed of quartz-rich wares and hand-made forms, including a well-formed S-profile jar (Fig. 8.5), but also contains four sherds in grog-tempered fabrics, including a coarse thick-walled body sherd with roughly combed decoration/surface-treatment, almost certainly representing part of a Late Iron Age storage jar form. In most of the other probable Late Iron Age groups, including those from gullies 12 and 14 and ditch 26 in EP1.2, grog-tempered wares make up between 65–85% of the pottery. The largest of these groups, from ditch 26, is typical; it contains a minority of forms in Middle Iron Age style quartz-rich fabrics, including a plain rim closed profile jar (Fig. 8.6) and a necked jar with a row of fingertip impressions (Fig. 8.7). Although one or two wheel-thrown sherds are present, the majority of grog-tempered wares also remain hand-made. They show some possible early continental influences but they lack classic developed 'Belgic' traits like very well-defined necks and shoulder cordons. Good examples of these initial grog-tempered forms include a simple hand-made necked jar (Fig. 8.8), a bead rim jar with a slight internal bevel (Fig. 8.9) and a simple jar with a pronounced shoulder carination and tooled lattice decoration (Fig. 8.10). This group finds good parallels in the earliest 'Belgic' assemblages known on rural sites in the Essex region. For example, the finger impressions on 8.7 look similar to those from the early ditch group AF1 Woodham Walter (Rodwell 1987, fig. 16, nos 26–27) and the lattice decoration on 8.10 was found on a vessel from another early ditch context (350) at Kelvedon (Rodwell 1988, fig. 79, no. 23). Both of these groups also contain a mixture of grog-tempered and sandy wares and appear to contain a large element of hand-made vessels.

The dating of the first appearance of grog-tempered 'Belgic' pottery in Britain is a matter of some debate. Paul Sealey (2007, 27–31) undertook a useful review of the evidence, finding that, whilst there are some good metalwork associations suggesting that it had begun to be used in a few high-status burials by *c*.75 BC, there is almost no data to suggest that it was adopted in settlement contexts in Essex prior to *c*.50 BC. In all likelihood, the group from ditch 26 was sealed in the mid to late 1st century BC, although it may well contain some sherds produced marginally earlier. A single Late Iron Age group from Site R, found in gully 14, is probably slightly later than the others. Its forms are more typically 'Belgic' and therefore more readily paralleled in the *Camulodunum* series (Hawkes and Hull 1947). They include probably wheel-thrown examples of a *Cam.* 229 cordoned necked jar and a *Cam.* 259 small bead rim jar. Some of the grog-tempered wares in this group are also probably more akin to black-surfaced 'Romanising'

wares (Going 1987, 9) and this context also contains a small component of early shell-tempered wares which are absent in other features. All of this evidence tends to suggest a date of deposition in the earlier 1st century AD.

Illustrated Iron Age pottery (Fig. 8.1–12)

Ring ditch G2; fill 42, seg 41

1. Necked jar with finger-tipping along the rim (QUAR1)
2. Shouldered jar with upright neck (QUAR1)
3. Well-formed bead-rim jar (QUAR1)

Ring ditch G2; fill 33, seg 36

4. Necked jar with residue of tar-like resin across old breaks, suggesting repair in antiquity (QUAR1)

Fill 16, pit 17

5. Well-formed S-profile jar (QUAR2)

Fill 25, pit 26

6. Plain, closed profile jar, with combed surfaces (QUAR1)
7. Necked jar with row of fingertip impressions above shoulder (QUAR1)
8. Simple necked jar (GROG1)
9. Bead rim jar with slight internal ledge and post-firing perforation (GROG1)

Fill 24, pit 26

10. Jar with shoulder carination and tooled lattice decoration

Fill 13, ditch 14

11 *Cam.* 229 cordoned jar (GROG1)
12 *Cam.* 259 bead-rim jar (ESH)

Early Saxon Pottery by Sue Tyler

A total of 397 sherds (1,241g) of Saxon pottery was examined from fourteen contexts. The identification was done on fabric analysis and vessel form, although the form was only discernible in three instances. All of the pottery appears to be *c.*AD 450–700 in date, although there could be exceptions.

The majority of the pottery (686g) comes from the secondary fill (162) of segment 157 of ditch G5 in EP 1.4 and comprises the highly fragmented remains of a single vessel with a flat base and everted rim in a medium soft fabric with common organic temper (not illustrated). It is a typical Early Saxon fabric and is probably part of a redeposited cremation burial.

The fabrics are all sand or organic tempered or a mixture of both. Although some of the sherds had initially been identified as prehistoric, the sandy fabrics identified as such (contexts 105, 145, 164) are perfectly plausible as Early Saxon. Some of the sherds are highly abraded with the result that large quartz inclusions project from their surfaces, giving a 'prehistoric' look; none of these sherds, however, have flint tempering and on balance are seen as Saxon.

Diagnostic Saxon forms, globular bowls or jars with everted, rounded rims, occur in the latest fills 158, 161 and 162 of segment 157 of ditch G5 in EP 1.4. That from fill 161 is executed in a coarse sandy fabric with large quartzite inclusions. This is similar to the Saxon fabrics from fill 105 of Early Saxon pit 104 and from fills 145 and 164 of adjacent medieval ditch G6, both in EP 1.4.

Medieval and Post-Medieval Pottery

by Helen Walker

A modest assemblage of medieval pottery dating from the later 12th to 15th centuries was recovered from features in EP 1.4, while the pottery from EP 3.3 dates to around 1200 and comprises only coarse wares, including examples of Frogs Hall Ware. In EP 1.4, Hedingham Ware is the dominant fine ware and there are also examples of Colchester-type ware and Cambridgeshire Sgraffito Ware. Hedingham coarse ware is also common. Apart from the presence of storage jars in EP 1.4, the assemblages appear largely domestic.

The pottery has been recorded according to Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985, 1–16; expanded by Cotter 2000). The cooking-pot rims have been dated according to the typology devised by Drury *et al.* (1993, 81–4). All fabrics present have been described in previous volumes of *Essex Archaeology and History* and by Cotter (2000). Selected material is illustrated (Fig. 9.1–6), although most is too

Fabric	Early medieval		Later medieval		Total	
	Ct	Wt (g)	Ct	Wt (g)	Ct	Wt (g)
Hedingham Ware	12	110	38	307	50	417
Hedingham Sandy Orange Ware	2	22	–	–	4	158
Sandy orange ware	3	13	17	134	21	236
Colchester-type ware	–	–	2	128	1	39
Cambridgeshire Sgraffito Ware	–	–	3	175	1	39
Late medieval buff-surfaced ware	–	–	4	80	4	80
Creamware	–	–	1	4	1	4
Coarse wares						
Shell-and-sand-tempered ware	–	–	3	19	3	19
Early medieval ware	62	585	5	31	68	641
Early medieval ware –transitional	12	99	6	46	18	145
Medieval coarse ware	19	155	175	1115	194	1270
Hedingham coarse ware	31	463	130	1269	162	1741
Totals	**141**	**1447**	**384**	**3308**	**527**	**4789**

TABLE 3: Quantification of pottery in EP 1.4 by phase, fabric, sherd count and weight (total includes unphased material)

fragmented to draw, but in most cases can be paralleled by published examples.

EP 1.4 pottery

Pottery was recovered from features of two site phases; the first largely represented by early medieval enclosure G6, and the second by later medieval enclosure G9. Both enclosures perhaps represent the site of a long-lived peasant holding. The pottery is summarised in Tables 3 and 4.

Early medieval

A total of 141 sherds weighing 1,447g was recovered from twenty-four EP 1.4 contexts, giving an average sherd weight of just over 10g. Pottery was excavated from the majority of features, but only in very small quantities, with all producing less than 200g, sometimes considerably less.

Hedingham Ware is the most frequent fine ware present, including sherds with red slip-painting, one showing an intersecting lattice pattern, which are almost certainly from London-style early rounded jugs, datable to the second half of the 12th century (Cotter 2000, 91, fig. 49.1, 4). One of these examples has an off-white fabric, characteristic of the early period of Hedingham Ware production (Cotter 2000, 76). A couple of sherds are decorated with applied strips of clay and may be from stamped strip jugs, although other decorative styles cannot be precluded. Stamped strip jugs are a long-lived form and were first produced in the earlier 13th century, around 1225 (Cotter 2000, 91). Of interest are sherds from a small jug in this ware, including the lower handle attachment of a rod handle, circular in section, the sherds showing a mottled-green glaze (too fragmented to illustrate). Small jugs are more frequent in the late medieval period, so this is an unusual find. Several sherds of sandy orange ware are present, many are undiagnostic, but there is an abraded example showing traces of slip decoration and two sherds that may be Hedingham products, one of which shows splashes of external glaze. This sandy orange ware variant was recognised at the Hedingham production site at Starlings Hill (Walker 2012, 33). One sherd of plain sandy orange ware from waterhole 217 shows reduced surfaces and may actually be late medieval.

As is typical of medieval sites, coarse ware pottery is far more frequent than fine ware. Table 3 shows that early medieval ware is the most frequent type. Less common are examples of transitional early medieval ware; this fabric, first noted at Stansted Airport sites (Walker 2004a, 408), tends to be red-brown with darker, relatively smooth surfaces, and work on pottery from the production sites has shown that this fabric was part of the Hedingham repertoire, although similar fabrics may have been made elsewhere. Medieval coarse ware makes up the remainder and, of this, 75% by weight has been identified as Hedingham coarse ware, which can be differentiated from other grey-firing medieval coarse ware by its relatively fine micaceous fabric, often showing oxidised margins and white inclusions at the surface. However, recent work on the Hedingham production sites (Walker 2012, 32–6) has shown that Hedingham coarse ware varies considerably in terms of coarseness, colour and general appearance. Therefore, some Hedingham coarse ware may not be as readily distinguishable from other coarse wares as

Vessel form	**Rim-form/decorative style/ description**	**Fabric** (and illustration no.)	**Phase**
Fine ware jugs	Red slip-painting - London-style	Hedingham Ware	Earlier medieval
	Strip jugs	Hedingham Ware	Earlier medieval? / Later medieval
	Combed decoration/pear-shaped jugs	Hedingham Ware	Later medieval
	Misc. jug fragments	Hedingham Ware	
		Sandy orange ware	Later medieval
		Colchester-type ware (9.1)	
	Sgraffito decoration	Cambs Sgraffito Ware (9.2)	Later medieval
	Small jugs/cups	Hedingham Ware	Earlier – Later medieval
		Colchester-type ware	Later medieval
Jug/cistern	Plain	Late medieval buff-surfaced ware	Later medieval
Coarse ware jugs/tripod	With thickened everted rims	Early medieval ware	Earlier medieval
		Early medieval ware – transitional	Later medieval
Pitchers		Hedingham coarse ware	Later medieval
	With in-turned rims	Medieval coarse ware	Later medieval
Cooking-pots	Beaded rims thickened internally	Early medieval ware	Earlier medieval
	Curved over rims	Medieval coarse ware	Later medieval
		Hedingham coarse ware	
	H2 rims	Hedingham coarse ware	Earlier – Later medieval
	H1 rims	Hedingham coarse ware	Earlier – Later medieval
		Medieval coarse ware	
	H3 rims	Hedingham coarse ware (9.3)	Later medieval
	E5 rims	Hedingham coarse ware	Later medieval
		Medieval coarse ware	
Storage jars	With thumbed applied cordons	Hedingham coarse ware (9. 4–5)	Earlier – Later medieval

TABLE 4: Vessel forms by fabric and phase

previously supposed. Only sherds from this assemblage that are typical of Hedingham production have been identified as such and it is possible that untypical sherds of Hedingham coarse ware have gone unrecognised.

Cooking-pots are the most frequent coarse ware form present, as per usual. There is one beaded cooking-pot rim in early medieval ware, which could be as early as 12th century. The remainder comprise the more developed H2 and H1 cooking-pot rims in medieval coarse ware and Hedingham coarse ware. The squared, sloping-topped rim above an upright neck (H2) is typical of the early to mid-13th century and the more flanged and usually flat-topped H1 rim was current throughout the 13th century. Other jar forms comprise a Hedingham coarse ware storage jar fragment with a thumbed applied cordon (Fig. 9.4). Also in this ware is a sherd from a large, but not particularly thick-walled vessel decorated with a vertical thumbed applied strip, which may be from a large cooking-pot or storage jar. No other coarse ware sherds are decorated. No definite bowls were identified but there are a number of sherds from jugs, or perhaps tripod pitchers, in early medieval ware, the most complete of which shows a thickened everted rim with the beginnings of a pouring lip and a deeply stabbed strap handle (too fragmented to illustrate).

Later medieval

The later medieval component of the medieval pottery assemblage of EP 1.4 was 2.5 times larger than that of the preceding phase and it consisted of 384 sherds weighing 3,308g from nineteen contexts. Average sherd size is however lower than the earlier phase, at 8.5g. The pottery total includes residual material from post-medieval ditches G13 and G14, the only post-medieval pottery recovered from these ditches being a single sherd of plain creamware from a plate, dating from the mid-18th to early 19th centuries, from ditch G13. Pottery was excavated from the majority of features, although most produced less than 250g of pottery, with the exception of tree hole 177, pit 280 and G14 ditch segment 265, which each produced between 500g and 1kg of pottery. There are sherd linkages between neighbouring G9 ditch segments 185 and 256, and between segments 210 and 212 of closely-spaced parallel ditches G11 and G12 to the south. In addition, there is one long distance sherd link between post-medieval ditch G13 segment 179 and context 111, the top fill of earlier medieval enclosure ditch G6 segment 144, but this could have been due to recent disturbance, perhaps from ploughing.

Fine wares and glazed sandy orange wares make up a relatively large proportion of the total assemblage in this phase, 25% by weight as opposed to 10% in the earlier phase. Most features produced a mixture of fine and coarse wares. Hedingham Ware is by far the most frequent fine ware and in this phase there are sherds that are more definitely from Hedingham Ware strip jugs, with the addition of a twisted rod handle, which occurs both on strip jugs and Rouen-style jugs (Cotter 2000, 79). Also present is a jug rim and handle showing a mottled-green glaze; the handle is sub-square in section with vertical grooving and a dimple at either side of the handle attachment. This is almost certainly from a Hedingham Ware pear-shaped jug and is paralleled by Cotter (2000, fig. 51.24). Body sherds showing combed decoration under a mottled-green glaze are also present and are also characteristic of Hedingham Ware pear-shaped jugs. These are datable to the mid to late 13th to mid-14th centuries (Cotter 2000, 82, 91). A grooved handle in sandy orange ware may be of a similar date; it is very abraded but shows traces of slip. The lower handle attachment of a Colchester-type ware jug decorated with a column of skewer marks is illustrated (Fig. 9.1) along with fragments from a Cambridgeshire Sgraffito Ware jug, datable to the 14th to early 15th centuries (Fig. 9.2).

There is a second example of a small jug or cup in Hedingham Ware in this phase, this time comprising the fragment from a small handle, D-shaped in section and showing a mottled-green glaze. Also of interest is the entire handle and part of the body of a Colchester-type ware small biconical jug (although the fabric is rather fine for Colchester-type ware). It is slip-coated with a patch of greenish glaze and is almost certainly a copy of a Cheam White Ware drinking jug datable to the late 14th century (*cf.* Cotter 2000, 122, fig. 79, 45). Also of a late medieval date is the lower handle attachment of a buff surfaced ware large jug or cistern. Buff surfaced ware is a late medieval fabric, typically unglazed with buff surfaces and reddish margins and can be assigned a general late medieval date spanning the 14th to 16th centuries. Also of a late medieval date are sherds of unglazed sandy orange ware with reduced surfaces.

The range of coarse wares is similar to that of the previous phase, although as would be expected the proportion of medieval coarse ware/Hedingham coarse ware has increased and the amount of early medieval ware has decreased (see Table 3).

The range and frequency of coarse ware vessel forms is also similar to that of the previous phase; cooking-pots are again common and, as in the previous phase, H2 and H1 rims of the 13th century are present. Appearing for the first time in the sequence are examples of curved over or cavetto cooking-pot rims, although these are not a late type and are roughly contemporary with the H2 rims. There are however examples of the blocked H3 rims (Fig. 9.3) and flanged E5 rims, both types without an intervening neck between rim and body, which are datable to the late 13th and 14th centuries. A large fragment of thick-walled Hedingham coarse ware storage jar was excavated from tree-hole 177; it shows a thumbed rim and a thumbed applied cordon below the neck (Fig. 9.5). Feature 177 is of some interest as it contained a relatively large assemblage (717g of pottery), all of which is coarse ware. However, the coarse wares span a wide date range, the earliest comprising sherds of shell-and-sand-tempered ware, which could be as early as 11th century and the latest an E5 cooking-pot rim, which could be 14th century.

As with the earlier phase, there are no definite bowls present, although there are one or two wide rim fragments that are either from large cooking-pots or bowls. Coarse ware jugs however are represented by a minimum of three vessels. These comprise a strap handle in early medieval transitional ware showing thumbed edges; such handles feature on Hedingham coarse ware jugs (Walker 2012, fig. 30.157, 162–163) and therefore this is almost certainly a Hedingham product. There is also a thickened everted jug rim in Hedingham coarse ware showing a rilled neck and the beginnings of a pouring lip, a form paralleled at the production sites (Walker 2012, fig. 30.159). In-turned jug rims and a strap handle representing one or two vessels occur in medieval coarse ware (*cf.* Drury *et al.* 1993, fig.42.98–99).

Quarry extraction phase 3.3

EP 3.3 lies *c.*600m north-east of the medieval holding of EP 1.4. A small amount of pottery, 107 sherds weighing 1,149g, with an average sherd weight of 11g, was excavated from seven contexts, all from a single phase of occupation. The pottery is quantified in Table 5.

Fabric	Sherd nos	Wt (g)
Sand-with-sparse-shell-tempered ware	9	68
Early medieval ware	88	885
Frogs Hall ware	4	143
Medieval coarse ware	5	49
Hedingham coarse ware	1	4
Totals	**107**	**1149**

TABLE 5: Quantification of pottery in EP 3.3 by fabric, sherd count and weight

The fabrics comprise mainly a mixture of early medieval ware and medieval coarse ware with a few sherds of sand-with-sparse-shell-tempered ware. No fine wares are present and only a single sherd was identified as Hedingham coarse ware. The most significant find is an externally bevelled cooking-pot rim (Fig. 9.6) (rim-form B4) from outlying pit 519, whose fabric and general appearance are consistent with Frogs Hall Ware, a coarse ware datable to around 1200, that was made at a production site at Takeley (Walker 2006, 65–78; Mepham 2007).

The majority of pottery is from gully G17 (segments 514, 516, 518), where cooking-pots were the only vessel type identified. Here, there is a single example of a beaded cooking-pot rim, perhaps datable to the 12th century, two examples of thickened everted (B2) rims and two pointed thickened (B4) rims. All of these are in early medieval ware with the exception of one of the B4 rims, which may be another Frogs Hall product, although the fabric is not as typical as that of 9.6, as it lacks the typical buff or orange inclusions. The rim form is however paralleled at the production site (Walker 2006, fig. 35.32). The B2 and B4 rims are datable to *c.*1200. Also present is a simple everted rim with the possible beginnings of a pouring lip, perhaps from a bowl, however the sherd is so fragmented, it could actually represent the remains of a broad strap handle. An early medieval ware sherd from gully G17 segment 516 shows the remains of a hole. Such is the abrasion, it is not possible to tell whether the hole was made during or after manufacture; it is also impossible to determine what type of vessel it came from. Gully fill 518 produced several sherds, some joining, in a sandy ochre-coloured fabric which is also tempered with sparse inclusions of shell, occurring both on the surface and in the interior of the fabric. In the same context are joining sherds of medieval coarse ware showing bands of horizontal striations.

Illustrated Medieval pottery (Fig. 9.1–6)

9.1 Jug, lower handle attachment: Colchester-type ware; thick-grey core, orange margins and darker surfaces; column of skewer marks along length of handle, splashes of greenish glaze. Fill 209 (pit 208), later medieval phase. EP 1.4

9.2 Jug fragments: Cambridgeshire Sgraffito Ware; fragment (a) is from the shoulder and shows the sgraffito design scored through a coating of white slip to reveal the colour of the pot body beneath; (b) is a broad ribbed handle, which is abraded and shows only traces of glaze; an irregular patch of clay on the internal surface covers the depression left from attaching the handle to the pot; two small, shallow skewer marks stabbed into the clay patch may also have played a role in securing the handle; both fragments show internal fire-blackening which is probably post-depositional. Fill 111, seg 144 (ditch G6) and fill 180, seg 179 (ditch G13), post-medieval/modern phase. EP 1.4

9.3 Cooking-pot: Hedingham coarse ware; grey with oxidised margins in places; wheel-thrown. Fill 266, seg 265 (ditch G14) post-medieval/modern phase. EP 1.4

9.4 Storage jar: Hedingham coarse ware; uniform grey, but showing thin buff-coloured margins in places, coarse fabric, thumbed applied cordon below rim. Fill 225 (waterhole 217), early medieval phase. EP 1.4

9.5 Storage jar: Hedingham coarse ware; grey apart from buff-coloured internal surface; coarse fabric, thumbed applied cordon below neck. Fill 250 (tree-hole 177), late medieval phase. EP 1.4

9.6 Cooking-pot rim: Frogs Hall Ware; grey with typical buff-orange areas showing at rim. Fill 510 (pit 519). EP 3.3

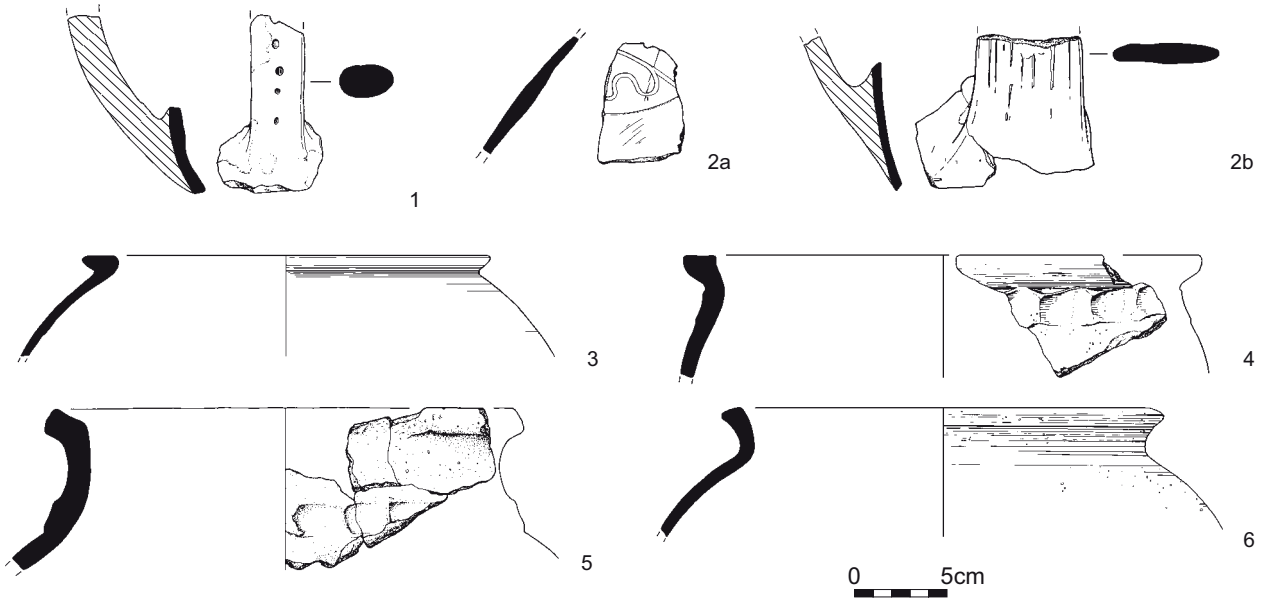


FIGURE 9: Medieval Pottery

Discussion

The pottery assemblage from EP 3.3 shows occupation to be short-lived with the presence of Frogs Hall Ware and B2 and B4 cooking-pot rims indicating a date of *c*.1200. The presence of Hedingham Ware London-style early rounded jugs and early medieval ware beaded cooking-pot rims in the earlier medieval phase of EP 1.4 suggests that occupation began in the later 12th century and would have been contemporary with, or perhaps even slightly earlier than, the occupation of the enclosure in EP 3.3. However, the presence of H1 and H2 cooking-pot rims suggests the first phase of occupation continued to the early to mid-13th century. Occupation appears to have continued seamlessly into the later medieval phase of EP 1.4 with no gap in activity. The presence of the Colchester-type ware Cheam copy jug and Cambridgeshire Sgraffito Ware shows that occupation continued until the late 14th or even early 15th century.

The presence of several fine ware jugs in the later medieval phase of EP 1.4 indicates that the occupants could afford decorative items for their home and therefore enjoyed a reasonable standard of living. There is little evidence to suggest specialised activity; storage jars in both phases of EP 1.4 may be associated with the storage of grain, as similar storage jars in Thetford-type Ware were used for transporting grain (Kilmurry 1980, 170). It is interesting to note that storage jars also occurred at a windmill site at Boreham Airfield (Walker 2003a, fig. 25.12) and given that this is another airfield site (*i.e*. flat and windy) it is possible that a windmill stood here, although no such structure has been excavated to date, and storage jars, although a fairly unusual form, occur at other site types. The relative preponderance of coarse ware jugs could also indicate specialised activity of some kind. However, there are no large wide bowls to suggest dairying was carried out, as was the case at some of the Stansted Airport sites (*e.g*. Molehill Green and Roundwood, Walker 2004a, 415, 423). The fact that similar pottery and vessel types occurred in both phases of EP 1.4, indicates that there was no change in function. None of the pottery in EP 3.3 particularly relates to crop processing, although the absence of fine wares would seem to confirm that this is a service site rather than a living area.

It is interesting to note the presence of Frogs Hall Ware, as very little has been identified at consumer sites outside the Takeley area (its place of manufacture), although there are possible finds at Boreham (Boreham Airfield, Walker 2003a, 39) and Great Holts Farm, (Walker 2003b, fig. 98.1). Takeley is not particularly close to Rivenhall and a possible route would have been along Stane Street, a Roman road still in use in medieval times, to Braintree, and then down the Brain Valley (a cut-through to the London to Colchester road). This is a distance of some 30km. The pottery could have been sold at the market at Witham (which may have also served the Boreham area).

The predominance of Hedingham Ware, both fine and coarse, is to be expected as the Hedingham industry (centred around Sible Hedingham in central-north Essex) was one of the main suppliers of pottery to northern Essex. Surprisingly, there are no finds of Mill Green Ware, an important industry based in south-central Essex, which would have been current in the later medieval phase of EP 1.4. Finds of Mill Green Ware are most frequent in southern and central Essex, but are by no means unusual in northern Essex, for example occurring at Stansted Airport sites (Walker 2004a, fig. 274, 139–145) and at nearby Rivenhall Churchyard, albeit in modest quantities (Drury *et al*. 1993, 89; Walker 2004b, 53). Colchester-type ware occurs mainly in north-east Essex (Cotter 2000, fig.19) and is therefore within its main area of distribution.

Cambridgeshire Sgraffito Ware is so named because it was first identified in Cambridge (Bushnell and Hurst 1952) but as it is common in north Essex, and the fabric is similar to that of other Essex sandy orange wares, it may have been made in this county and may therefore be relatively local to this site. Buff surfaced ware appears to have a fairly limited distribution and is probably of local manufacture, with finds at Rivenhall Churchyard (Walker 2004b, 54) Kelvedon (Walker unpublished) and Braintree (Walker 2014). This ware may have been manufactured at Blackmore End, near Wethersfield, where the remains of ploughed-out kilns producing similar pottery were found (Walker 2012, 7).

The assemblage is significant because occupation continued into the late medieval period. This is unusual at rural sites in the county, which often went out of use during the later 13th to 14th centuries, or even earlier. At Stansted Airport, out of eleven medieval sites that produced pottery (Walker 2004a and Mepham 2008), only three continued into the late medieval period, two of which were high status hall sites, Colchester Hall and Bassingbourne Hall (Walker 2004a, 434, 506–7). The third site, the Forward Logistic Base comprised a settlement and trackway which, like EP 1.4, may have been of middling status (Cooke *et al.* 2008, 203, 212–17; Mepham 2008, 19.13). Although only a small assemblage was excavated at Bradwell Quarry Site R, these results should be of value to synthetic studies examining the nature and development of rural Essex.

Middle Bronze Age Loomweights by Elke Raemen

Part of a fired clay cylindrical loomweight (weight 1,434g) was recovered from fill 305 of Middle Bronze Age pit 304 in EP 2.1. The object is fragmented and abraded. Fragments incorporating the central perforation survive (di. 22mm), although too little remains to establish its full circumference or height. The clay is low fired and reduced, with common quartz to 1mm, rare very coarse quartz to 2mm and rare flint pebbles to 18mm. Cylindrical loomweights are relatively common Middle to Late Bronze Age finds (*e.g.* Barford and Major 1992).

Saddle Quern by Luke Barber

Three fragments of quern have been recovered from Site R. Two of these are from medieval rotary querns in German lava (contexts 137 and 177 in EP 1.4), the third is part of a saddle quern from fill 305 of Middle Bronze Age pit 304 in EP 2.1. The latter is of the small oval type (Buckley and Major 1995), made from a weathered boulder (2,630g). The maximum surviving length of the grinding face is 255mm, but how much is missing is difficult to judge. The maximum thickness is just 42mm. The grinding face is notably smoothed and dished with wear, but most original faces of the boulder have not been modified with the exception of heat reddening on its underside. The stone consists of a slightly micaceous light grey/brown quartzitic medium-grained 'open-textured' non-calcareous sandstone with moderate red mottling. Although the type has many similarities to Sarsen, a more generic Tertiary

sandstone labelling is perhaps advisable. Certainly, such Tertiary sandstone boulders were widely utilised for prehistoric saddle querns and its presence here is not unexpected (Major 2004, 34).

Cremated Human Bone by Elissa Menzel

A total of 349g of cremated human bone was recovered from features across EP 1.2, 1.3 and 1.4. Features 12, 17, 22, 26 and 67, located in EP 1.2, form a north-west group and date to the latter part of the Middle Iron Age. Bone was also retrieved from segment 39 of Middle Iron Age ring-ditch G1 in EP 1.3. The latest assemblage comes from segment 157 of ditch G5 in EP 1.4 and is Early Saxon.

Middle Iron Age

The weight of the cremated bone samples varied from 1.1g (pit 22) to 286.7g (pit 67). The cremated bone assemblage even from the largest of these is well below the expected weight of 1,001 to 2,422g for an adult cremation (McKinley 1993). Five deposits contained fragments with dimensions greater than 20mm (12, 17, 26, 67, 157) with a maximum fragment size of 35.7mm (67). The bone is very well preserved with little abrasion.

No repeated elements or osteological inconsistencies were evident, thus each feature is considered to contain a single individual. Age estimates were possible for two of the individuals. The remains recovered from pit 22 are possibly that of a foetus or infant based on the presence of small rib fragments and very thin skull fragments. The remains recovered from pit 67 are that of a child estimated at an age of seven to fifteen years. This age was determined by assessing a partial pubic symphyseal face and dental development. The symphyseal face exhibited a 'well-marked ridge-and-furrow appearance' with no marginal boundaries, indicating that this individual is at the pre-epiphyseal stage of development and most likely less than fifteen years old (Schuer and Black 2000, 370). Dental development was assessed through the examination of more than nineteen tooth fragments including anterior and molar teeth. The anterior tooth fragments were white in colour and exhibited roots that were not fully closed, while fragments of the premolar and molar teeth were predominantly dark blue and consisted of crown fragments only. The colouring would suggest that the anterior teeth had fully erupted and were exposed to the high pyre temperatures while the molars and premolars had not yet fully erupted and were protected for a time by the mandibular bone. Based on tooth root closure and an overall degree of eruption based on colouring this individual is likely to be no less than seven years old. No pathological changes were observed.

The bones from gully 12, pit 17 and pit 67 were a range of colours including brown, blue, and white indicating an uneven burning process, suggesting that the pyres may have only reached temperatures of 200–300° C in places (Holden *et al.* 1995a and b). Those from pit 22, ditch 26 and ring- ditch G1, by contrast, were predominantly grey or white in colour indicating that the pyre temperatures in those cases reached 600° C or more.

The most abundantly represented skeletal areas are skull and axial remains, found in 83% of the pits and making up 4.8 to 75% and 15.8 to 100% of the assemblages respectively. The distinctive nature of the cranial tables and meningeal impressions enables identification of cranial fragments at even the 2mm size, explaining the bias to this area. The relatively high level of preservation of axial fragments may in part be due to the possibility of a lower than average firing temperature. The upper limb fragments were the least represented skeletal area. Much of the unidentifiable bone was made up of highly fragmentary long bone shaft fragments, and possibly included upper limb fragments too small to be positively identified. Three of the pits contained fragments of teeth (17, 39, 67) and one contained fragments of hand or foot bones (26). The presence of these small elements may indicate *en-masse* collection; however, the low weight of bone for each pit would suggest that the whole individual was not deposited in each context; either that, or some of the pits' contents have been lost to truncation.

Early Saxon

The bone recovered from segment 157 of ditch G5 weighs only 30.1 grams, well below the expected weight for an adult cremation (McKinley 1993). The largest fragment of bone measured 24.3mm with the average fragment measuring only 5mm. No repeated elements or osteological inconsistencies were evident; thus, this burial is considered to represent a single individual, possibly a late term foetus or infant as determined from skull fragments and long bone size. No pathological changes were observed.

The bone was primarily white in colour indicating that pyre temperatures reached a minimum of 600° C. The most abundant skeletal component was the skull, probably due to cranial fragments being easier to identify amongst pyre debris. Fragments of the upper limbs were not recognised but may be included in the unidentifiable material as it primarily consists of fragments of long bone shafts.

Animal Bone by Gemma Ayton

A small assemblage of animal bone, consisting of 593 fragments with a combined weight of 4,886g, was recovered from the Middle Iron Age features in EP 1.2 and 1.3. The condition of the specimens is poor. They are highly fragmented and display signs of significant surface erosion. A range of domestic species are represented including cattle, sheep/goat, pig, horse and dog. No wild mammal, bird or fish bones appear to be present. Cattle and sheep/goat are represented by fused bones implying that secondary products were more important than meat. The presence of mandibles from juvenile pigs indicates that they were slaughtered at a younger age, a practice that is typical for this taxon because it provides few useful secondary products. Both meat-bearing and non-meat bearing bones are present indicating that animals were slaughtered and butchered in the area. The animal bone evidence suggests that the assemblage is comprised of domestic waste associated with settlement.

A small assemblage of animal bone containing 300 fragments and weighing 1,651g was recovered from medieval features in EP 1.4. The assemblage is in a poor condition being highly fragmentary; many of the specimens display signs of extensive surface erosion and are therefore unidentifiable. The exceptions to this are dominated by cattle, accompanied by sheep/goat, pig, horse, red/fallow deer and domestic fowl. Fused and unfused cattle bones have been noted, indicating that cattle were valued for both meat and secondary products, and meat and non-meat bearing bones have been identified.

Charred Plant Remains by Val Fryer

Charcoal-rich fill 510 of medieval pit 519, in EP 3.3, was bulk sampled and wet sieved for retrieval of plant macrofossils, with the flot collected in a 500-micron mesh sieve. The dried flot was scanned under a binocular microscope at magnifications up to x16. Details of the plant macrofossils can be found in the site archive. The nomenclature used follows Stace (1997).

Cereal grains and seeds of common weeds were moderately abundant and all plant remains were charred. Preservation was good, although a high proportion of the grains were puffed and distorted, probably as a result of combustion at very high temperatures. Oat (*Avena* sp.), barley (*Hordeum* sp.) and wheat (*Triticum* sp.) grains were recorded, with wheat occurring most frequently. Cereal chaff was exceedingly rare, although a small number of bread wheat (*T. aestivum/compactum*) type rachis nodes were noted. Weed seeds were moderately common, with segetal species predominant. Taxa noted included corn cockle (*Agrostemma githago*), stinking mayweed (*Anthemis cotula*), indeterminate small legumes (Fabaceae), goosegrass (*Galium aparine*), grasses (Poaceae), dock (*Rumex* sp.) and vetch/vetchling (*Vicia/Lathyrus* sp.). A single sedge (*Carex* sp.) fruit was also recorded along with a fragment of hazel (*Corylus avellana*) nutshell and a bramble pip (*Rubus* sect. *Glandulosus*). Charcoal fragments were abundant along with a small number of pieces of charred root/stem. Small fragments of black porous and tarry material were probable residues of the combustion of organic remains (including cereal grains) at very high temperatures.

The fill of pit 519 appears to contain a small deposit of burnt cereal processing waste. Wheat is the principal crop represented, with oats and barley almost certainly occurring as contaminants or relicts of previous cropping regimes. The abundance of stinking mayweed seeds probably indicates that the cereals were being grown locally, possibly on nutrient-depleted clay soils which were being improved by rotational cultivation of nitrogen-fixing plants such as pulses and vetches. The predominance of larger weed seeds of a similar size to the grains, for example the corn cockle, brome (*Bromus* sp.), black bindweed (*Fallopia convolvulus*) and goosegrass, may indicate that the assemblage is derived from waste from an advanced stage of processing. Such material would have persisted after winnowing, and would have required manual removal.

DISCUSSION

The archaeological remains of Site R are not numerous for a site of its size and although this is probably partly due to loss of evidence from airfield construction and modern agriculture, it still seems likely that the occupation which did take place within its area during the past was small-scale, intermittent and thinly scattered. The reasons for this are not known, but may have included its 1.5km distance from the River Blackwater, the nearest main source of running water, and the intractable nature of the underlying Boulder Clay, which would have made it difficult to plough.

The Middle Bronze Age pits of EP 1.4, 2.1 and 3.3 are the earliest clear indications of on-site settlement. The Middle Iron Age roundhouses and discrete features of EP 1.3 succeed these and are post-dated in turn by the Early Saxon ditch, pit and disturbed cremation burial and the 12th- to 15th-century peasant holding of EP 1.4.

Middle Bronze Age

The pottery from pits 293, 304 and 306 in EP 2.1, and pits 187 and 512 in EP 1.4 and 3.3 can be placed within the Ardleigh Group of Deverel-Rimbury Middle Bronze Age pottery of north-east Essex and south-east Suffolk, as distinct to the Lower Thames Group cultural area of south Essex, and the inter-mixed Ardleigh/Lower Thames Group cultural area of Stansted Airport (Brown 1995, chapter 12; Cooke *et al.* 2008, 33–34). Favouring of distinctive artefacts for deposition is clearly suggested by the over representation of decorated upper body sherds within pit 304 and is probably evidence for propitiation within a domestic context; a tokenistic way of cleansing a site after a period of use.

Pits 293, 304 and 306 in EP 2.1 and 187 in EP 1.4 lie within *c.*130m of each other and as a group probably represent the general location of a Middle Bronze Age settlement site, the building remains of which have not survived. The fragments of saddle quern and cylindrical loomweight from pit 304 imply crop processing, food preparation and textile production and these are likely to have been carried out within a domestic context. If the Middle Bronze features represent the general location of a Middle Bronze Age domestic occupation site, as suggested, then it was perhaps occupied for only a short period of time or by a small number of people since the Middle Bronze Age features and finds of Site R are not numerous.

Pit 512 in EP 3.3 sits *c.*600m distant and is perhaps an outlier of the postulated Middle Bronze Age settlement site of EP 1.4 and 2.1, making it possible that the activity zone of that settlement covered a wide area. Pieces of Middle Bronze Age pottery are part of its content and these too provide evidence for selection of distinctive artefacts prior to deposition.

Transitory sites for occupation by small groups of peripatetic people were probably the norm within Essex during the Middle Bronze Age period since unequivocal Essex examples of Middle Bronze Age settlement sites for long-term occupation like that of the MTCP site at Stansted Airport (Cooke *et al.* 2008, 31–52) continue to be largely non-existent. Examples of solitary or small numbers of pits like those of Site R have been found at various sites within Essex and these include Stansted Airport and the Braintree to M11 section of the A120 (Timby *et al.* 2007, sites 28, 39, 7/42 and 20/49; Cooke *at al.* 2008, figs 4.25 and 4.27). These pits' finds' assemblages are similar to those of Site R, in that they appear to relate to domestic activity, although none of them present clear evidence for favouring of distinctive artefacts.

Middle Iron Age

Roundhouses G1, G2 and G4 and the thin scatters of discrete features and gullies that lie near and between them, within EP 1.2, 1.3 and 1.4, are remnants of Middle Iron Age enclosures and farmsteads, with one farmstead perhaps represented by gully G4 and another by G1 and its overlying replacement G2. The two settlements are *c.*450m apart and their general locations probably imply that the western end of Site R was being used for domestic occupation and farming during that period. The residual Middle Iron Age pot sherds of EP 1.4 perhaps represent another focal point for human activity during that period, but with two possible exceptions, pits 119 and 123, are un-accompanied by Middle Iron Age archaeological features.

The evidence for the economies of both farmsteads is slight, but appears to imply that pigs were the main source of meat, with sheep and cattle perhaps being valued more highly as they could also provide wool and traction. Middle Iron Age linear features 12, 14 and 26 run more or less perpendicular and are probably remnants of enclosure boundaries, defining fields for crops and/or livestock. Both farmsteads are typical of the later prehistoric period, during which most people were farmers in farmsteads, with their economies largely underpinned by cultivating of cereals and producing of sheep and pigs (Mulville 2008, 229).

Comparison of possible and probable roundhouses G1, G2 and G4 with those of the Middle Iron Age 'village-like' settlements of Little Waltham and St Osyth (Drury 1978; Germany 2007) reveals them to be standard in their surviving characteristics but, due to modern truncation, probably missing nearly all of their internal post-holes. Their diameters sit near the upper end of the 6m to 13.25m and 10m to 18m ranges of those of St Osyth and Little Waltham respectively and if house size was equated with social standing during the Middle Iron Age period then their occupants were possibly moderately high status and wealthy. East-facing entranceways are common to Iron Age roundhouses, possibly because it presented the back of the building to the prevailing wind, enabled the front of the building to catch the morning sun, and propitiously aligned the door with the equinox (Cunliffe 2005, 577; Oswald 1997).

Burial rites during the 5th to 1st centuries BC in Britain are generally regarded as having comprised a complex of practices involving inhumation and excarnation (Cunliffe 2005, 543–561; Carr and Knüsel 1997), so the presence of small quantities of cremated human bones in possible and probable Middle Iron Age discrete features 12, 17, 26 and 67 in EP 1.2 and segment 39 of roundhouse G1 in EP 1.3 is somewhat unusual. Cremation was reintroduced into south-east England during the 1st century BC to 1st century AD (Cunliffe 2005, 559), and if the Middle Iron Age cremation activity of Site R is an early example of that, then it pulls the date of that reintroduction back by *c.*100 to 200 years. An alternative explanation is that the bone is all residual in later features since it is mostly small in quantity and thinly scattered. This may suggest disposal, amounting to deliberate deposition, of deceased members of the community in and around a settlement as part of rites perhaps intended to evoke protection from, and maintain a closeness with, the ancestors. Use of Site R for occupation at least during that period is implied by the Middle Bronze Age pits of EP 1.4, 2.1 and 3.3.

Early Saxon

The Early Saxon remains lie within EP 1.4 and although slight, are conjectured to be remains of a short-lived mid 5th- to late 7th-century farmstead. The redeposited cremation burial and ditch G5 possibly represents one of that settlement's inhabitants, and an enclosure or a linear boundary respectively.

Archaeologically investigated examples of Early Anglo-Saxon settlements (as opposed to cemeteries) continue to remain rare within Essex (Medlycott 2011, 57) and those which have been discovered are mainly located on the lighter soils of the gravel terraces of the county's major river valleys (Tyler 1996, 108). The Early Saxon remains of Site R partly redress this by being situated within an area of heavy clay soil. Their discovery is welcome since it probably implies that the Early Saxons were either not incapable of cultivating Boulder Clay and/or they used it for forestry and pastoralism.

Medieval and later

The medieval remains of EP 1.4 and 3.3 probably represent a 12th/13th- to early 15th-century peasant holding and late 12th- to early 13th-century 'work site' respectively.

It is likely that the holding consisted of a house, ancillary buildings, garden, yard and animal enclosures, even though most of the remains of these have not been found to confirm it. It was doubtless the home of a succession of indentured peasants and it was probably rented from a nearby manor. The medieval pottery assemblage implies its occupation during the 12th to early 15th centuries and is the clearest indication of its domestic character. It includes both service and table wares, such as storage jars, jugs, cups and cooking-pots, and almost all of these were manufactured in Essex. Items of fine ware are also present and they perhaps imply that the head occupant of the house, although a peasant, was not of the lowest status, perhaps an artisan rather than a labourer. Close access to fresh water facilitates domestic occupation and waterhole 217 is perhaps additional evidence for the site having been occupied, although the dating evidence for it probably indicates that it was no longer functional by the mid-13th century. If, as the pottery suggests, the holding continued to be used for domestic occupation into the 14th/15th century then its replacement source of water has not been found or identified. Other remains of the holding include storage jars for holding grain, and bones representing consumption of milk, beef, pork and sheep/goat. If the holding produced its own butter and cheese then no remains of bowls for dairying have been found to substantiate it.

The running of the holding must have been largely successful, since it is an uncommon archaeological example of a peasant holding spanning and therefore surviving the destructive effects of the plagues and famines of the first half of the 14th century. If the settlement did undergo periods of disuse during its life time, then the duration of these may have been short, making them more difficult to identify.

The number of archaeologically investigated rural medieval peasant holdings is relatively large and includes examples from Springfield, Stebbing, Stansted and Boreham (Lavender 1999; Medlycott 1996; Havis and Brooks 2004; Germany 2003). The 'typical' holding represented by that collective body of evidence sits apart from others and generally consists of a cluster of one to three small to mid-sized rectangular timber-framed buildings, supported by posts in post-holes and/or post-trenches. It is accompanied by pits and enclosure ditches, some of which probably represent the holding's boundaries, and although those pits often contain artefacts, the functions of those pits are seldom evident.

The small numbers of medieval pits and pottery sherds of EP 3.3 suggest use of that area for agrarian work during the late 12th/early 13th century, although the specifics of that posited work remains uncertain. Since effective hand-processing of grain requires a threshing floor, the corn represented by the dump of carbonised crop processing remains in pit 519 possibly constitutes indirect evidence for a nearby accompanying barn, the structural remains of which have not been found. Rotational cultivation was standard practice during the medieval period since leaving fields fallow every

second, third or fourth year enabled them to regain fertility between crops and serve as temporary grazing land. The physical distance between the pits of EP 3.3 and the holding of EP 1.4 is not great, making it probable that the crop processing was carried out by some of that holding's late 12th- to early 13th-century occupants and/or by people they knew.

The post-medieval/modern field pattern of Bradwell Quarry may have developed from small areas of enclosures and boundaries created by colonising medieval holdings, since some of the medieval boundaries of EP 1.4 appear to have been reinstated, enlarged and extended by post-medieval/modern field ditches G13 to G16. One or more lords are likely to have initiated that process following the Norman Conquest and it seems probable from the earliest remains of the EP 1.4 holding that this was already underway by *c*.1200. Peasants played a major role in extending the quantity of agricultural land during the 12th and 13th centuries and lords sometimes induced their participation by providing them with parcels of uncultivated land at low rents (Dyer 2009, 160).

CONCLUSION

The archaeological remains recorded across Site R suggest that this part of the Essex landscape has been intermittently used for farming and settlement since the Middle Bronze Age period at least, with occupation intermittent and non-nucleated throughout. Long periods of apparent inactivity separate the Middle Bronze Age, Middle Iron Age, Early Saxon and medieval periods of settlement and during those intervals it may have been the case that much of Site R, if not all of it, consisted of woodland and scrub.

Many further phases of archaeological investigation have taken place ahead of the ongoing development of Bradwell Quarry since the completion of Site R in 2011, but their results have yet to be fully analysed and disseminated. Collectively covering a large tract of landscape to both north and south, their findings supplement and support those of Site R and include evidence of Middle to Late Bronze Age, Early to Middle Iron Age, Roman and medieval occupation and associated agricultural land use, the latter period comprising at least five other peasant holdings.

ACKNOWLEDGEMENTS

The archaeological investigation of Bradwell Quarry Site R was funded and assisted by Blackwater Aggregates. Archaeology South-East thanks the following organizations and people for their support and guidance: Patrick Wigg and Lee Turner of Blackwater Aggregates, Adrian Havercroft of the Guildhouse Consultancy, and Teresa O'Connor of Essex County Council Place Services. The archaeological fieldwork was supervised by Trevor Ennis, Mark Germany, Mark Peachey and Mike Roy, and managed by Adrian Scruby all then of the former Essex County Council Archaeology Unit. The post-excavation work was undertaken by Archaeology South-East and overseen by Mark Atkinson, with plan illustrations produced by Andrew Lewsey and finds illustrations by Lauren Gibson.

BIBLIOGRAPHY

Barford, P.M. and Major, H.J. 1992, 'Later Bronze Age Loomweights from Essex', *Essex Archaeol. Hist*., 4th Ser., 23, 117–120

Biddulph, E., Compton, J. and Martin, T.S. 2015, 'The Late Iron Age and Roman Pottery' in Atkinson, M. and Preston, S., *Heybridge,* a *Late Iron Age and Roman settlement: Excavations at Elms Farm 1993–5, Volume 2*, Internet Archaeol. 40. Available: <http://dx.doi.org/10.11141/ia.40.1> (Accessed 25 August 2018)

Brown, N. 1995, 'Ardleigh Reconsidered: Deverel-Rimbury Pottery in Essex' in Kinnes, I. and Varndell, G. (eds), *'Unbaked Urns of Rudely Shape': Essays on British and Irish Pottery for Ian Longworth,* Oxbow Monogr. 55, 123–44

Brown, N. 1999, *The Archaeology of Essex: Excavations 1955–1980,* E. Anglian Archaeol. 90

Brück, J. 2006, 'Fragmentation, Personhood and the Social Construction of Technology in Middle and Late Bronze Age Britain', *Cambridge Archaeol. J.*, 16(3), 297–315

Buckley, D. and Major, H. 1995, 'Quernstones' in Wymer, J. and Brown, N., *Excavations at North Shoebury: Settlement and Economy in South-East Essex 1500BC–AD1500,* E. Anglian Archaeol. 75, 72–73

Bushnell, G.H.S. and Hurst, B.A. 1952, 'Some Further Examples of Sgraffito Ware from Cambridge', *Proc. Cambridge Antiq. Soc*. 46, 21–6

Carr, G. and Knüsel, C. 1997, 'The ritual framework of excarnation by exposure as the mortuary practice of the early and middle Iron Ages of the central southern Britain' in Gwilt, A. and Haselgrove C., *Reconstructing Iron Age Societies,* Oxbow Monogr. 71

Cooke, N., Brown, F. and Phillpotts, C. 2008, *From Hunter Gatherers to Huntsmen: a History of the Stansted Landscape*. Framework Archaeology

Cotter, J. 2000, *The Post-Roman Pottery from Excavations in Colchester 1971–85,* Colch. Archaeol. Rep. 7

Cunliffe, B. 2005, *Iron Age Communities in Britain*, 4th Edn (London and New York, Routledge)

Cunningham, C.M. 1985, 'A Typology for Post-Roman Pottery in Essex' in Cunningham, C.M. and Drury, P.J., *Post-Medieval Sites and their Pottery: Moulsham Street, Chelmsford*. Chelmsford Archaeol. Trust Rep. 5, Counc. Brit. Archaeol. Res. Rep. 54, 1–16

Doherty, A., Ayton, G., Clifford, T., Curteis, M., and Wardle, A. 2015, *Using Archaeological Archives: a Case Study of Finds from Roman Essex* (Portslade, Spoilheap Publications)

Drury, P.J. 1978, *Excavations at Little Waltham 1970–71*, Chelmsford Excavation Committee Rep. 1, Counc. Brit. Archaeol. Res. Rep. 26

Drury, P.J., Cunningham, C.M., Kilmurry, K. and Walker, J.S.F. 1993, 'The Later Saxon, Medieval and Post-Medieval Pottery' in Rodwell, W.J. and Rodwell, K.A., *Rivenhall: Investigations of a Villa, Church and Village, 1950–1977,* Chelmsford Archaeol. Trust Rep. 4.2., Counc. Brit. Archaeol. Rep. 80, 78–95

Dyer, C. 2009, *Making a living in the Middle Ages. The People of Britain, 850–1520* (New Haven and London, Yale Univ. Press)

ECC HEM 2000, *Archaeological Programme of Work on a Gravel Extraction Site at Rivenhall Airfield, Essex,* unpubl. ECC report

Germany, M. 2003, *Excavations at Great Holts Farm, Boreham, Essex, 1992–94,* E. Anglian Archaeol. 105

Germany, M. 2007, *Neolithic and Bronze Age Monuments and Middle Iron Age Settlement at Lodge Farm, St Osyth, Essex*, E. Anglian Archaeol. 117

Going, C.J. 1987, *The Mansio and other Sites in the South-Eastern Sector of Caesaromagus: the Roman pottery,* Counc. Brit. Archaeol. Res. Rep. 62

Goodall, I. 2011, *Ironwork in medieval Britain: An Archaeological Study*, Soc. Med. Arch. Monogr. 31

Guildhouse Consultancy 2000, *Rivenhall Airfield, Rivenhall, Essex. Proposal for Archaeological Observation: Methodology and Framework*, unpubl. report

Havis, R. and Brooks, H. 2004, *Excavations at Stansted Airport, 1986–91,* E. Anglian Archaeol. 107, Vols 1 and 2

Hawkes, C.F.C. and Hull, M.R. 1947, *Camulodunum: First Report on the Excavations at Colchester, 1930–1939,* Soc. Antiq. Res. Rep. 14 (Oxford)

Holden, J.L., Phakley, P.P., and Clement, J.G. 1995a, 'Scanning Electron Microscope Observations of Incinerated Human Femoral Bone: a Case Study', *Forensic Science International* 74, 17–28

Holden, J.L., Phakley, P.P., and Clement, J.G. 1995b, 'Scanning Electron Microscope Observations of Heat-Treated Human Bone', *Forensic Science International* 74, 29–45

Johnson, A.E. 1992, *Woodhouse Farm, Rivenhall Airfield, Essex. Magnetic Susceptibility, Magnetometer and Auger Survey,* unpubl. Oxford Archaeotechnics report

Kilmurry, K. 1980, *The Pottery Industry of Stamford, Lincs. c.AD 850–1250,* Brit. Archaeol. Rep., Brit. Ser., 84

Lavender, N.J. 1999, 'Bronze Age and medieval sites at Springfield, Chelmsford: excavations near the A12 Boreham Interchange, 1993', *Essex Archaeol. Hist*., 3rd Ser., 30, 1–43

Leivers, M. 2008, 'Prehistoric Pottery' in Cooke, N., Brown, F., and Phillpotts, C., *From Hunter Gatherers to Huntsmen: a History of the Stansted landscape,* Framework Archaeology Monogr. 2, CD-ROM Chapter 17

Major, H. 2004, 'Worked Stone', in Havis, R. and Brookes, H., *Excavations at Stansted Airport, 1986–91 Volume 1: Prehistoric and Romano-British*. E. Anglian Archaeol. 107, 34–35

Medlycott, M. 1991, *An Archaeological Fieldwalking Evaluation at Rivenhall Airfield, Essex,* unpubl. ECC Field Archaeology Unit report

Medlycott, M. 1996, 'A medieval farm and its landscape: excavations at Stebbingford, Felsted, Essex 1993', *Essex Archaeol. Hist*., 3rd Ser., 27, 102–81

Medlycott, M. 2011, *Research and Archaeology Revisted: a Revised Framework for the East of England,* E. Anglian Archaeol. Occ. Pap. 24

Mepham, L. 2007, 'Medieval Pottery' in Timby, J., Brown, R., Biddulph, E., Hardy, A. and Powell, A., *A Slice of Rural Essex: Archaeological Discoveries from the A120 between Stansted Airport and Braintree,* Oxford Wessex Archaeology Monogr. 1, CD-ROM, Chapter 4

Mepham, L. 2008, 'Medieval and Post-Medieval Pottery' in Cooke, N., Brown, F. and Phillpotts, C., *From Hunter Gatherers to Huntsmen: a History of the Stansted Landscape,* Framework Archaeology, CD-ROM, Chapter 19

McKinley, J. 1993, 'Bone Fragment Size and Weights of Modern British Cremations and the Implications for Interpretation of Archaeological Cremations', *International Journal of Osteoarchaeology* 3, 283–287

Mulville, J. 2008, 'Foodways and Social Ecologies from the Middle Bronze Age to Late Iron Age', in Pollard, J. (ed.), *Prehistoric Britain* (Blackwell)

Oswald, A. 1997, 'A doorway on the past: practical and mystic concerns in the orientation of roundhouse doorways', in Gwilt, A. and Haselgrove, C. (eds), *Reconstructing Iron Age Societies. New Approaches to the British Iron Age,* Oxbow Monogr. 71

Oxford Archaeological Associates 1997, *Rivenhall Airfield, Essex. Cultural Heritage (Archaeology) Statement,* Essex Historic Environment Record

PCRG 2010, *The study of later prehistoric pottery: general policies and guidelines for analysis and publication,* Prehistoric Ceramic Research Group Occ. Pap. 1 and 2, 3rd edn

Rodwell, K.A. 1988, *The Prehistoric and Roman Settlement at Kelvedon, Essex*, Chelmsford Archaeol. Trust Rep 6, Counc. Brit. Archaeol. Res. Rep. 63

Rodwell, W.J. 1987, 'The pottery and its implications' in Buckley, D.G., Hedges, J.D. and Priddy, D., *Excavations at Woodham Walter, Essex 1976 and an Assessment of Excavated Enclosures in Essex together with a Selection of Cropmark Sites,* E. Anglian Archaeol. 33, 20–39

Schuer, L. and Black, S.M. 2000, *Developmental Juvenile Osteology,* Academic Press Inc

Sealey, P.R. 2007, *A Late Iron Age Warrior Burial from Kelvedon, Essex,* E. Anglian Archaeol. 118

Stace, C. 1997, *New Flora of the British Isles,* Second Edn (Cambridge Univ. Press)

Stait, B.A. 1984, *Rivenhall. The History of an Essex Airfield* (Gloucester, Alan Sutton)

Timby, J., Brown, R., Biddulph, E., Hardy, A. and Powell, A. 2007, *A Slice of Rural Essex: Archaeological Discoveries from the A120 between Stansted Airport and Braintree,* Oxford Wessex Archaeology Monogr. 1, CD-ROM, Chapter 4

Tomalin, D. 1995, 'Cognition, Ethnicity and some implications for linguistics in the perception and preparation of collared urn art' in Kinnes, I. and Varndell, G. (eds), *Unbaked Urns of Rudely Shape: Essays on British and Irish Pottery for Ian Longworth,* Oxbow Monogr. 55, 101–112

Tyler, S. 1996, 'Early Saxon Essex AD 400–700' in Bedwin, O. (ed.), *The Archaeology of Essex. Proceedings of the Writtle Conference* (Chelmsford, Essex County Council)

Walker, H. 2003a, 'Medieval Pottery' in Clarke, R., *A Medieval Moated Site and Windmill: Excavations at Boreham Airfield, Essex 1996,* E. Anglian Archaeol. Occ. Pap. 11, 35–54

Walker, H. 2003b, 'Medieval and Post-Medieval Pottery' in Germany, M., *Excavations at Great Holts Farm, Boreham, Essex 1992–94,* E. Anglian Archaeol. 105, 158

Walker, H. 2004a, 'Medieval Pottery' in Brooks, H. and Havis, R., *Excavations at Stansted Airport, 1986–91 Volume 2,* E. Anglian Archaeol. 107, 398–435

Walker, H. 2004b, 'Medieval and Later Pottery' in Clarke, R., 'Rivenhall Revisted: Further Excavations in the Churchyard of St Mary and All Saints, 1999', *Essex Archaeol. Hist*., 3rd Ser., 35, 50–62

Walker, H. 2006, 'Medieval and Later Pottery' in Ennis, T., 'Roman and Medieval Land Use in the Upper Roding Valley: Excavations at Frogs Hall Borrow Pit, Takeley, Essex 2002', *Essex Archaeol. Hist*., 3rd Ser., 37, 65–81

Walker, H. 2012, *Hedingham Ware: a Medieval Pottery Industry in North Essex; its Production and Distribution,* E. Anglian Archaeol. 148

Walker, H. 2014, 'The Medieval and Post-Medieval Pottery' in Ennis, T., 'Excavations at Letch's Builder's Yard, 109 High Street, Braintree', *Essex Archaeol. Hist*., 4th Ser., 5, 110–4

THE ESSEX SOCIETY FOR ARCHAEOLOGY & HISTORY
Volume 8 · 2017

Medieval occupation at Robinson Road, Brightlingsea

Kieron Heard
With a contribution by Helen Walker

Fieldwork at Robinson Road, Brightlingsea, revealed part of a Bronze Age track-way and associated enclosure, a large, probable Roman enclosure, two distinct areas of medieval occupation and associated fields and a post-medieval field system. The medieval settlement evidence is of particular significance, demonstrating continuous occupation from the late 12th to the 15th century or later, and the preservation of medieval field boundaries until the late 18th or early 19th century. The assemblage of medieval pottery recovered provides insight into the nature of trade and supply to the coastal fringe of the county in this period.

INTRODUCTION

A trial-trench evaluation and subsequent open-area excavation were carried out in 2014–15 by Archaeology South-East (ASE) on land to the south of Robinson Road, Brightlingsea (Archaeology South-East 2014; 2015). The archaeological project was carried out in advance of a large-scale residential development.

The site is located on former agricultural land on the eastern edge of Brightlingsea (NGR: TM 09314 17179; Fig. 1) and measures approximately 3ha. Of this, approximately 1.9ha were available for excavation (Fig. 2). Prior to the fieldwork much of the site was covered by grass and scrub, having been neglected for many years.

The site occupies a gentle, south-east facing slope at the south-east end of the Brightlingsea peninsula, overlooking Brightlingsea Creek and the Colne Estuary. Ground level falls from *c.* 22m OD in the north-west corner of the site to *c.* 20m OD in the south-east corner. The Brightlingsea peninsula is a steep-sided and flat-topped ridge of London Clay, capped by glacial sand and gravel (part of the Kesgrave Catchment Subgroup). To the north of Robinson Road and elsewhere on the peninsula the sand and gravel have been extensively quarried. Formerly an island, the peninsula is still surrounded by marshland, creeks and tidal mudflats.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

Fieldwork at the Moverons Farm quarry site (Essex Historic Environment Record (EHER) 16908–12 and 17651–2; Fig. 1), north-west of Brightlingsea, has demonstrated occupation of the peninsula since prehistoric times. Notable discoveries include an Early Neolithic ring-ditch, a Middle Bronze Age

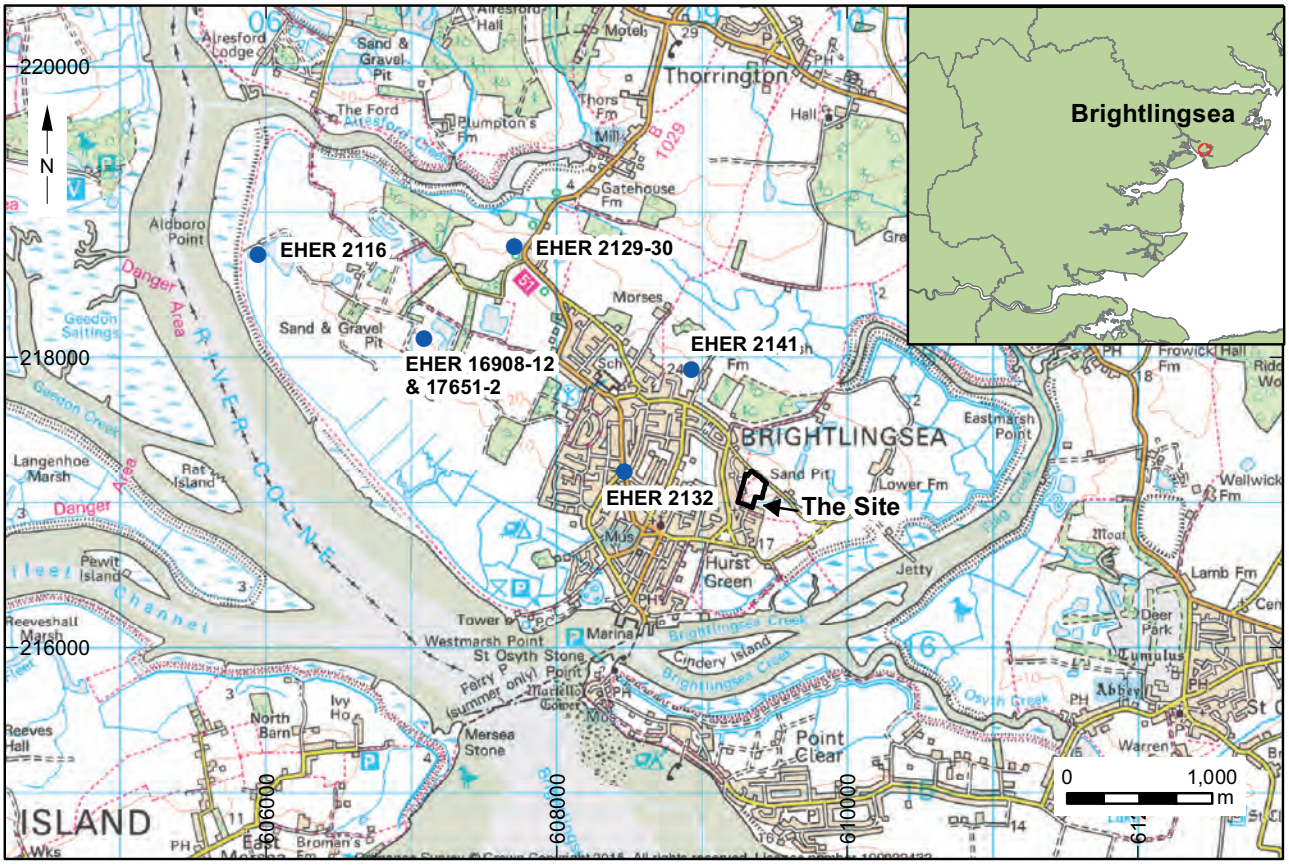


FIGURE 1: Site location and EHER entries mentioned in the text

FIGURE 2: Cropmarks EHER 2292 in relation to excavated features

barrow cemetery, a Late Bronze Age field system, a Late Iron Age unenclosed settlement and an Early Roman enclosure complex (Clarke 1996; Clarke and Lavender 2008). Many of these features were known previously from cropmark evidence. Recent fieldwork at the quarry has uncovered part of an Anglo-Saxon settlement of post-built and sunken-featured buildings, and associated pitting (CAT 2014).

The remains of a probable Roman villa (EHER 2116; Fig. 1) have been recorded at the west end of the peninsula, on the east bank of the River Colne. A concentration of Roman building material (EHER 2132; Fig. 1), including *tesserae*, roof tiles and flue tiles, in the western part of the town suggests the location of another high-status building. The remains of a third significant Roman building (EHER 2129; Fig. 1)

underlie the medieval All Saints parish church (EHER 2130; Fig. 1). Roman pottery is reported from the area of Hurst Green, possibly indicating another settlement focus (Tendring District Council 2008, 65).

There has been relatively little archaeological fieldwork in the area to the east of the town, where the Robinson Road site is located. A group of linear cropmarks located within the site boundary are interpreted in the EHER as indicating a 'curving double-ditched track-way with associated linear features' (EHER 2292; Fig. 2).

The medieval and earlier post-medieval core of the town extended along High Street, Queen Street and Hurst (Hearse) Green, south-west of the site. There was also a secondary focus relating to fishing, boatbuilding and oyster farming on the quayside and riverfront south of Hurst Green, at the mouth of the River Colne. As a 'corporate limb' of the Cinque Port of Sandwich, Brightlingsea had some significance as a port during the medieval and early post-medieval periods.

In the agricultural zone surrounding the medieval town dispersed farmsteads, cottages and greens were connected by a network of ancient lanes and tracks that is to a large extent preserved by the modern road layout. The Historic Environment Characterisation Project suggests that present-day irregular field patterns are ancient, with relatively little boundary loss since the Second World War (Tendring District Council 2008, 61).

Robinson Road was originally part of the Back Road, which ran from East End Green (south-east of the site) to a junction with Church Road, near All Saints church and Brightlingsea Hall. There is a probable reference to this route in 1537, when a bequest was made for its repair (Dickin 1913, 168) but presumably it had much earlier origins. The road is shown on the Chapman and André map of Essex (1777), with East End Green labelled incorrectly as North End Green (Fig. 3). The map shows two buildings inside a rectangular enclosure, on the south side of the road and probably just north of the current site. The same property is shown also on Sheet 48 of the Ordnance Survey First Series (1805–38?), but is not included on the Brightlingsea tithe map of 1841 or subsequent Ordnance Survey maps of the late 19th century. It is likely to have been an ancient holding known as *Brockmans*, recorded in court rolls from 1660 and in a manor rental dated 1685; the same property was listed in a manorial 'extent' of *c.* 1300 as 'John Brockman's house and two acres' (Dickin 1913, 42).

The site boundaries to north, east and south correspond with those shown on the 1841 tithe map, forming the eastern half of a large irregular field (parcel 402) called Meeting field. The name presumably reflected its proximity to the Methodist Chapel (meeting house), which is still extant on Chapel Road just to the south of the site. The tithe apportionment reveals that the field, then under arable production, was owned by (Henry) Whitmore Baker (trustee of Henry Baker) and occupied by Robert Cross; both men were prominent farmers with holdings elsewhere in the parish (Kemble 2015). The name *Brockmans* did not appear in the tithe apportionment (anywhere in the parish) indicating that it had become redundant by the late 1830s.

The western boundary of the site corresponds to a footpath (still in use) shown on the First Edition Ordnance Survey map of *c.* 1870, bisecting the Meeting field (parcel number 352).

FIELDWORK RESULTS

The basic stratigraphic unit used during the fieldwork to identify individual deposits or features was the *context number;* these have been used in this report where very specific reference is required, and are shown thus: [1000]. During subsequent analysis individual contexts were amalgamated into *groups* of related contexts; for example a pit and its fills, or multiple segments of the same ditch; in this report group numbers are shown thus: GP1.

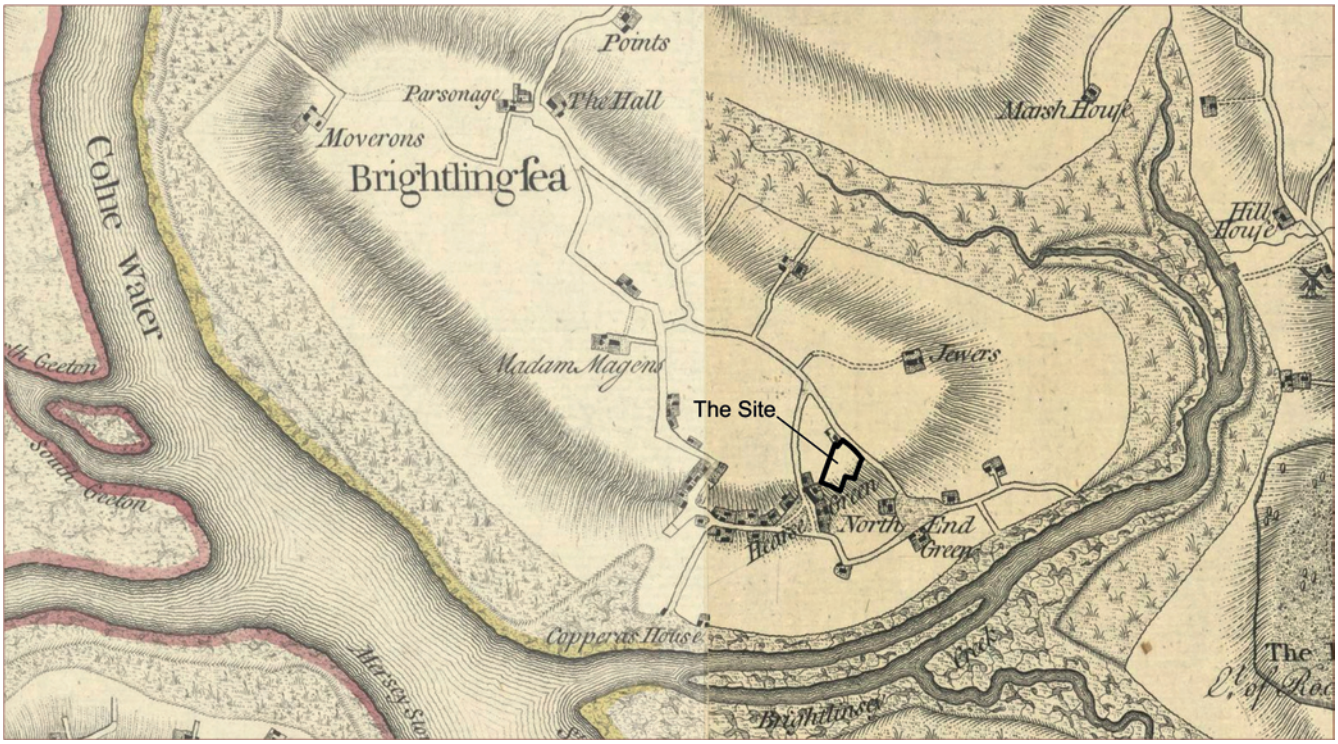


FIGURE 3: The site located approximately on the Chapman and André map of Essex (1777)

Geology and soil types

Natural sands and gravels were directly overlaid by a site-wide deposit of light, sandy topsoil or former ploughsoil up to 0.40m thick. There was little evidence for earlier land surfaces or natural soil profiles, these having been obliterated by modern ploughing. A layer of reworked sandy subsoil, up to 0.30m thick, was identified below the topsoil along the eastern edge of the site, and is interpreted as a possible headland deposit corresponding with the field boundary.

Overview of the stratigraphic evidence

Generally, the archaeological remains were recognised below the topsoil, cutting the natural strata and truncated to varying degrees by ploughing. On this exposed, seaward-facing slope the sandy soils were highly susceptible to wind erosion, and it is likely therefore that deflation processes have also adversely affected the survival of archaeological deposits on the site.

Refuse pits, quarry pits, a possible well and various ditch forms were the principal feature types, with some post-holes, stake-holes and possible beam slots providing limited evidence for structures. The features ranged in date from the Middle Bronze Age to the modern period. Artefactual dating (notably the pottery), combined with the creation of relative chronologies where stratigraphic relationships existed, has allowed the results to be arranged into chronological periods, as described below. Evidence for the prehistoric and Roman periods is reported here in summary only, with further detail available in the post-excavation assessment (Archaeology South-East 2015).

Period 1: Middle Bronze Age pits (Fig. 4)

A small amount of grog-tempered pottery, some decorated with rows of finger-tipping characteristic of the earlier part of the Deverel-Rimbury tradition (*c.* 1700–1300 BC), was found residually in later features. Some of the undiagnostic grog-tempered pottery might be from Early Bronze Age Urn traditions.

Two small and shallow pits (GP1 and GP2), spaced about 7.5m apart in the southern part of the site, produced small amounts of undiagnostic grog-tempered pottery of

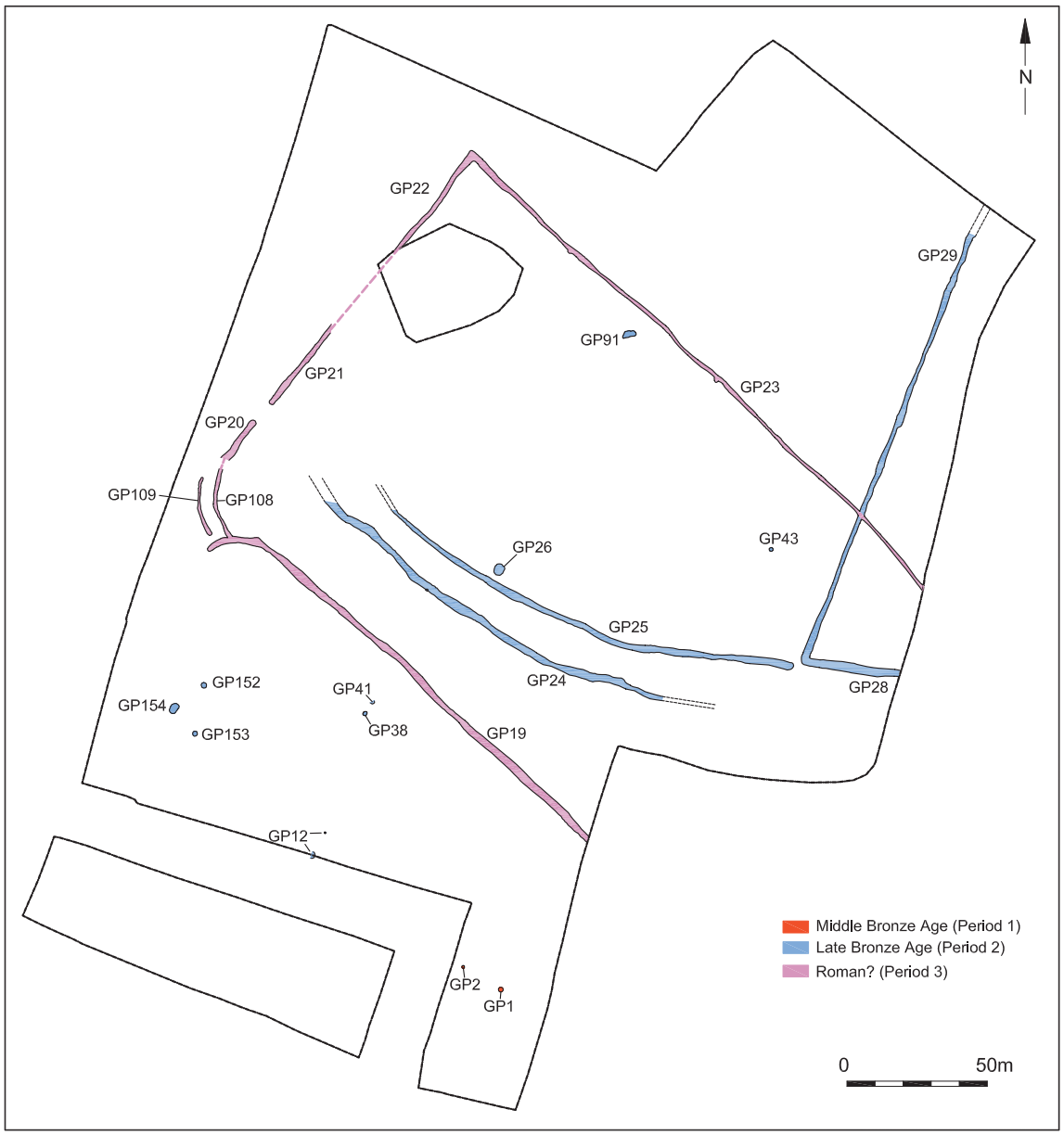


FIGURE 4: Plan of prehistoric and probable Roman features

probable Middle Bronze Age date and an undiagnostic struck flint.

Period 2: Late Bronze Age settlement (Fig. 4)
Although there is slight evidence for activity in the area of the site during the Middle Bronze Age (Period 1), permanent occupation probably did not occur until the Late Bronze Age (Period 2), as suggested by dispersed pits, a ditched track-way and an associated enclosure.

A large pit, GP26, in the centre of the site, contained a significant assemblage of flint-tempered pottery of probable Late Bronze Age date, and smaller amounts of undiagnostic struck flint, fired clay and fire-cracked flint. Environmental sampling of the pit fills produced one wheat caryopsis (grain) and charcoal from possible willow/poplar (cf. *Salix/Populus* sp.), oak (*Quercus* sp.) and possible cherry/blackthorn (cf. *Prunus* sp.), indicative of mixed deciduous woodland.

A scatter of small pits, of unknown function, produced lesser quantities of probable Late Bronze Age pottery, flint and fired clay, while two undated features (GP38 and GP43; Fig. 4) containing large amounts of fire-cracked flint might have been prehistoric cooking/roasting pits.

Most of the probable Late Bronze Age pits were found to the south of a curving track-way, recorded previously as cropmarks (part of EHER 2292; Fig. 2). The flanking ditches (GP24 and GP25) were approximately 15m apart and measured up to 1.50m wide by 0.40m deep with shallow, concave profiles. No conclusive dating evidence was recovered from the ditch fills.

To the west, the track was obliterated by medieval or later activity. To the east, the southern ditch petered out but the northern ditch had a well-defined, rounded terminus near the south-west corner of a large, rectangular ditched enclosure (GP28 and GP29), which is assumed therefore to have been a contemporary feature. The enclosure extended beyond the site boundary, to the north and east. The only finds from its ditches were two small sherds of medieval pottery, thought to have been intrusive. There was no evidence for the nature of land use in the enclosed area.

Period 3: Probable Roman enclosure (Fig. 4)
The Bronze Age track-way and enclosure were overlaid by a large, rectangular ditched enclosure (GP19–GP23, GP108 and GP109), on a completely different orientation. The enclosure measured at least 111m by 75m (0.8ha) and its ditches were up to 1.58m wide with a maximum surviving depth of 0.42m.

In its original form the enclosure probably had a wide (*c.* 14m) out-turned entrance at its western corner with an additional, narrower (4m) entrance gap on the north-western side (between ditch GP20 and ditch GP21). The smaller entrance might have been aligned with the Period 2 ditched track-way (GP24 and GP25), suggesting that the prehistoric route remained a feature of the landscape. The out-turned entrance was subsequently blocked by two parallel and curving ditches (GP108 and GP109).

The enclosure ditches produced no conclusive dating evidence. Some prehistoric material is assumed to have been residual. One sherd of probable Roman pottery came from the south-western ditch GP19 and a large, probable *tegula* fragment was found in the terminus of ditch GP109. No post-Roman artefacts were found, and the enclosure ditches were truncated by late 12th- to 14th-century features, suggesting that the enclosure was of pre-medieval date. From the site as a whole, only five sherds of Roman pottery were found, and four of them were residual in medieval features. There is also a small assemblage of abraded Roman ceramic building material, most of which occurred residually in post-Roman features. However, on balance it seems likely that the Period 3 enclosure was of Roman date.

There was no evidence for occupation within the enclosure, suggesting that it had an agricultural use, perhaps as part of a villa estate. An enclosure of similar shape and dimensions, though without the elaborate entrance, has been recorded as a cropmark to the west of Folkards Lane, just north of Brightlingsea in the vicinity of Lowermarsh Farm (part of EHER 2141; Fig. 1).

Period 4: Medieval occupation
There was considerable evidence for medieval occupation, concentrated in two distinct areas in the north-eastern (M1) and western (M2) parts of the site. A further few medieval features were recorded also in the south of the site (M3). The stratigraphic evidence is described below, by area, and a general plan of the medieval remains is shown on Fig. 5.

Associated finds assemblages are dominated by pottery, with lesser amounts of (mostly poorly-preserved) animal bone, building material, domestic objects such as quern stones and a small quantity of metal artefacts. There is also limited environmental evidence. The medieval pottery assemblage is considered significant and is therefore described in detail below; other categories of finds have been recorded and described comprehensively in the post-excavation assessment (ASE 2015) and only the more significant objects are mentioned here.

Area M1 (Phase 4.1)
Medieval activity in this part of the site was represented by a dense cluster of pits, ditches/gullies, a possible well and some quarry pits (Fig. 6). These were probably located in an open area to the rear of one or more properties fronting on the road to the north. Two broad phases of activity (4.1 and 4.2) are suggested by the stratigraphic sequence and pottery dating evidence, although in reality there was probably uninterrupted occupation in this area from the late 12th century to the late 15th or 16th century.

The pottery assemblage provides a broad date range of late 12th–14th century for the earliest phase of medieval occupation in this part of the site.

A NNE–SSW boundary ditch GP42/GP73/GP83 (dated by a small amount of pottery to the late 12th–14th century) defined the western extent of medieval occupation in area M1 and continued for over 100m to the south, presumably delineating the western edge of an associated field system. The form of the ditch varied considerably along its length, but it was generally about 1.2m wide with a saucer-shaped profile and a (surviving) depth of only 0.25m.

A 3m-wide gap between ditch GP73 and ditch GP83 presumably provided access to an open area to the west of area M1. This area was sub-divided by a shallow ditch with a rounded terminus to the north-west (GP85), which produced four sherds (19g) of late 12th–14th century pottery. Ditch GP83, to the north of the postulated entrance gap, was re-dug, probably in the 13th–mid 14th century (GP84).

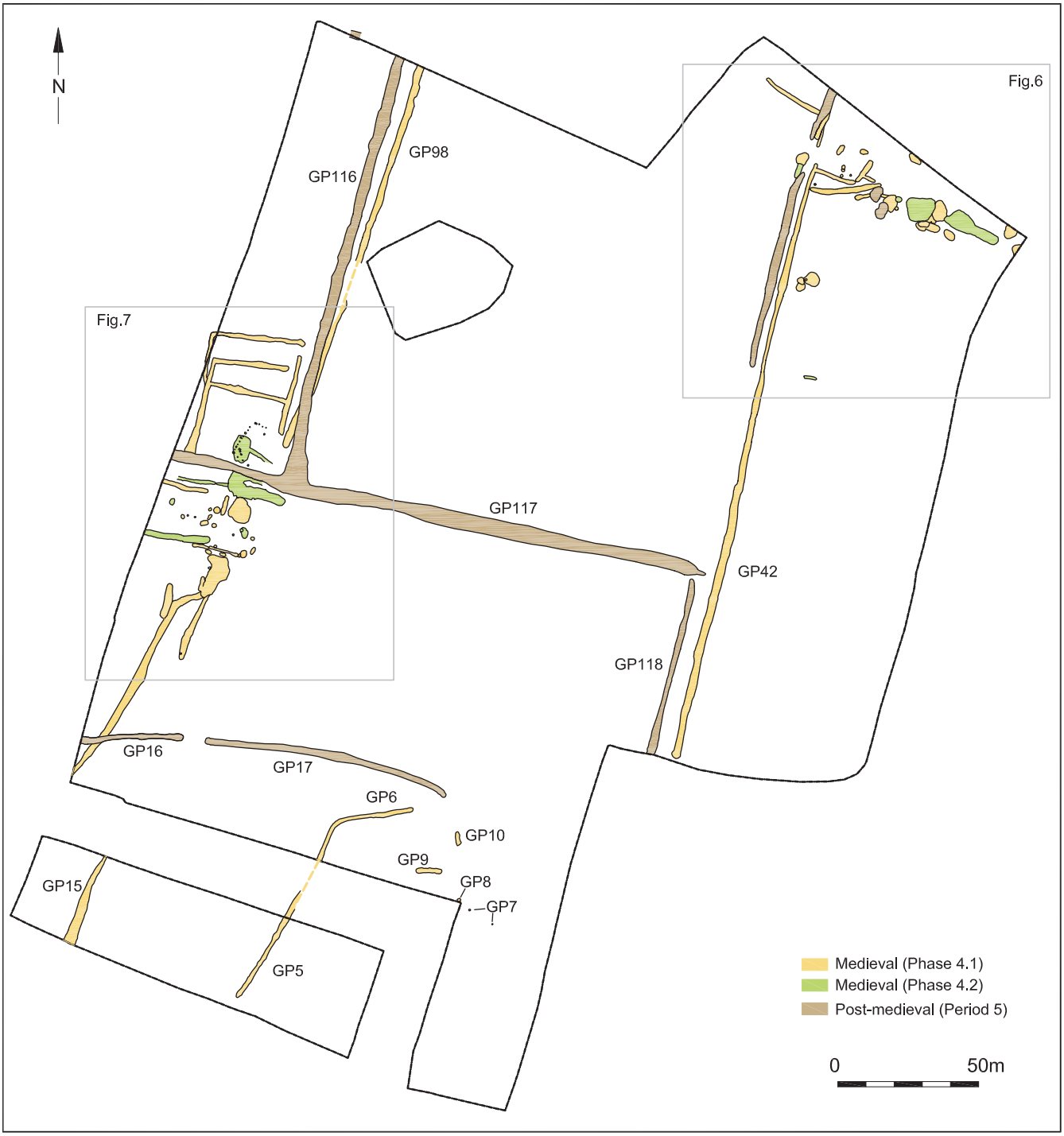


FIGURE 5: General plan of medieval and post-medieval features

Although the western limit of medieval occupation in area M1 was well defined by ditch GP42/GP73/GP83, its southern boundary was less distinct. It is noted however that most of the pits, quarries and other features in area M1 were confined to a narrow swathe perpendicular to ditch GP42, and this suggests an informal rear boundary to roadside occupation. The only medieval features found to the south of this postulated boundary were a cluster of three or four pits GP46 (probably late 13th–14th century) and a late medieval/early post-medieval (Phase 4.2) pit/ditch GP45.

It is possible that shallow ditch GP74 might originally have formed part of a more formal southern boundary. GP74 was perpendicular to boundary ditch GP42/GP73/GP83, with which it had an intersecting but stratigraphically uncertain relationship.

Short ditch GP76 was dug at a right angle to ditch GP74 and together they might have defined the corner of a small enclosure, perhaps associated with the adjacent gap in the western boundary ditch. GP76 produced a relatively large finds assemblage that included frequent oyster shells (>1,800g) and fairly unabraded pottery (115 sherds, 825g) of mainly 13th- to 14th-century date, indicative of domestic activity in the immediate vicinity. Environmental sampling of the ditch fill produced a few charred grains of barley (*Hordeum* sp.), wheat (*Triticum* sp.) and possibly rye (cf. *Secale cereale*). A cluster of possible post-holes GP77 (undated), a small pit

FIGURE 6: Medieval and post-medieval features in area M1

GP79 (13th–14th century) and a patch of scorched soil (late 13th–14th century) provide slight evidence for activity within the postulated enclosure.

Ditch GP49 respected boundary ditch GP42 to the west and presumably formed part of a relatively short-lived sub-division of area M1. The ditch was approximately 12m long by up to 0.99m wide by 0.43m deep with steep sides and a flat or concave base. Its fill was particularly rich in finds, generally of a domestic nature: it produced sixty-five sherds (1,274g) of pottery (broadly late 12th–14th century but including some sherds as late as *c*.1400), a small amount of animal bone (cattle and unspecified large mammal), twenty-four abraded and mostly undiagnostic fragments (938g) of German lava rotary quern and a small piece of green-tinged, melted window glass. Environmental sampling of the ditch fill produced charred grains of hulled barley (*Hordeum* sp.) and charred weed seeds, including goosefoot (*Chenopodeum* sp). A sherd link between this ditch and nearby quarry pit GP65 demonstrates that these features were being filled with material from the same source, perhaps a midden. Between them these two features accounted for most of the pottery from Phase 4.1 in area M1.

A large oval pit GP65 (up to 3.45m wide by 1.12m deep with a stepped profile on its north side) was dug for gravel extraction. An initial episode of backfilling [1452] produced fifty-three sherds (568g) of 13th-century pottery, including several belonging to the same coarse ware vessel. The pit was not backfilled fully until the 14th century: upper fill [1156]/[1451] produced fifty sherds (622g) of pottery with a broad late 12th–14th century date range but including three joining sherds from a 14th-century jar. The upper fill also contained lava quern fragments, undiagnostic pieces of fired clay and three fragments (78g) of ceramic roof tile, possibly intrusive.

A relatively small but deep pit with vertical sides (GP60) produced only two sherds of pottery, dated *c*.1200; given its form and relative lack of inclusions this might have been a cess pit, although there is no environmental evidence to support this. Other pits in the same area (GP61 and GP62, which truncated GP60, and GP59) were less deep with bowl-shaped profiles; these might have been dug for refuse disposal. They contained

varying amounts of pottery (mostly late 13th–14th century), occasional animal bone (including sheep/goat), oyster shells (especially from GP61, which produced 548g), a lava stone quern fragment (from GP62) and undiagnostic fired clay fragments. Environmental sampling of pit GP59 produced two charred grains of wheat (*Triticum* sp.) and one charred grain of oat (*Avena* sp.), and charred seeds of grass (Poaceae) and ivy-leaved speedwell (*Veronica hederifolia*).

Pit GP55 is interpreted as a possible well. It was up to 3.10m wide at the surface, tapering to a narrower shaft with near-vertical sides, at least 1.15m deep (not bottomed). Although this feature was not backfilled until the late medieval/early post-medieval period (Phase 4.2; see below), it was probably dug during Phase 4.1.

Two large but shallow pits in the north-eastern corner of the site (GP69) produced small amounts of pottery dated late 12th–14th century, but their functions are unknown. A shallow pit GP72 was filled with soil containing much charcoal and small fragments of fired clay, and a single small sherd of pottery dated mid-13th–14th century.

Area M1 (Phase 4.2)

A few features and deposits have been assigned to a later phase of medieval activity (possibly extending into the early post-medieval period), on the basis of pottery forms and fabrics, the presence of occasional roof tile fragments and some stratigraphic relationships. Much of the pottery from these features is the same as that from Phase 4.1, and in fact there are some sherd links between the phases. However, small amounts of slightly later pottery provide a date of later 14th to mid-15th century (or even 16th century) for Phase 4.2. The roof tiles are plain or peg tiles which were made up until the 16th century, when they began to be superseded by pantiles (McComish 2015, 33–4).

Possible well GP55 was backfilled during Phase 4.2. Its fill produced only five sherds (95g) of pottery (some dated 14th–16th century), four lava quern fragments and three fragments (196g) of roof tile.

The backfilled well was partially removed by pit GP56, measuring up to 1.10m wide by 0.90m deep, with vertical sides. It produced only a small amount of pottery (five sherds, 104g) of 14th–16th century date and was not obviously used for refuse disposal; it might therefore have been a cess pit, although there is no environmental evidence to support this.

Quarry pit GP66 (up to 4.90m wide by 1.20m deep) was dug adjacent to backfilled quarry pit GP65 (Phase 4.1). Its lower (and principal) fill [1464] produced a large but mixed pottery assemblage (121 sherds, 2,228g) with a broad date range of 13th- to mid-16th-century pottery and a *terminus post quem* in the early to middle 15th century. There was also a moderate assemblage of animal bone (including cattle, pig and sheep/goat) and some roof tile fragments. Notable finds included three fragments of a hone made of Norwegian ragstone and a D-shaped buckle frame in copper alloy, probably a horse harness fitting. This initial period of deliberate infilling was followed by an episode of natural silting or slumping (containing no cultural material), before the pit was finally backfilled in the 16th century or later. Sherd links between the fills of quarry pit GP66 and those of other features in area M1 (ditch GP49 and quarry pit GP65 in Phase 4.1, and ditch GP68 in Phase 4.2) indicate that all these features were backfilled with material from the same source, perhaps a nearby midden.

Environmental sampling of one of the fills of quarry pit GP66 produced charcoal from a range of species, mostly elm (*Ulmus* sp.), with lesser quantities of holly (*Ilex aquifolium*), oak (*Quercus* sp.), apple (*Malus* sp.), pear (*Pyrus* sp.) and charcoal of the Maloideae subfamily, which includes hawthorn (*Crataegus monogyna*), rowan, service and whitebeam (*Sorbus* spp.). This material indicates that hedgerow, woodland margin and underwood environments were being exploited for fuel.

Ditch GP68 was relatively substantial, measuring *c.*10m long by (generally) 1.70m wide by up to 0.65m deep, with moderately steep sides and a concave base. Although the stratigraphic relationship between this ditch and adjacent quarry pit GP65 could not be discerned on site, finds dating makes it clear that the ditch was the later feature. A single sherd of pottery from its lower fill [1501] is dated late 14th–mid-16th century. Upper fill [1500] produced thirty-nine sherds (547g) of mostly 14th- to 15th-century pottery and a fragment of medieval or later roof tile, as well as two fragments of probable Roman tile. Although the exact function of the ditch is not clear, its shared alignment with earlier ditch GP74 (Phase 4.1) suggests that it might have been a relatively late manifestation of the same boundary to the rear of occupation. A notable find from the ditch was an incomplete oval buckle frame with two knops flanking a roller, similar to examples from London (Egan and Pritchard 2000, 73, figs 44.298 and 44.301).

An elongated pit GP81 was dug in the open area (field?) to the west of area M1, perhaps suggesting that ditch GP42, defining the western boundary of area M1, had fallen into disuse. The fill of the pit contained two sherds (96g) from a large jug or cistern dated to the 15th–16th century.

Area M2 (Phase 4.1)

In the western part of the site, medieval occupation was demonstrated by a dense concentration of features that included at least one timber structure, small, rectangular ditched enclosures, refuse pits and quarry pits (Fig. 7). The intercutting of some of these features provides clear evidence for multiple phases of land use, but the lack of precise dating for many of the features has made it difficult to construct a detailed chronology for area M2.

Although a few sherds of early medieval pottery indicate some activity in area M2 during the earlier 12th century, the assemblage as a whole suggests that occupation here was broadly contemporary with that in area M1 (late 12th–14th century), with a few features possibly continuing into the 15th century (Phase 4.2).

A discontinuous series of NNE–SSW boundary ditches (GP98, GP148 and perhaps GP15) defined the eastern extent of medieval occupation in area M2. The ditches were parallel to and probably broadly contemporary with boundary ditch GP42/GP84, approximately 75m to the east, which defined the western limit of medieval occupation in area M1. The western ditches were fairly shallow and produced little dating evidence, other than a few sherds of late 12th- to 14th-century pottery and some residual prehistoric material.

Ditch GP162 was on a similar orientation to ditch GP148 but was positioned slightly further to the west, possibly

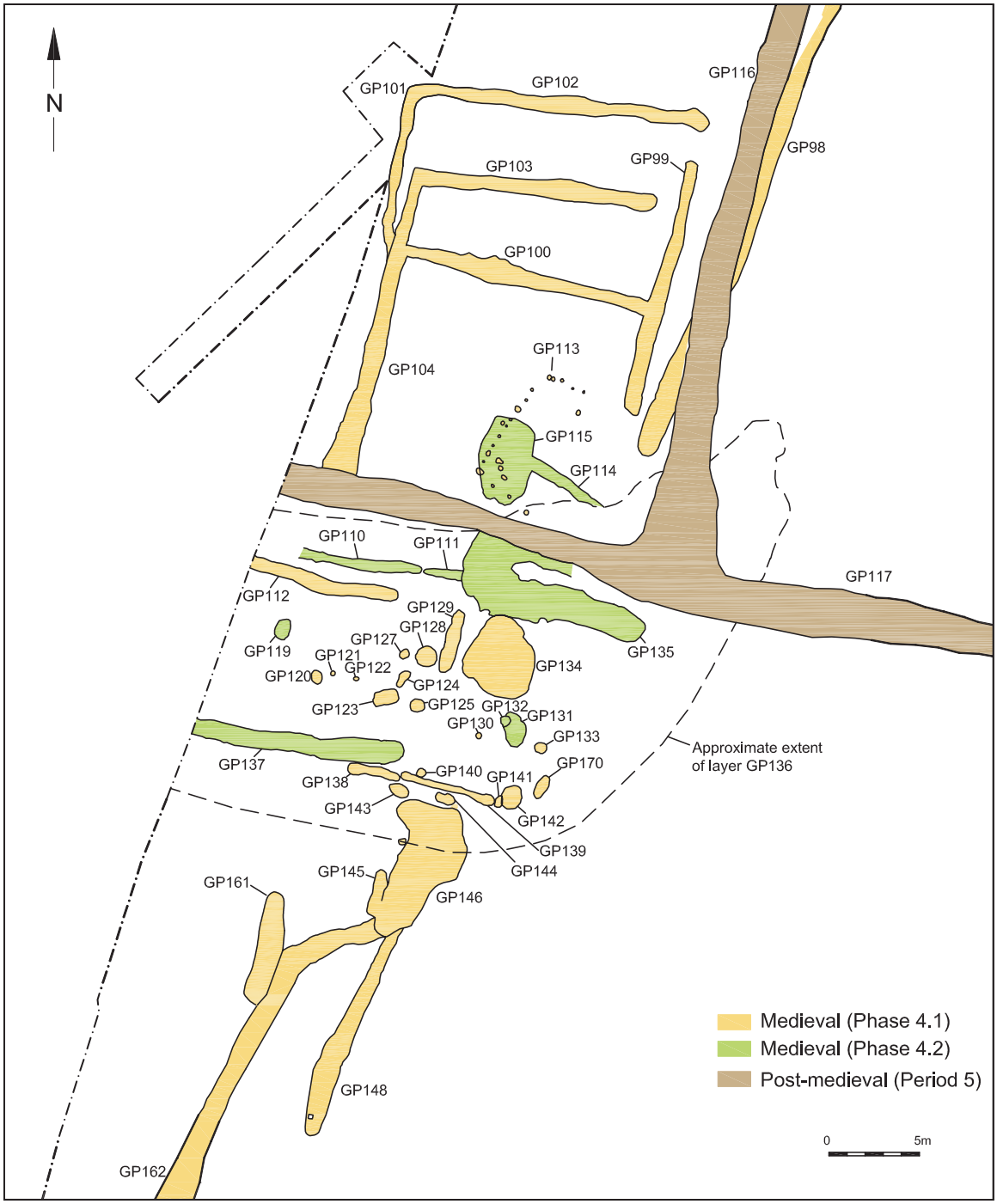


FIGURE 7: Medieval and post-medieval features in area M2

indicating a slight shifting of the existing boundary. It produced five sherds (24g) of medieval pottery, including wares of late 13th- to 14th-century date and some residual prehistoric pottery. There was also an undiagnostic fragment from a medieval copper alloy vessel.

A sequence of two overlapping rectangular enclosures defined by shallow ditches (GP99–GP102 and GP103–GP104) might have been house platforms or garden plots. They were positioned immediately west of boundary ditch GP98, which they appeared to respect although they did not share quite the same orientation as the ditch.

The earlier enclosure (defined by GP99–GP102) measured approximately 15.5m by 9m and had a probable entrance at its north-east corner. Its ditches were up to 1.50m wide by 0.39m deep with rounded profiles. Small amounts of pottery from the ditch fills suggest a 13th- to 14th-century date.

The later enclosure was defined by an L-shaped arrangement of ditches (GP103 and GP104), but it might have also incorporated surviving elements of the earlier enclosure (notably GP99). It measured at least 17m by 13.5m, and its ditches were up to 2m wide by 0.35m deep. They produced small amounts of 13th–14th century pottery and some residual Roman brick/tile.

The south end of ditch GP104 was removed by east-to-west post-medieval ditch GP117 (Period 5), but it did not continue to the south of the later ditch. It is possible therefore that the

enclosure defined by GP103/GP104 might originally have had a bounding ditch on its south side, which was obliterated by Period 5 ditch GP117.

East-to-west aligned ditch GP112 was on the same orientation as the aforementioned enclosures, and might have had a related function. The ditch was in excess of 8.50m long by up to 0.75m wide by 0.30m deep, with a rounded terminus to the east and extending beyond the limit of excavation to the west. Its fill produced ten sherds (122g) of 13th- to 14th-century pottery.

A group of twenty-three post-holes and stake-holes (GP113) formed three sides of a small timber structure, measuring approximately 7.8m by 3.6m and apparently open to the south-east. The only dating evidence for the structure came from post-hole fill [1431], which contained two sherds (8g) of late 12th- to 14th-century pottery. A row of three closely-spaced and relatively substantial post-holes inside the structure might have been part of an internal feature. Although structure GP113 was inside the area defined by enclosure GP103/GP104, the two features had different orientations and were probably not related.

Another possible structure was represented by two east-to-west linear features, GP138 and GP139, which are interpreted as possible beam slots. They were up to 0.63m wide by 0.21m deep with steep sides and flat bases. The west end of GP138 and the east end of GP139 (which incorporated a possible post-hole) contained some large stone fragments that might have been post packing. There was no other evidence for the form and extent of the possible structure. Two medieval iron studs from GP139 are comparable to Goodall's type 11 (2011, 164, fig. 9.1) and were possibly used as door studs or similar. No other dating evidence was recovered.

A scatter of small and shallow pits (including GP123, GP125, GP140, GP142, GP143 and GP170) produced varying amounts of domestic refuse (pottery, bone and fired clay), indicative of nearby habitation. Notably, pit GP123 produced twenty-six sherds (524g) of pottery, including cooking-pot fragments, dated 1200–1275. A possible rim fragment from a straight-sided copper alloy vessel was found in pit GP143. Other small pits in the same part of area M2 (GP120, GP124, GP127, GP128, GP130 and GP133) produced varying amounts of charcoal and fired clay but no pottery; they are assumed to have been of medieval date. Pit GP120 contained charred grains of wheat (*Triticum* sp.) and hulled barley (*Hordeum* sp.) together with the common weed seeds ivy-leaved speedwell (*Veronica hederifolia*) and grass (Poaceae).

Two large but shallow pits GP134 and GP146 might have been for small-scale gravel extraction. Their fills produced only small amounts of pottery dated late 12th–14th century. Environmental sampling of the fill of GP146 contained charred grains of oat (*Avena* sp.) and wheat (*Triticum* sp.).

Phase 4.1 features in the central part of area M2 were sealed by an extensive layer of light yellowish or greyish brown (mottled) silty sand, up to 0.20m thick (GP136). The approximate extent of this layer is shown on Figure 7. It produced a significant assemblage (eighty-two sherds, 747g) of late 12th- to 14th-century pottery, similar to that from underlying pits and ditches. The heterogeneous nature of deposit GP136 and the dating of its pottery assemblage suggests that it did not form naturally but that it was produced by the reworking of earlier material; it might therefore have marked a change of land use (cultivation, perhaps) in area M2.

Area M2 (Phase 4.2)

Reworked soil horizon GP136 was cut by several features, some of which contained later medieval pottery. They have therefore been assigned to Phase 4.2. Any change of land use suggested by the reworked soil horizon must have been temporary, since subsequent activity followed much the same pattern as had occurred during Phase 4.1.

Two east-to-west ditches (GP110/GP111 and GP137) might have defined the north and south sides of a small enclosure with the same orientation as preceding (Phase 4.1) examples. GP110/GP111 consisted of two abutting elements up to 0.60m wide by 0.20m deep, with concave profiles and an uncertain extent to the east; these ditches were undated. GP137 was up to 1.24m wide by 0.39m deep, with moderately steep sides and a generally flat base. It had a well-defined, rounded terminus to the east, suggesting that the postulated enclosure was open in that direction. This ditch produced a small assemblage of mostly 12th- to 14th-century pottery, with one sherd dated mid-14th–15th century, and fragments of a probable iron knife.

Pit GP119 was located inside the postulated enclosure. The pit was oval, measuring 1.16m by 0.86m by 0.45m deep, with vertical sides and a concave base. The primary function of the pit is unknown, although its size and profile suggest that it might have been dug as a cess pit. Ultimately, it was used for the disposal of food waste, containing an estimated 650 (over 7kg) oyster shells (*Ostrea edulis*) with occasional common cockle (*Cerastoderma edule*) and carpet shell (*Venerupis decussata*). The oyster consisted almost entirely of small-sized shells representing infants to small-sized adult individuals; other assemblages in areas M1 and M3 had similar characteristics. Dating evidence for pit GP119 was inconclusive, consisting of only four sherds of pottery (14g) with a broad date of 11th–14th century and a *terminus post quem* of *c.*1200. Bulk sampling of the pit fill produced a charred grain of hulled barley (*Hordeum* sp.) and common weed seeds, such as ivy-leaved speedwell (*Veronica hederifolia*), dock (*Rumex* sp.) and grass (Poaceae).

The function of nearby pit GP131/GP134 was less obvious. Its fills contained frequent patches of scorched soil and some charcoal, but there was no indication of burning *in situ*. The only dating evidence was a small sherd of late 12th- to 14th-century pottery.

A substantial pit, GP135, irregular in plan and section, is interpreted as a quarry for gravel extraction. At its west end, the pit measured 4m wide by at least 1.10m deep (not bottomed). Two linear trenches sloped down into the pit from the east, presumably to provide means of access and to facilitate the removal of quarried material. All three elements of the pit contained similar fills of sandy soil producing a large assemblage (131 sherds, 2,014g) of pottery spanning the 12th to 15th centuries, with a *terminus post quem* in the 14th century. The pottery from this feature represented 31% of all pottery by weight from Phase 4.2 features on the entire site.

A large but shallow pit or area of erosion GP115 has been tentatively assigned to this phase of activity, because it appeared to truncate the remains of earlier (Phase 4.1) timber structure

GP113. The dating of the feature is uncertain; it produced only five sherds (65g) of late 12th- to 14th-century pottery.

Area M3 (Phase 4.1)

There was little conclusive evidence for medieval activity outside of areas M1 and M2. Two shallow and elongated refuse pits in the southern part of the site (GP9 and GP10) contained pottery dated to the late 12th–14th century, and were therefore broadly contemporary with the earlier phase of occupation (4.1) in areas M1 and M2. GP10 contained frequent oyster shells (*Ostrea edulis*) and lesser amounts of cockle (*Cerastoderma edule*), periwinkle (*Littorina littorae*) and carpet shell (*Venerupis decussata*).

A possible row of three undated post-holes (GP7 and GP8) located near the pits might have been part of a medieval structure, although post-medieval or modern post-holes were also present in this area of the site.

An undated ditch GP5/GP6 with a pronounced 'dog-leg' has been assigned tentatively to the medieval period, but only because it seems to have partially enclosed medieval pits GP9 and GP10. The ditch was up to 1.08m wide by 0.28m deep, with a well-defined terminus to the north but petering out to the south.

Period 5: Post-medieval fields

Pottery dating suggests that occupation in area M2 lasted until at least the mid-14th century while in area M1 it continued a little longer, certainly until the mid-15th century. There is little conclusive evidence for occupation beyond the 15th century, and subsequent activity relates mainly to agricultural land use.

In the post-medieval period, the site was divided into at least five rectangular fields, separated by ditches (Figs 5–7). Three of the ditches (GP80/GP86, GP116 and GP118) were slightly off-set from earlier (medieval) boundaries, suggesting that the new field system was laid out with reference to surviving vestiges of earlier boundaries, such as hedges or the remains of banks. Significantly, the gap between ditch GP80 and ditch GP86, in the north-east part of the site, preserved an earlier entrance providing a route between medieval occupation area M1 and an open area to the west; this implies some continuity of land use.

The fills of ditches GP116 and GP117 contained some dumps of late medieval/early post-medieval brick, roof and floor tiles and flint nodules, probably derived from the demolition of a nearby building, located outside the excavated area.

None of the Period 5 field boundary ditches appear on the Brightlingsea tithe map, suggesting that these fields were consolidated into larger holdings before 1841.

THE MEDIEVAL POTTERY by Helen Walker

A total of 1,258 sherds of pottery, weighing 16,913g, was excavated and has been catalogued according to Cunningham's typology of post-Roman pottery in Essex (Cunningham 1985, 1–16; expanded by Drury *et al*. 1993 and Cotter 2000). Some of Cunningham's rim form codes are cited in this report**.** The Medieval Pottery Research Group's classification of ceramic forms is also referred to (MPRG 1998). The full dataset forms part of the project archive. Unless stated otherwise, all wares present are described in the above publications or in previous volumes of *Essex Archaeology and History*. Overseas imports are described by Hurst *et al.* (1986). All percentages quoted are by weight.

The pottery comes mainly from two areas, in the north-eastern (M1) and western (M2) parts of the site and spans the 12th to 15th centuries, with only a little evidence of activity during the mid-17th to 18th centuries. As is common at ports, a variety of overseas and traded wares are present. The assemblage is quantified by ware, and by period/phase, in Table 1. It is described by period below, with the exception of the seventeen sherds of residual medieval and post-medieval pottery recovered from modern (Period 6) features.

Pottery from Phase 4.1

A total of 589 sherds weighing 7,540g was recovered from Phase 4.1 features, giving an average sherd weight of 13g (Table 1). The pottery is fragmented, with no complete vessels and very few semi-complete vessels. The bulk of the pottery (68% by weight) comes from area M1. Most features (in both areas of medieval occupation) contained very little pottery (five sherds or fewer) and those that did produce larger quantities, all yielded assemblages of differing dates, indicating they are not discrete groups. Ditch GP49 and quarry pit GP65 (area M1) produced the largest assemblages and sherd linkages between the two suggest that these features were backfilled with material from the same source. In addition, there are sherd linkages between quarry pit GP65 (Phase 4.1) and intercutting quarry pit GP66 (Phase 4.2), indicating some mixing of these deposits. In area M2 there are sherd linkages between associated enclosure ditches GP99 and GP102, with a second sherd linkage between pit GP146 and adjacent ditch GP162, again suggesting that the respective features were open at the same time, or that their fills have become mixed.

Early medieval pottery

Very little early medieval pottery is present, a total of six sherds, all confined to features in the southern half of area M2 and found in association with later material. Fabrics comprise shell-tempered ware, shell-and-sand-tempered ware, early medieval ware and early medieval ware with grog. Diagnostic sherds comprise a thumbed, beaded cooking-pot in early medieval ware datable to the 12th century (pit GP146) and a shell-tempered ware flanged rim (pit GP142). The latter is in a fabric very similar to that found at excavations at North Shoebury on the Greater Thames Estuary (Walker 1995,103, *e.g.* fig. 75.19), where shelly wares continue well into the 13th century, and may be medieval rather than early medieval.

Medieval coarse ware

Medieval coarse ware, spanning the later 12th to 14th centuries, is by far the largest component of the assemblage accounting for 58% of the total in Phase 4.1, and in many cases medieval coarse ware comprises the only find within a feature. No examples of the more distinctive Hedingham coarse ware and Mill Green coarse ware were identified. The nearest known production sites of medieval coarse ware are at Mile End and Great Horkesley to the north of Colchester (Drury and Petchey 1975, 33–60), with evidence of medieval coarse ware production also at St Osyth just to the east of Brightlingsea and at Tiptree Heath to the west (Cotter 2000, 93). One sherd, a thumbed jug base, is tempered with dense sands, some iron-stained, and is not of local origin. Its fabric and general

Pottery by ware	Period 4.1		Period 4.2		Unphased		Period 5		Period 6	
	Sherd Nos	Wt (g)	Sherd Nos	Wt (g)	Sherd Nos	Wt (g)	Sherd Nos	Wt (g)	Sherd Nos	Wt (g)
Shell-tempered ware	2	12								
Shell-and-sand-tempered ware	1	1								
Early medieval ware	2	37								
Early medieval ware with grog	1	15	1	40						
Medieval coarse ware	400	4399	245	3360	127	1054	24	259	8	58
Hollesley-type ware	1	21								
Non-local medieval coarse ware	10	123	2	10	2	30				
Hedingham fine ware	11	107	7	69	3	41				
London-type ware	12	88			1	7				
North French white ware					1	3				
Scarborough Ware phase I	11	154	1	5	2	19				
Scarborough Ware phase II			1	4						
Mill Green Ware	1	10	1	11						
Merida Ware					1	33				
Saintonge Ware	1	14								
Saintonge polychrome	6	16								
Unidentified no.1	2	16	1	22	1	2				
Unidentified no.2	3	105			1	24				
Unidentified no.3	4	154	1	22						
Low Countries redware	19	698	1	18						
Kingston-type ware	3	25	14	181	7	93				
Surrey White Ware			2	11						
Sandy orange ware	45	534	86	1232	18	125	12	266	5	42
Non-local sandy orange ware			1	5						
Colchester-type ware	52	998	41	1326	6	226				
Misc. unidentified			1	3			1	8	1	8
Buff ware			1	3						
Suffolk buff ware			3	8						
'Tudor' green ware			2	8						
Siegburg Stoneware			2	3	2	14				
Langerwehe Stoneware			3	62						
Langerwehe/Raeren Stoneware	1	3								
Tudor red earthenware									1	12
Post-medieval red earthenware			3	21	1	10	8	149		
Black-glazed ware									1	2
Frechen Stoneware							7	345		
Westerwald Stoneware							1	5	1	2
English tin-glazed earthenware							3	32		
Creamware							2	77		
Modern stoneware	1	10					1	3		
Total	**589**	**7540**	**420**	**6424**	**173**	**1681**	**59**	**1144**	**17**	**124**

TABLE 1: Quantification of pottery by period, fabric, sherd count and weight

appearance is consistent with that of Hollesley-type ware, made at Hollesley Bay, near Woodbridge in Suffolk (Anderson 2004, 19–22; Anderson and Newman 1999, 149–151). In addition, a non-local coarse ware jar form is described below (Fig. 8.3).

Cooking-pots

As is typical of medieval assemblages, medieval coarse ware cooking-pots are the commonest vessel form. These can be assigned an approximate date by their rim form (Drury *et al.* 1993, 81–6). There is a single B4 cooking-pot rim (a thickened everted rim with a pointed outer edge) from pit GP60 (the earliest of a sequence of intercutting pits in area M1). This is an early type and is datable to *c.*1200. Other cooking-pot rim forms comprise curved-over, or cavetto, rims (sub-form D2) and squared, usually sloping-topped, rims above a short upright neck (sub-form H2), both datable to around the first half of the 13th century. There are also examples of H1-type rims, which are similar to the H2 rim but with a thinner flanged rim rather than a squared rim. H1 rims span the 13th century and may continue into the 14th century.

Examples of the more developed blocked, neckless rims (sub-form H3) and the flanged rim without a neck (sub-form E5) dating to the late 13th to 14th centuries are also present.

Not all cooking-pot rim-types are present at both occupation areas, but both areas produced rims spanning the 13th and 14th centuries. Of the larger cooking-pot fragments, several show the typical pattern of fire-blackening/sooting around the sides and edge of the rim consistent with being placed in or at the edge of a wood-burning hearth. A semi-complete cooking-pot from pit GP123 is illustrated (Fig. 8.1).

Other vessel forms

In addition to the cooking-pots, there is a thick-walled sherd most likely from a storage jar showing a thumbed applied strip (ditch GP49) and a single medieval coarse ware bowl, almost certainly of earlier 13th-century date (ditch GP76; Fig. 8.2). The bowl is wide and shallow with a carinated profile and shows signs of intense heating. Bowls of this shape and size are thought to have been used in dairying, for example to heat the milk to separate the cream, but this would not account for the intense heating seen on this bowl and a more specialised use is possible. Jug fragments are also present but uncommon. There is a flat-topped rim from a large jug found in enclosure ditch GP99 (area M2), showing a wide strap handle attaching at the rim and decorated with a central thumbed applied strip and a column of stabbed decoration at either side. Also from area M2, from quarry/pit GP134, is the lower handle attachment from a second jug. It has a bifid handle, a type often found on later medieval jugs, but a rather primitive peg handle attachment suggests an earlier date; both jugs probably belong to the 13th century. Two examples of inturned jug rims, one showing reeded decoration above the carination, were recovered from ditch GP49 and neighbouring quarry pit GP65 (area M1). This is a rim form found on jugs of the later 13th to 14th centuries.

Medieval fine wares

A relatively small number of medieval fine wares, broadly contemporary with the coarse ware, are present. Although represented only by fragments, the vessels are almost certainly from jugs, with the exception of one sherd of Hedingham Ware described below. Nearly all the fine wares were recovered from area M1, with only three fine ware sherds recovered from area M2 comprising single sherds of Hedingham Ware, London-type ware and unidentified ware No.2 (described below).

Hedingham Ware is a local fine ware made during the mid-12th to mid-14th centuries at production centres in and around the village of Sible Hedingham in north Essex (Walker 2012). Few diagnostic sherds are present. The earliest, from ditch/gully GP76, shows the remains of incised decoration, and the fabric, instead of the usual uniform creamy-orange colour, shows a buff-coloured inner half indicating that it is probably from an early-style jug datable from the mid-12th to earlier 13th century. A second sherd from quarry pit GP65 is slip-coated and green glazed and is probably imitating the later Mill Green Ware, indicating a later 13th- to mid-14th-century date. A rounded body sherd of Hedingham Ware, also from pit GP65, showing internal splashes of glaze is from a vessel other than a jug.

London-type ware was widely traded from the mid-12th to mid-13th centuries and, in spite of the fact that it is a traded ware, occurs in a similar quantity to Hedingham Ware in terms of sherd count (see Table 1) although the number of vessels represented may be smaller. Again, there are few diagnostic examples; a sherd from ditch/gully GP76 shows red slip-painting under a greenish glaze and is likely to be from an early rounded jug dating from the mid- to late 12th century. A recessed jug base from pit GP46 is typically found on baluster jugs with early to mid-13th-century Rouen-style decoration (*e.g.* Pearce *et al*. 1985, fig. 62) and is therefore slightly later.

Sherds of Scarborough Ware phase I, made at Scarborough on the Yorkshire coast and traded from the period *c*.1200 to *c*.1225, are present in similar quantities to that of Hedingham Ware and London-type ware and all examples were found in ditch GP49, pit GP59 and quarry pit GP65, all in area M1. The retrieved sherds comprise a rod handle, circular in section, which is ribbed and shows a mottled-green glaze, with the rest consisting of body sherds with either a green or yellow glaze.

Only one sherd of Mill Green Ware (from pit GP72) was present in Phase 4.1 features. Mill Green Ware is the second local Essex fine ware, made at Mill Green, near Ingatestone and at other production centres in south Essex. It is slightly later than Hedingham Ware, production spanning the mid-13th to 14th centuries. The sherd is abraded and shows a slip-coating although no glaze remains.

Examples of an unidentified wheel-thrown, silty medieval fine ware fabric with fine quartz and sparse calcareous inclusions occur in pit GP46, ditch GP49 and quarry pit GP65, all in area M1. They have a buff or creamy-orange fabric and show a distinct dark grey core, paler margins and often a thick white slip-coating. This ware has been divided into two fabrics (unidentified fabrics 1 and 2); fabric 2 is somewhat harder, but otherwise they are similar. No rims or handles are present to aid identification and all pieces are too fragmented to merit illustration. Featured sherds include a rather abraded body sherd (in unidentified fabric 1) from pit GP46 showing applied vertical white slip stripes over a white slip-coating and a pale buttery yellow glaze. There are also fragments from a thumbed jug base showing a thick white slip-coating under a dark green glaze that extends to the underside of the base (in unidentified fabric 2) from ditch GP49 and quarry pit GP65 with a sherd linkage also with GP65. The sherd of unidentified fabric 2 found in enclosure ditch GP104 (area M2) comprises a rather abraded sagging jug base, thumbed in groups, and showing a thin slip-coating, the slip also covering the underside of the base. It has a creamy-orange fabric, thick dark grey core and thin buff inner margin.

The sherds with unidentified fabrics do not appear to be overseas imports, and are almost certainly English wares traded along the coast. It was thought that these wares may have originated in Kent, as Brightlingsea was a limb of the Cinque Port of Sandwich, but this possibility has been discounted (John Cotter, pers. comm.). It has been suggested that fabric 2 is from Yorkshire, possibly Brandsby ware. This is a strong possibility as Yorkshire wares, other than the more ubiquitous Scarborough Ware, also occur at the nearby port of Colchester (Cotter 2000, 75).

Much more readily identifiable are examples of Saintonge Ware, a very fine high quality white ware made at Saintonge in south-west France. Seven sherds are present in total, six of which are from a polychrome jug, from ditch GP49, showing green and yellow decoration outlined in brown. The seventh sherd occurred in adjacent ditch GP42; it shows a patch of

jade-green glaze and may also be an example of Saintonge polychrome ware, which most likely dates to *c*.1300. Given the proximity of the features it may be from the same jug.

Sandy orange and Colchester-type ware

Sandy orange ware describes any locally made sand-tempered oxidised ware, but the bulk of this material has been identified as Colchester-type ware, made at several production centres in and around Colchester from the beginning of the 13th century until the mid-16th. Because of the relatively coarse sand tempering, this ware cannot be described as a fine ware, but glazed and decorated jugs not unlike those in the fine wares were made during the 13th to 14th centuries, with a wider range of vessels made in the later medieval period, albeit plainer and with less use of glaze. Sandy orange ware and Colchester-type ware make up a large proportion of the Phase 4.1 assemblage, accounting for 20% of the total, with Colchester-type ware comprising 65% of the total sandy orange ware.

During Phase 4.1, no Colchester-type ware and only a little sandy orange ware were present in area M2, where finds comprise 13th- to 14th-century sherds including examples from slip-coated and green-glazed jugs imitating Mill Green Ware (found in pit GP146 and ditch GP162). Most of the Colchester-type ware in area M1 comes from a cluster of pits, GP59, GP62, and GP65, with finds also in pit GP79. Sandy orange ware has a similar distribution but with the addition of finds in ditch GP75 and possible hearth GP78.

Jugs are the only form identified in Colchester-type ware. Finds include an inturned jug rim with a strap handle from a conical or baluster jug, the lower handle attachment from a second jug and a continuously thumbed base from a baluster jug (*cf*. Cotter 2000, figs 71–74). With the exception of the jug base, all show a white slip-coating under a mottled green glaze and all fragments (as with the sandy orange ware in area M2) appear to be copies of Mill Green jugs of the later 13th to 14th century, in terms of both vessel form and surface treatment. The lower handle attachment also shows combed decoration, another Mill Green characteristic. A possible jug rim with slipped decoration occurs in sandy orange ware. Also present in sandy orange ware is part of a handled jar with an everted rim and rod handle, oval in section. The angle of the handle suggests this is from a cauldron, a cooking vessel with two opposed loop handles, and patches of fire-blackening on the external surface show that it has indeed been heated. Similar vessels occur elsewhere in Colchester-type ware and are datable to the 14th century (*cf.* Cotter 2000, fig. 89.107–108). Plain base sherds in sandy orange ware with a glaze inside the base are also likely to be from jar forms.

Non-local jar forms

There are five jar fragments in four different traded or overseas wares that merit a separate description. The first is a jar in a non-local coarse ware fabric (Fig. 8.3); this was the only vessel in this category to occur in area M1 and the only find in east-west ditch GP112. It is not dissimilar to local medieval coarse ware but has a rather silty fabric and relatively thin walls. It is not Low Countries greyware (Lyn Blackmore, pers. comm.) and neither is the fabric consistent with that of Hollesley Ware. However, its presence is most likely the result of coastal trade from a neighbouring county. The jar has an angular squared rim (sub-form B4) and a raised cordon below the neck. The B4 rim is datable to *c*.1200 according to Cunningham's typology, but as this vessel is not local such dating may not apply and a wider date range of late 12th to later 13th century is suggested. The vessel is not fully wheel-thrown, precluding a 14th-century date. Fire-blackening on the sides shows that the vessel was heated.

Three of the non-local jars occurred in ditch GP49, in area M1. Finds comprise part of a handled jar (probably a double-handled jar) in an unglazed oxidised coarse ware fabric tempered with iron-oxide inclusions (Fig. 8.4). The handle is distinctive because it shows three thumb impressions at the lower handle attachment. A second handle in this fabric shows a single thumb mark at the lower handle attachment and must be from a different vessel. It may be a horizontal handle. In spite of the iron oxide tempering, these jars appear to be Dutch, No. 4 showing the typical loop handle that rises above the level of the rim. The shouldered shape and thickened everted rim can be paralleled by jars made at Utrecht around 1400 (Bruijn 1979, fig. 46.11; fig. 47.11–14). Fire-blackening around the sides of the vessel show that it has been heated.

The third non-local jar from ditch GP49 (Fig. 8.5) shows an everted rim in an unidentified oxidised silty fabric with a very distinct dark grey core similar to that of unidentified fabrics 1 and 2; it may therefore have a similar origin. This fabric has been classified as unidentified fabric 3. Unlike jars Nos 3 and 4, there are no signs of heating but a fragment of base from this vessel, also illustrated, shows a drilled post-firing hole, so perhaps this vessel was modified for use as a strainer or similar vessel.

Joining body sherds in Kingston-type ware, part of the Surrey White Ware industry, most likely belong to a jar and were found in quarry pit GP65. Since most of this vessel was found in a Phase 4.2 feature it is described in the next section.

Pottery from Phase 4.2

Phase 4.2 features produced a slightly smaller assemblage than that of Phase 4.1, comprising 420 sherds with a total weight of 5,424g and an average sherd weight of 15g. Phase 4.2 very much represents a continuum with no significant reorganisation of the layout of the site and this is very much reflected by the pottery assemblage. Table 1 shows that much the same range of wares is present in Phase 4.2 as in the previous phase, with the addition of small quantities of later wares.

As with Phase 4.1, the bulk of the pottery comes from area M1, comprising 63% of the total Phase 4.2 assemblage. Unlike the earlier phase, however, where the pottery was distributed across a large number of features, the bulk of the assemblage is confined to two features: quarry pit GP66 (area M1) producing 43% of the total Phase 4.2 assemblage, and quarry pit GP135 (area M2) producing 31% of the total. Both pits cut Phase 4.1 features and many of their fills contained pottery that appears to have derived from these earlier features.

Quarry pit GP135 produced pottery spanning the 12th to 15th centuries, the earliest being an early medieval ware with grog sagging base sherd datable to the beginning of Phase 4.1. Similarly, quarry pit GP66 produced pottery spanning the early to mid-13th to 15th centuries. Since there are no discrete and closely datable groups, the Phase 4.2 pottery is considered by ware rather than by individual features.

Medieval coarse ware

Coarse ware forms the major component of the Phase 4.2 assemblage accounting for 52% of the total, which is only a slightly smaller proportion than in the previous phase. Much the same range of cooking-pot rims is present in this phase as in the previous phase, with types spanning the early/mid-13th to 14th centuries found in both areas of medieval occupation. The complete profile of a cooking-pot from quarry pit GP135 is illustrated (Fig. 8.6). Again, there is a possible storage jar (or large cooking-pot), thick-walled, with a down-turned flanged rim and decorated with thumbed applied strips (from ditch GP68 in area M1). A single bowl is present, again from quarry pit GP135 (Fig. 8.7). It is unlike the bowl from the earlier phase (Fig. 8.2) as it is much smaller and possesses a rounded profile and hollowed everted rim. Like No. 2 it has been subject to heating, but not intensely so. There are single examples of a medieval coarse ware flat-topped jug rim and an inturned jug rim, as found in the previous phase. Part of a bunghole from a medieval coarse ware cistern (in quarry pit GP66) represents a form not found in Phase 4.1, and is datable to the 14th century.

There is a single sherd of non-local medieval coarse ware in pit GP56. It is neither Hollesley Ware nor Low Countries greyware and is not sufficiently distinctive to identify the source of manufacture. One further sherd of non-local medieval coarse ware is present, a body sherd showing incised lines on the internal surface from ditch GP137; this could be an example of Low Countries greyware but is not sufficiently distinctive for a positive identification. Other coarse wares comprise single sherds of Low Countries redware and unidentified ware No. 3, but these almost certainly belong to jar Nos 4 and 5 respectively, and are therefore residual in this phase.

Kingston-type ware becomes more common in Phase 4.2 and there are also sherds of Surrey White Ware that are not sufficiently distinctive to assign to a specific industry. The only vessel form present is a flanged jar rim (sherds from which have already been encountered in Phase 4.1 features) with an internal thickening to the rim and showing splashes and streaks of green glaze on the internal surface. Although identified as Kingston-type ware the vessel is most closely paralleled by a jar in coarse border ware, another Surrey White Ware industry (Pearce and Vince 1988, fig. 114.469; fig. 115.475), and is datable to the later 14th century, towards the end of Kingston-type ware production.

Medieval fine ware

A small assemblage of medieval fine ware was recovered, all from quarry pit GP66 unless otherwise stated. Many sherds appear to have been residual from Phase 4.1, including single sherds of Scarborough Ware phase I, Mill Green Ware and unidentified ware no.1. The sherd of Mill Green Ware shows the slip-coating and mottled-green glaze typical of this ware and much imitated in the sandy orange ware and Colchester-type ware from this excavation. Several sherds of Hedingham fine ware are present, including a strap handle from ditch GP137, thickened at the edges and showing a greenish glaze, as found on early style jugs of the mid-12th to earlier 13th century.

A single example of Scarborough Ware phase II, comprising a green-glazed body sherd showing a band of incised lines (traded during the period *c.*1225–1350) is a pottery type that was not represented in the Phase 4.1 assemblage.

There is a sherd of green-glazed unidentified fine white ware showing a white external surface, pale grey core and white internal surface. As well as fine sand inclusions, there are lenses of white clay.

Three buff ware sherds showing a partial olive-green glaze were found in quarry pit GP135. Their fabric and general appearance are consistent with buff wares produced in Suffolk and, like the coarse ware sherd found in Phase 4.1, are likely to be a product of the Hollesley Ware industry (described by Anderson 2013); this would indicate a later 13th- to 14th-century date. A second buff ware sherd, from pit/gully GP45, has rilled surfaces and is unglazed apart from a splash of yellow glaze. Its fabric is rather Hedingham-like and it may be a late medieval product of this industry, perhaps dating to the 14th to 15th century (Walker 2012, 7, 133).

Sandy orange ware, Colchester-type ware and late medieval pottery

The proportion of sandy orange ware and Colchester Ware is increased in Phase 4.2, comprising 40% of the assemblage, although a lower proportion has been identified as Colchester-type ware. The sandy orange ware and Colchester-type ware in area M2 is confined to quarry pit GP135 and makes up only a small proportion of these wares. In addition, there are no definite late medieval forms in this feature; finds in sandy orange ware include slipped and glaze jug fragments, which are unlikely to be later than the 14th century.

The most interesting find in Colchester-type ware in quarry pit GP135 is the flanged end of a 'chimney pot' showing a column of thumbing. So-called 'chimney pots' are not uncommon on medieval farmstead sites (for example Springfield, Chelmsford; Walker 1999, fig. 3.7.13–17), even though medieval dwellings did not have chimneys (just a central hearth with smoke escaping through the roof). It is likely that these vessels served as ventilators of some kind, or as flues for ovens. Another find from quarry pit GP135 is a fragment from a large unglazed rounded vessel in Colchester-type ware; it is likely to be a jar and could be as late as the later 14th century.

Finds of Colchester-type ware and sandy orange ware in area M1 include fragments from jugs and large jugs/cisterns, which are sometimes slip-painted (the presence of a single bunghole indicates at least one definite cistern). There are also rounded jars with H3 rims, small jars and the tripod base from a pipkin. Most of the jugs are rather fragmented but one jug in Colchester-type ware merits illustration (Fig. 8.8). It is not paralleled by Cotter (2000) but can be assigned an approximate date by its surface treatment; it has an all over slip-coating as found on medieval jugs, but the glaze is confined to a 'bib' of glaze opposite the handle and the glaze is a plain lead glaze, appearing yellow over the white slip-coating. This surface treatment is found on Colchester-type ware 'Cheam copy' jugs of the period *c.*1375–1450 (Cotter 2000, fig. 80). Found in the same deposit as the jug is a semi-complete small cooking-pot-shaped jar with a shouldered profile (Fig. 8.9). The pot shows signs of quite intense heating (see catalogue entry). A zone of sooting around the outer edge of the rim may indicate that the vessel was heated with a lid in position that

was not quite wide enough to fit the outer edge of the pot. Small vessels, though more often pipkins rather than small jars, often show signs of heating (Cotter 2000, 143) and may have served some sort of specialised cooking purpose or other household purpose requiring heating. A sherd of non-local sandy orange ware (from ditch GP81), probably dating to the late medieval period, is present and is described further in the archive.

A handful of sherds in other fabrics, all from quarry pit GP66 can be assigned a late medieval date, comprising sherds from a 'Tudor green' ware lobed cup, body sherds of Siegburg Stoneware and a frilled base from a Langerwehe Stoneware jug (both stonewares are from Rhineland Germany). All of these were current from the early to mid-15th century. The upper fill of GP66 has been dated by a sherd of early post-medieval red earthenware to the 16th century, although this may be intrusive. A sherd of post-medieval red earthenware with an all over glaze in ditch GP86 spans the late 16th to 19th centuries and is definitely intrusive in this feature.

Unphased and intrusive medieval pottery

A significant quantity of pottery, 173 sherds weighing 1,681g, was recovered from deposits that could not be phased (for example, where stratigraphic relationships were uncertain), or was clearly intrusive in earlier features (Table 1). Apart from a single sherd this unphased pottery is medieval, similar to that found in Phases 4.1 and 4.2, and a number of sherds of intrinsic interest are described below.

The earliest is a sherd of North French white ware dating from the late 12th to mid-13th century (intrusive in prehistoric ditch GP29). It is a thin-walled green-glazed sherd from the shoulder of a jug; it shows the remains of an applied pad, possibly a simple flower as two lobe shapes are visible.

Another unusual find (from prehistoric ditch GP25) is a recessed base in extremely micaceous grey-brown fabric showing large flakes of mica. This has been identified as Merida Ware from the area of Merida in Spain and is probably from a standing costrel (*cf.* Hurst *et al.* 1986, fig. 32.90). This is a medieval type dating from the 13th century.

Belonging to the later medieval period is the tripod base from a Surrey White Ware pipkin with a pale greenish internal glaze (from subsoil GP136). It has been identified as Kingston-type ware and probably dates to the late 13th to 14th centuries.

Three late medieval vessels in sandy orange ware and Colchester-type ware, all intrusive in prehistoric ditch GP25, are contemporary with those belonging to the end of Phase 4.2. There is the rim of a small lid in sandy orange ware, which is paralleled in Colchester-type ware (Cotter 2000, fig.104.220) and could easily be 15th century, and a base fragment from a possible dripping dish or bowl in Colchester-type ware, the internal surface showing a slip-painted lattice pattern. A handled jar, also in Colchester-type ware, has an everted rim and a bifid handle; it is unglazed but shows a coating of slip around the inside of the rim. It may be from a cauldron and is comparable to an example found in Colchester (*cf.* Cotter 2000, fig. 89.106) and may date to the later 15th century, slightly post-dating the finds from Phase 4.2.

Pottery from Period 5

Very little pottery was recovered from Period 5 features, a total of fifty-nine sherds weighing 1,144g. A large proportion of this (46%) consists of residual medieval coarse ware and sandy orange ware. Pottery current in this period comprises post-medieval red earthenware, Frechen Stoneware, Westerwald Stoneware (both types of German stoneware), English tin-glazed earthenware and creamware, mostly recovered from post-medieval field boundary ditches GP116, GP117 and GP118. The exception is a thin-walled sherd of post-medieval red earthenware, which could be as early as the 16th century, found in a localised soil deposit of uncertain origin (GP71) in area M1. In addition, there is an unidentified sherd (from post-medieval boundary ditch GP80) which is in a very hard, unglazed, creamy orange fabric with smooth surfaces; this might be from a Martincamp flask made in northern France and dating from the 16th to 17th century.

The only vessel form in post-medieval red earthenware is part of a jug with an upright rim, cylindrical neck and a bifid handle showing an all over lustrous brown glaze. There is a horizontal groove beneath the rim. This appears to be of Harlow type and is datable to the later 17th century (Davey and Walker 2009, fig. 73.425). A Frechen Stoneware jug in a 'blond' version of this fabric shows a double cordon around the rim and a 'rat's tail' handle and most likely dates to the mid-to late 17th century. One sherd of Westerwald Stoneware is present, showing incised decoration with a cobalt-blue background and dated mid-17th to later 18th century.

The latest pottery comes from boundary ditch GP116 and includes part of a low-quality tin-glazed earthenware plate showing very simple blue-painted geometric border. The pattern is similar to plates manufactured in London, although an exact parallel has not been identified. A date in the third quarter of the 18th century is suggested. There are two creamware plates from the same feature; one has a scalloped edge and a buttery-coloured glaze and most likely dates to the mid- to late 18th century. A small sherd of modern stoneware in this ditch is likely to have been intrusive.

From the above, it can be seen that Period 5 spans the mid-17th to late 18th centuries.

Catalogue of illustrated pottery (Fig. 8)

1. Cooking-pot: medieval coarse ware; grey core and red-brown surfaces, and therefore borderline early medieval ware; rim and shouldered profile are illustrated but non-joining sherds from the lower sides and base are also present; coil-built; sides are fire-blackened with a large patch of heavy soot encrustation; slight fire-blackening on rim edge; abraded; probably earlier 13th century. Pit fill 1512 (GP123); Period 4.1
2. Carinated bowl: medieval coarse ware; grey core, orange margins and red-brown surfaces, borderline early medieval ware; fire-blackened around sides and edge of rim, most of the internal surface is abraded and the external surface is heavily spalled and pitted indicating it has been subjected to intense heat; no visible residue. Ditch/gully fill 1058 (GP76); Period 4.1
3. Jar rim, possibly a pipkin: non-local medieval coarse ware; patchy surface colour ranging from red-brown to grey; pale grey core and very dark grey internal surface probably from fire-blackening rather than reduction in the kiln; fire-blackening also around rim edge; body sherds from this vessel are present but not illustrated. Ditch fill 1380 (GP112); Period 4.1
4. Handled jar: Low Countries redware; orange external surface and margin; pale grey internal margin and buff internal surface; tempered with large iron oxides up to 3mm across, some protruding through the surface; wheel-thrown; unglazed, fire-blackened on sides up to lower handle attachment. Ditch 1626 (GP49); Period 4.1

5a and b. Jar: Unidentified ware 3; sandy fabric with creamy-orange surfaces, thick dark grey core and off-white external margin; wheel-thrown; abraded; sherd a) is the rim and although abraded appears to show a thin

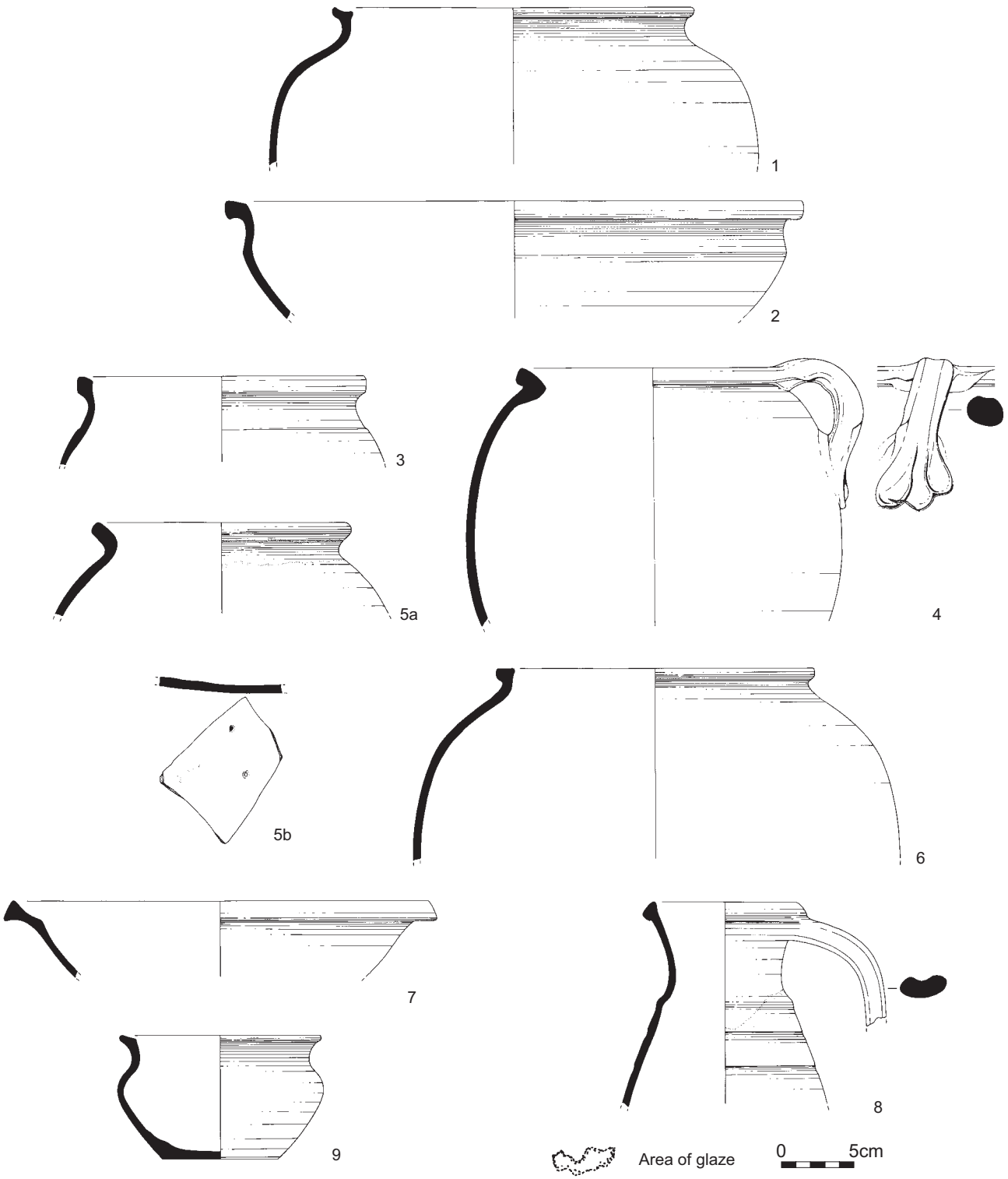


FIGURE 8: Medieval pottery

greenish glaze around the shoulder and rim edge; no signs of heating. Sherd b) is from the base of this vessel and shows a small post-firing hole drilled through the base, a second smaller hole does not go all the way through; spots of glaze on underside of base. Ditch fill 1647 (GP49); Period 4.1

6. Cooking-pot: medieval coarse ware; external surface colour ranging from red-brown to pale grey; red-brown external surface and grey core, coil-built; borderline early medieval ware; patches of sooting and fire-blackening on sides and around edge of rim; faint zone of fire-blackening internally around middle of pot; remains of post-firing hole below rim, but this could have been made in antiquity after breakage. Quarry fill 1580 (GP135); Period 4.2
7. Bowl: medieval coarse ware; grey-firing with patches of red-brown; abraded but showing traces of fire-blackening around the inside edge of the rim. Quarry fill 1580 (GP135); Period 4.2
8. Jug: Colchester-type ware; uniform orange fabric; white slip-coating, large bib of yellow glaze opposite the handle. Quarry fill 1464 (GP66); Period 4.2
9. Small jar: sandy orange ware; dull orange fabric; externally fire-blackened including on the underside of the base; encrustations of sooting also on the sides; zone of fire-blackening around the outside edge of the rim flange; internal surface shows patches of a white encrustation and further patches of sooting in a zone around the middle of the pot. Quarry fill 1464 (GP66); Period 4.2

Discussion of the medieval pottery

A small amount of early medieval pottery from area M2 (mostly residual in later features) suggests that there might have been activity in the western part of the site from the 12th century. Similar wares were not found in area M1, but the presence of a B4 cooking-pot rim and early style Hedingham and London-type wares indicate that occupation in the north-eastern part of the site began in the late 12th century.

In area M2 activity seems to have ceased by the late 14th century, but in area M1, there is evidence of late medieval occupation up to the mid-15th century or perhaps a little later. This suggests that the settlement survived the climatic deterioration of the late 13th century followed by the Black Death (in 1348) and subsequent economic changes.

There is no evidence of continuing occupation into the 16th century, although the final infilling of quarry pit GP66 probably did not take place until then. Post-medieval pottery (mid-17th to late 18th century) was found only in field boundary ditches, suggesting that by this time the vicinity of the site was wholly given over to agriculture.

The local medieval fine wares of Hedingham Ware and Mill Green Ware are poorly represented, especially the latter, and this may be explained by the geographical isolation of the Brightlingsea peninsula. The Hedingham Ware may have been traded via Colchester along the River Colne, but there is no such easy route for the transport of Mill Green Ware and it appears that its niche was filled by the more local sandy orange ware and Colchester-type ware, hence the imitations of Mill Green Ware jugs in these fabrics. The fact that both early and later types of Hedingham Ware jugs are present shows that it was traded throughout the lifetime of this industry.

Traded wares and overseas imports occur frequently. London-type ware and Surrey white wares (including 'Tudor Green' ware) were probably transported via the River Thames and thence along the coast. For the Surrey white wares, the usual pattern is for glazed jugs to be the norm inland, with kitchen wares more common at sites along the greater Thames estuary, as for example at Great Garlands Farm, at Stanford-le-Hope (Walker 2005, fig. 7.3). On this coastal site, the presence of jars and a pipkin (but no jugs) in Surrey white ware implies a similar pattern of distribution. The Suffolk buff ware, Hollesley-type coarse ware, Scarborough Ware and, potentially, unidentified fabrics 1, 2 and 3 would have been traded down the North Sea coast. The earliest traded ware is London-type ware, current at the end of the 12th century when occupation commenced in area M1.

Most of the overseas wares come from northern Europe, comprising the North French white ware (the earliest import, potentially of late 12th-century date), Low Countries redware and the later German stonewares. Saintonge Ware is from south-western France, while the Merida Ware comes from southern Europe.

The pottery assemblage from this site is similar to that from other coastal towns and ports in Essex, in that there is a wide variety of traded wares and overseas imports but they make up only a small proportion of the total. For example, this has found to be the case at the nearby ports of Colchester (Cotter 2000, 354–5) and Maldon (Carew *et al.* 2011; Medlycott 1999, 12–13; Walker 2015 and forthcoming). However, at Brightlingsea there are more traded wares than is usual, and some of the traded wares (the unidentified fabrics) are not typical finds at Essex ports. This may reflect the fact that Brightlingsea is a limb of the Cinque Port of Sandwich and that coastal trade was more important than overseas trade. It might also have been related to the fishing industry (John Cotter, pers. comm.).

The relatively small proportion of overseas imports and non-local English wares shows that long distance trade did not add significantly to the pottery assemblage used at this site; the Saintonge Ware jugs were imported in association with the Gascon wine trade while other pots may have been brought in as containers for imported foodstuffs, hence the presence of the coarse ware jars (Fig. 8.3–5). It is interesting to note, however, that these jars have been heated, or in the case of No. 5 modified for use as a possible strainer. While the medieval consumer may have liked to buy decorative jugs, such as those in Scarborough Ware and Saintonge Ware for ornament, they may not have wanted to use foreign vessels for cooking as these would have had different refractory properties. This raises the possibility that foreigners or people from other English ports were living at this site, having brought their own cooking vessels with them. However, there is no non-pottery evidence to corroborate this. Most imports/traded wares occur in area M1, but there are a few from area M2, including the non-local medieval coarse ware cooking-pot and the jug base in unidentified fabric 2.

Imports/traded wares aside, the medieval assemblage is typical of almost any site, comprising mainly medieval coarse ware cooking-pots with a much smaller number of jugs, bowls and storage jars together with a few fine ware jugs. Most of the late medieval assemblage is also typical, being dominated by a variety of sandy orange ware vessel forms. There is no evidence to suggest any kind of specialised function and the assemblage appears entirely domestic. The bowl in Phase 4.1 (No. 2) and the small jar in Phase 4.2 (No. 9) have been subject to intense heat, but there is nothing to suggest their function is other than domestic, as there were a large number of domestic functions other than cooking that required heating, for example making soap, medicinal preparations and preserving foodstuffs.

DISCUSSION OF THE MEDIEVAL SETTLEMENT EVIDENCE

The excavation identified two distinct foci of medieval settlement (Period 4), probably isolated dwellings or farmsteads, located within an extensive field system. Occupation in both areas probably began in the late 12th or early 13th century and (in area M1) continued until at least the mid-15th century. Some degree of replacement and development can be discerned in the occupation-related remains and associated field boundaries. The essence of the medieval field system continued to dictate the pattern of land enclosure until the late 18th or early 19th century.

Settlement evidence related mainly to gravel extraction and refuse disposal, and associated finds assemblages are largely of a domestic nature reflecting food preparation and consumption. The medieval pottery assemblage is fairly typical of coastal towns and ports in Essex, although there is a slightly higher proportion of traded wares, which might reflect the enhanced status of Brightlingsea as a corporate limb of the Cinque Port of Sandwich.

There was no evidence for buildings or structures in area M1, but these were probably located to the north of the

excavated area. In area M2 there was at least one small timber structure of uncertain function (but presumably too small and insubstantial to have been a dwelling) and some small ditched enclosures that might have been 'house platforms', although there is no supporting evidence for this (such as post-holes or hearths) and other interpretations are possible. Brick and flint rubble from post-medieval ditches in the western part of the site provide indirect evidence for the presence of a substantial late medieval/Tudor building close to area M2, outside the excavated area.

Area M1 was presumably part of a roadside settlement, being adjacent to the Back Road (modern Robinson Road). It is possible that occupation here was associated with the medieval property *Brockmans*, thought to have been located in the vicinity of the current site (see Archaeological and Historical Background).

The western focus of occupation (area M2) was located approximately 100m south of the Back Road and was therefore not obviously a roadside settlement. However, it was close to a footpath (defining the western boundary of the current site) which has existed since at least the late 19th century and might have had much earlier origins. The footpath was part of a series of connecting tracks leading from Hurst Green (at the east end of Brightlingsea town) to Marsh Farm (formerly *Jewers*) and thence to a bridge over a creek and into the neighbouring parish of Thorrington.

The ditches defining the eastern extent of medieval occupation in area M2 were parallel with the footpath, and this reinforces the suggestion that the modern footpath had ancient origins. It is noted also that medieval ditch GP98 (and its post-medieval replacement GP116) continued the alignment of a field boundary and track shown on the first edition Ordnance Survey map (*c.*1870) to the north of Robinson Road; the same boundary was shown also on the tithe map of 1841 and might have been much older.

Most of the occupation-related remains in area M2 were clustered near a wide (*c.*20m) gap in the associated boundary ditch, but the significance of this is unclear.

Fields associated with the medieval settlements seem to have been large and enclosed. The open space to the rear of area M1 (bounded to the west by ditch GP42) measured at least 100m north-to-south by 35m east-to-west and there was no apparent sub-division of that area, unless by means of hedgerows or flimsy fences that have left no archaeological trace. The extensive space between areas M1 and M2 is assumed to have been a single large field approximately 75m wide east-to-west; this was comparable to the width of Field I (80m) at the well-documented 12th- to-14th century farm site at Stebbingford (Medlycott 1996, 169).

There is no evidence for the type of agriculture being practised on this site and few environmental remains were recovered (generally these were poorly preserved) that indicate what crops were being grown in the immediate vicinity. In particular no cereal chaff is identified, suggesting that cereals were not being processed on the site. Only small amounts of common crop weed seeds were found, providing no significant information on the local environment. However, the medieval charcoal assemblage includes tree species common to hedgerow and woodland margins, such as elm, holly and the Maloideae subfamily (which includes hawthorn, rowan, service and whitebeam); this hints at the exploitation of a managed landscape that included hedges and areas of woodland.

The animal bone assemblage is small and poorly preserved (sixty-three fragments, of which thirty-five can be identified to species). Cattle bones are most common, with some sheep/goat and pig. Most of the bones came from the lower fill of quarry pit GP66 (Phase 4.2), and included both meat-bearing and non-meat-bearing bones. Four of them display evidence of butchery including cut marks on a rib and a cattle tibia and a heavy chop-mark on the proximal end of a large-mammal femur. It is likely that the assemblage derives from local consumption; there is nothing to suggest livestock production on the site.

Not surprisingly, given the well-documented importance of the local oyster trade, these shells dominated the mollusc assemblage. However, most of the valves are small (infant to young adult), suggesting that oysters were not a primary food source.

Of particular interest is the fact that occupation of this site, especially in area M1, continued without apparent interruption into the 15th century or later. This is in contrast to many other rural settlements in Essex (and the wider East Anglian region) that were abandoned during the 14th century. The reasons that have been proposed for such abandonment include famine and poor weather during the period 1315–22 (Astill and Grant 1988), the outbreak of the Black Death in 1349 (Poos 1991) and the social and economic effects of the Peasant's Revolt of 1381.

The most recent synthesis of evidence for medieval rural settlement in Essex (Gascoyne and Medlycott 2012) describes nineteen settlement sites of low or middle-status (comparable to the nature of occupation at Robinson Road), most of which were abandoned in the 13th or 14th centuries; to this list can be added an occupation site at Langford Lodge, St Osyth, which was probably abandoned in the later 13th century (Wade and Havis 2008, 54). An enclosed, multi-phase settlement at Bradwell Quarry (Area A2, Site C), near Braintree, was occupied in the 13th–14th century, after which the site was used mainly for quarrying and the creation of a pond (Germany 2016, 14–17).

A few settlements of low or middle status saw continuous occupation into the late medieval or post-medieval period: these include Lofts Farm, near Heybridge, where a moated house of *c.*1300 was extended in the 16th or 17th century (Wallis and Waughman 1998, 232) and the Shotgate Farm site, Rawreth, where a medieval farmstead continued into the 16th century (Dale *et al*. 2005, 26–28).

The site of a medieval croft in St Osyth (one of Gascoyne and Medlycott's middle-status sites) was occupied from the late 12th–14th century or later. A 15th-century barn or byre on the same site was probably built after the croft went out of use and therefore does not necessarily represent continuous occupation of the site (Germany 2013, 134).

Generally, it was the high-status moated farms and manor houses, such as the excavated examples at North Shoebury, Southchurch Hall, Low Hall and Gutteridge Hall (Gascoyne and Medlycott 2012, 128) that had sufficient resources and resilience to survive the 14th century and continue to thrive in the late medieval and post-medieval periods.

At Bradwell Quarry a 12th-century timber hall and farm (Area A2, Site E) went out of use during the 13th or 14th

century, but the settlement might then have relocated a short distance to nearby Sheepcotes Farm; the present day listed farmhouse was built in the 16th or 17th century (Germany 2016, 60). The Bradwell Quarry (Area 2) site also has good examples of medieval land use patterns being perpetuated by post-medieval lanes and field boundaries, as has been demonstrated at the Robinson Road site.

It has been suggested that medieval settlement was concentrated around Hurst Green, to the south-west of the Robinson Road site (Tendring District Council 2008, 65). However, much of what is known about medieval Brightlingsea is derived from documentary sources and the study of standing buildings, and only limited archaeological investigation has been carried out in the town and its immediate surroundings. For this reason, the evidence from this site for previously unknown medieval settlement and land use outside of the historic core, together with a large medieval pottery assemblage that demonstrates something of the nature of trade and supply along the Essex coast, is of particular significance.

ACKNOWLEDGEMENTS

The excavation was commissioned by CgMs Consulting on behalf of Hopkins Homes Ltd.

Adrian Gascoyne of ECC Place Services provided advice and monitored the project on behalf of the Local Planning Authority.

The following ASE specialists have contributed information subsumed into this article: Gemma Ayton (animal bone), Luke Barber (worked stone), Isa Benedetti-Whitton (ceramic building material and fired clay), Susan Chandler (ironwork), Anna Doherty (prehistoric and Roman pottery), David Dunkin (molluscs), Karine Le Hégarat (flint), Dawn Elise Mooney, Elke Raemen (glass and clay tobacco pipe), Mariangela Vitolo (environmental remains).

Helen Walker thanks Sue Anderson, Lyn Blackmore and John Cotter for their help in identifying the traded ceramic wares and imports. Illustrations for this article were produced by Andrew Lewsey.

BIBLIOGRAPHY

Anderson, S. 2004, *A medieval moated site at Cedars Field, Stowmarket, Suffolk,* E. Anglian Archaeol. Occ. Pap. 15

Anderson, S. 2013, *Spoilheap pottery gallery – medieval glazed wares: Hollesley-type ware.* Available: http://www.spoilheap.co.uk/pot_gall3.htm (accessed 8 November 2018)

Anderson, S. and Newman, N. 1999, 'An early medieval pottery production site at Bury Hill, Melton, Suffolk', *Medieval Ceramics*, 22–23, 1998–9

Archaeology South-East 2014, *Archaeological Evaluation of Land South of Robinson Road, Brightlingsea, Essex*, unpubl. ASE report No. 2014087 (OASIS ID: 174675)

Archaeology South-East 2015, *Archaeological Excavation at Land at Robinson Road, Brightlingsea, Essex*, unpubl. ASE report No. 2015431 (OASIS ID: 213902)

Astill, G. and Grant, A. 1988, 'The medieval countryside: efficiency, progress and change', in Astill, G. and Grant A. (eds), *The Countryside of Medieval England* (Oxford, Blackwell), 213–233

Bruijn, A. 1979, *Pottersvuren langs de Vecht: Aardewerk rond 1400 uit Utrecht* (Rotterdam papers III)

Carew, T., Clarke, C. and Eddisford, D. 2011, 'Medieval occupation in Maldon, Essex: excavations at 127–127 High Street, 2007', *Essex Archaeol. Hist*., 4th Ser., 2, 107–116

CAT 2014, *More Anglo-Saxon life at Brightlingsea*, The Colchester Archaeological Trust on-line Blog, October 11 2014. Available: http://www.thecolchesterarchaeologist.co.uk/?p=15164 (accessed 8 November 2018)

Clarke, C.P. 1996, *Moverons Pit, Brightlingsea, Essex: Archaeological Evaluation*, unpubl. ECC Field Archaeology Group report

Clarke, C.P. and Lavender, N.J. 2008, *An Early Neolithic ring-ditch and Middle Bronze Age cemetery: excavation and survey at Brightlingsea, Essex*, E. Anglian Archaeol. 126

Cotter, J. 2000, *Post-Roman pottery from excavations in Colchester, 1971–85*, Colchester Archaeol. Rep. 7

Cunningham, C.M. 1985, 'The pottery', in Cunningham, C.M. and Drury, P.J., *Post-medieval sites and their pottery: Moulsham Street, Chelmsford,* Chelmsford Archaeol. Trust Rep. 5, Counc. Brit. Archaeol. Res. Rep. 54, 63–78

Dale, R., Maynard, D. and Compton, J. 2005, 'Archaeology on the mid-Essex clay. Investigations on the A130 by-pass: A12 Chelmsford by-pass to the A127 Southend arterial road, 1991–4 and 1999–2002', *Essex Archaeol. Hist*., 3rd Ser., 36, 10–54

Davey, W. and Walker, H. 2009, *The Harlow Pottery Industries*, MRPG Occ. Pap. 3

Dickin, E.P. 1913, *A history of the town of Brightlingsea, a member of the cinque ports* (Brightlingsea, Barnes)

Drury, P.J. and Petchey, M.R. 1975, 'Medieval potteries at Mile End and Great Horkesley, Essex', *Essex Archaeol. Hist.*, 3rd Ser., 7, 33–60

Drury, P.J., Cunningham, C.M., Kilmurry, K. and Walker, J.S.F. 1993, 'The later Saxon, medieval and post-medieval pottery', in Rodwell, W.J. and Rodwell, K.A., *Rivenhall: Investigations of a villa, church and village, 1950–1977,* Chelmsford Archaeol. Trust Rep. 4.2. Counc Brit. Archaeol. Rep. 80, 78–95

Egan, G. and Pritchard, F. 2000, *Dress Accessories 1150–1450* (Museum of London)

Gascoyne, A. and Medlycott, M. 2012, '"The English Goshen": the archaeology of the medieval and earlier post-medieval landscape', *Essex Archaeol. Hist.,* 4th Ser., 3, 123–40

Germany, M. 2013, 'A Medieval croft at Lodge Farm, St Osyth', *Essex Archaeol. Hist*., 4th Ser., 4, 109–35

Germany, M. 2016, *Area A2 Bradwell Quarry, Bradwell-juxta-Coggeshall, Essex: Post-excavation assessment and updated project design*, unpubl. ASE report 2016210, OASIS ref: 252167

Goodall, I.H. 2011, *Ironwork in Medieval Britain, an Archaeological Study,* Soc. Med. Archaeol. Monogr. 31

Hurst, J.G., Neal, D.S. and Beuningen, H.J. 1986, *Pottery Produced and Traded in North-West Europe 1350–1650* (Rotterdam Papers VI)

Kemble, J. 2015, *The Place-names of Brightlingsea*, Essex Place-names Project (Essex Society for Archaeology and History)

Medlycott, M. 1996, 'A medieval farm and its landscape: excavations at Stebbingford, Felsted 1993', *Essex Archaeol. Hist*., 3rd Ser., 27, 102–81

Medlycott, M. 1999, *Historic Towns Assessment Report,* unpubl. Essex County Council Archaeology Section Internal Report

McComish, J.M. 2015, *A guide to ceramic building material,* Available: http:// www.yorkarchaeology.co.uk/resources/publications/insight-reports (accessed 8 November 2018), (York Archaeological Trust)

MPRG, 1998, *A Guide to the Classification of Medieval Ceramic forms,* Medieval Pottery Research Group Occ. Pap. 1

Pearce, J.E., Vince, A.G. and Jenner, M.A. 1985, *A Dated Type Series of London Medieval Pottery Part 2: London-type ware*, Trans. London Middlesex Archaeol. Soc. Special Pap. 6

Pearce, J.E. and Vince, A.G. 1988, *A Dated Type-Series of London Medieval Pottery Part 4: Surrey Whitewares,* Trans. London Middlesex Archaeol. Soc. Special Pap. 10

Poos, L.R. 1991, *A rural society after the Black Death: Essex 1350–1525*, Cambridge Studies in Population, Economy and Society, in Past Time 18 (Cambridge Univ. Press)

Tendring District Council. 2008, *Tendring District Historic Environment Characterisation Project*

Wade, A. and Havis, R. 2008, 'The archaeology of the A133 Little Clacton to Weeley by-pass', *Essex Archaeol. Hist*., 3rd Ser., 39, 10–56

Walker, H. 1995, 'The medieval and post-medieval pottery', in Wymer, J.J. and Brown, N.R., *North Shoebury: Settlement and Economy in South-east Essex 1500BC– AD1500,* E. Anglian Archaeol. Rep. 75, 102–24

Walker, H. 1999, 'Medieval pottery', in Lavender, N.J., 'Bronze Age and medieval sites at Springfield, Chelmsford: excavations near the A12 Boreham Interchange, 1993', *Essex Archaeol. Hist*., 3rd Ser., 30, 29–36

Walker, H. 2005, 'Medieval and post-medieval pottery', in Dale, R. and Peachy, M., 'A late medieval site at Great Garlands Farm, Stanford-Le-Hope, and other archaeological work on the Coryton to Mucking pipeline, Essex', *Essex Archaeol. Hist*., 3rd Ser., 36, 137–143

Walker, H. 2012, *Hedingham Ware: a medieval pottery industry in north Essex; its production and distribution*, E. Anglian Archaeol. 148

Walker, H. 2015, 'The medieval and later pottery', in Ennis, T., 'Late Saxon and Medieval Occupation at the Former Bus Station, 148–152 High Street, Maldon: Excavations 1999', *Essex Archaeol. Hist*., 4th Ser., 6, 289–311

Walker, H. Forthcoming, 'The pottery' in Harding, C., 'Excavations at the former Chequer's Pub, High Street, Maldon', *Essex Archaeol. Hist*., 4th Ser.

Wallis, S. and Waughman, M. 1998, *Archaeology and Landscape in the Lower Blackwater Valley*, E. Anglian Archaeol. 82

A tale of two head-stops: the military and marital careers of Sir Edmund de Duresme of Ashdon

Nigel Saul

A notable feature of the south chapel of Ashdon church is the pair of headstops high on the east wall, carved with the busts, on the north side, of an armed man holding a shield and, on the side opposite, of a lady holding the same. On the evidence of the charges on the shields, the figures have been identified as those of members of the Duresme family, and it is suggested here that the male figure is that of Sir Edmund de Duresme, who died in 1342. Sir Edmund was an active participant in both the Scottish wars of Edward II and Edward III and the early stages of the French wars which followed, and from sources in the National Archives it can be shown how the recruitment networks that drew him into service originated in the social and neighbourhood networks of north Essex itself. The presence of the two headstops in the south chapel suggests strongly that Sir Edmund was responsible for building that part of the church, perhaps as the setting for a family chantry foundation. The absence from the chapel of any provision for high-status burials, however, points to the possibility that the project was never carried through to completion. If such was the case, then Sir Edmund's complex marital history may provide an explanation why.

High on the east wall of the south chapel of Ashdon church, Essex, at each end of the hoodmould over the east window, is a pair of carved stops, that on the north side taking the form of the bust of an armed man holding a shield (Plate 1), and the one on the south that of a lady, likewise holding a shield (Plate 2). On the evidence of the man's armour, which consists of a pointed bascinet with mail aventail attached, the stops can be dated to the first half of the fourteenth century, perhaps to *c*.1330–40. In the thirteenth and fourteenth centuries finely carved head-stops were widely used as decorative devices at the termination of mouldings both inside and outside buildings. What makes the pair of heads at Ashdon unusual and worthy of our attention is that the charges on the shields are carved in high relief, meaning that they can still be read. On each shield the device is the same, *a cross with five fleur de lys*. This same coat of arms was also found in stained glass in the east window of the south chapel, now lost, but recorded in 1639 by the antiquary Richard Symonds.[1] The two heads have received little attention from historians, yet potentially they are of importance in unlocking the building history of the church.[2] Their presence in the south chapel suggests a connection between the two persons represented and the

PLATE 1: Bust of an armed man (almost certainly Sir Edmund de Duresme) holding a shield, south chapel, Ashdon church (photo: © Martin Stuchfield)

PLATE 2: Bust of a lady holding a shield, south chapel, Ashdon church (photo: © Martin Stuchfield)

construction of that part of the fabric, a large and ambitious fourteenth-century addition to the building almost matching the adjacent chancel in size. It is worth exploring a little the question of who those two persons could be, and how the presence of the carvings is to be accounted for. In the course of considering these questions we will find ourselves examining the career of one of the most prominent members of the Essex gentry of his day, a man with a wealth of military experience to his name, but whose connection with landholding in Ashdon proves remarkably elusive.

The *cross with fleur de lys* coat on the two head-stops was in fact correctly identified by Miss Angela Green in her history of the village published nearly thirty years ago. In an important appendix, in which she examined the antiquarian sources for the heraldic glass in the church, now lost, she attributed the arms to the Duresme family of Southall in Great Dunmow. As she noted, one Sir Edmund de Duresme was listed as a taxpayer in the village in the parliamentary lay subsidy levied in 1327.[3] Today, with the publication of the Medieval Ordinary of the *Dictionary of British Arms*, it is possible both to confirm Miss Green's identification and to trace the contemporary or near-contemporary sources in which the arms are recorded.[4] The arms *argent on a cross gules five fleurs de lys or* are first attributed to the Duresme family in the Parliamentary Roll of *c*.1308, in which they are identified as those of Sir Jolyon de Duresme, who was then head of the family. A generation later, in Cooke's Ordinary of *c*.1340, they are recorded as the arms of Sir Edmund de Duresme, the taxpayer at Ashdon in 1327. In two early sixteenth-century compilations of arms the same blazon is again recorded as belonging to the Duresme family of Essex. Given the likely date of the two heads, *c*.1330–40, it is all but certain that the male figure represented is Sir Edmund de Duresme, who died in 1342.

The appearance of the arms at Ashdon, both in glass and stone, is a matter of some surprise because the Duresmes are not actually recorded as manorial proprietors in the parish in the thirteenth and fourteenth centuries. There were at the time three manors in the settlement, all of them in the hands of other families. The manor of Ashdon itself was held by the Lords FitzWalter, that of Newnham by the Lacys, and that of Waltons by the Wangfords in the thirteenth century and subsequently by their successors, the Wautons.[5] The Duresmes' principal holding lay some fifteen miles to the south at Great Dunmow, where they were lords of the small manor of Southall. In a proof of age taken in 1263, the five-year-old Jolyon de Duresme was recorded as being heir to the estate of Southall on the death of his father, another Sir Jolyon.[6] The Duresmes' background is obscure. They appear to have been a family of London origin who acquired landed interests in Essex around the mid-thirteenth century. In 1241–2 one Thomas de Dunelme (or Duresme) is recorded as sheriff of London, while a decade later a kinsman, William de Dunelme, is recorded in the same office and found serving again in 1267–8.[7] It is by no means clear how or in what degree the London family was related to the family of the same name at Southall, who were already in residence there by the 1260s. The possibility of a connection between the two families is, however, suggested by the clear evidence that the Duresmes of London were proprietors in the county by the 1290s. In 1297 the former sheriff of London, Sir William de Dunelme, was summoned to a meeting of the king's great council as a knight of Hertfordshire and Essex.[8] It may be that the two families were descended from a common ancestor, perhaps a man who was an immigrant from the city or county of Durham, but whose identity is now lost. Such a suggestion, however, is incapable of proof.

Wherever they may have originated, the Duresmes of Southall quickly established themselves as a chivalric lineage with an armigerous identity and a firm commitment to military service. The period in which Sir Jolyon flourished was one in which there was ample opportunity for an ambitious young knight to make his mark in the field, as Edward I's attempts to conquer Scotland led to incessant demands for manpower. From the mid-1290s until the middle of Edward II's reign an army was despatched to the Scottish borders almost every year with varying degrees of success. In 1296 Sir Jolyon took part in a major expedition which resulted in the capture of Berwick, the submission of the Scottish leader, John Balliol, and the removal of the Scottish regalia to Westminster.[9] In 1298 and 1302 he was summoned to serve in the north twice more, although whether he responded in the former year, when Edward scored a major victory at Falkirk, is not certain.[10] There are also indications that he may have served overseas at an earlier stage of his career. In 1291 he named attorneys to look after his affairs while he was abroad, suggesting that he may have helped in the defence of Aquitaine, which was under threat from the French at the time.[11] Two years earlier an Essex knight, Sir John de Havering, had been appointed seneschal of the duchy, and Sir Jolyon may have gone as one of his followers.[12]

The same commitment to military service was to be shown by Sir Jolyon's son and successor, Sir Edmund, who succeeded his father in 1315.[13] In the course of a long career in arms Sir Edmund was to serve not only in Scotland but also on the continent after the opening of the war with France. Sir Edmund may actually have taken up arms in his father's lifetime, as he was already of full age by the time of the latter's death. His first recorded campaign, however, was in 1315, when, not yet knighted, he took part in an expedition led by the Earl of Pembroke which raised the Scottish siege of the castle and town of Carlisle.[14] Four years later, and by now presumably a knight, he was a member of the force led by the king himself which made an unsuccessful attempt to recapture Berwick, after the town had fallen to the Scots following their victory at Bannockburn.[15] Three years after this, he was again with the king when, in the wake of the royalist triumph over the baronial opposition at Boroughbridge, Edward embarked on an ill-conceived thrust deep into Scotland which ended inconclusively in September.[16] At the beginning of the next reign, that of Edward's son and successor, Edward III, he returned to the north to assist the king's mother, Isabella, and her lover Mortimer in their attempts to reverse the gains made by the Scots over the previous five years. In 1327 he was a member of the ill-fated English expedition which, outwitted by the Scots in Weardale and worn down by poor weather, was forced to limp home without once having brought the enemy to battle.[17] In the 1330s, when English fortunes in Scotland at last took a turn for the better, with the new king taking personal command and new tactics employed, Duresme was again a regular presence in the English forces. In 1333 he experienced his first taste of victory with the English triumph at Halidon Hill, and in 1335 he took part in the big ravaging expedition which

drove deep into Scotland and persuaded David de Stratbogie, a key Scottish magnate, to defect.[18] In the winter of 1337–8 he enlisted for what was to be his last campaign in Scotland, a protracted and ultimately unsuccessful operation by the English, led by the Earls of Warwick, Arundel and Salisbury, to reduce the Scottish-held castle of Dunbar.[19] By the late 1330s, with the Scottish war winding down, Edward's attention was increasingly drawn to the continent, where he was attracted by the idea of challenging Philip VI for the French crown. In 1338 the king embarked on an ambitious series of campaigns to break into France from the Low Countries, and in June 1340 Duresme was at his side in the force that defeated the French at sea off Sluys and went on to lay siege to Tournai.[20] By this stage, Duresme was in his late forties, a relatively advanced age for an active fighting knight, and he was increasingly involved in local administration in Essex.[21] Nonetheless, he was still evidently unable to resist the call to arms. On 14 March 1342 he received letters of protection from the king to serve with Sir Walter Mauny on his proposed expedition to Brittany to assist an important English ally, the claimant to the duchy, John de Montfort.[22] It is highly doubtful, however, if he actually saw much active service in the field. On the evidence of the first inquisition *post mortem* taken after his death, which was held on 14 June 1342, it is likely that he died sometime in May that year.[23] It is possible that he died abroad.

Duresme's record in arms reveals him to have been one of the most militarily active Essex knights of his day and, in the light of this, it is small wonder that he was represented in the garb of a knight on the head stop at Ashdon.[24] From 1315 until his retirement a quarter-of-a-century later he was involved in almost every significant expedition led by the English crown against its enemies. In the course of his long career he served under a variety of captains. On two occasions, in 1315 and 1319, he enlisted under the banner of Bartholomew Badlesmere, the steward of the king's household.[25] On two other occasions he served with members of the de Bohun family, John de Bohun, Earl of Hereford, in 1335, and his brother William, Earl of Northampton, in the Low Countries in 1340.[26] In 1333 he is found in the retinue of John de Warenne, Earl of Surrey, and five years later in that of Hugh Audley, Earl of Gloucester.[27] On one occasion he served with the Earl of Kent.[28] Unlike many of the most militarily active knights of his day, he did not perform regular repeat service under the banner of just one lord, or one or two lords. Essentially a freelance, he sold his services to whichever captain happened to be looking for men at any particular time. There is no evidence that he was ever the fee'd retainer of a great magnate. Stephen Morillo has proposed a typology which distinguishes between what he calls socially embedded and unembedded service—that is to say, between service which originates in the recruiting network of a military community, and its opposite which does not.[29] Duresme's career exhibits many of the characteristics of Morillo's 'unembedded' service, being apparently the product of a relatively rootless existence driven by the modesty of the performer's landed endowment and his consequent need to make a living in the world.

For all the apparently clear evidence of Duresme's freelancing, however, it may be possible to exaggerate the degree of his detachment from the social and territorial networks which underpinned military recruitment in Essex. The captains under whom Duresme fought were much more than mere battle-hardened commanders on the look-out for keen recruits; without exception, they were locally substantial proprietors with extensive estates in Essex, often close to where Duresme's own holdings were. They were men, in other words, whose recruitment networks tapped into precisely the networks in which Duresme himself was active. Bartholomew, Lord Badlesmere, under whom Duresme served twice in the 1310s, although principally a Kent proprietor, also held extensive estates in Essex, which included the manors of Chingford, Lashley and Little Stanbridge and a life interest in the valuable manor of Thaxted.[30] The two de Bohun brothers under whom Duresme fought between 1335 and 1340 were members of a family some of whose most extensive holdings lay in Essex and whose main seat at Pleshey Castle was in the very centre of the county.[31] William de Bohun, the longer-lived of the two brothers, was connected to the Badlesmere line though his wife Elizabeth, Bartholomew's daughter and one of his four co-heiresses.[32] The de Bohun family were also connected to John de Warenne, under whom Duresme fought on the Halidon Hill campaign, through Earl John's first marriage to Alice, the daughter of Edmund, Earl of Arundel by Alice, Warenne's sister.[33] Hugh Audley, another captain under whom Duresme served, was yet again an Essex proprietor, in his case by virtue of his marriage to Margaret, one of the three sisters and co-heiresses of Gilbert de Clare, Earl of Gloucester; his most important Essex property, the manor of Thaxted, lay just eight miles north of Duresme's estate of Southall, directly on the route to Ashdon.[34] All of these captains were men the gravitational pull of whose lordship Duresme would have felt. He was drawn into Badlesmere's orbit in the 1310s, when the latter was a major figure at Edward II's court and a leading commander in his armies.[35] After Badlesmere's involvement in the rebellion of 1322 and his subsequent execution, events which forced him to look for another patron, Duresme turned to the de Bohuns and their circle. It is possible that the man responsible for introducing him to the family, and someone who may have been one of their recruiting sub-contractors, was John FitzWalter, lord of Little Dunmow and so Duresme's near neighbour, who served with (or who intended to serve) William de Bohun in 1337, 1339, 1340 and 1348.[36]

There is another sense, however, in which Duresme's career in arms can be seen as arising from and being embedded within the local societal and military networks of his day. Both Duresme and his father, Sir Jolyon, appear to have been members of one of the innumerable small subsets which constituted the primary groups from which the retinues of the king's armies were recruited. These primary groups took the form of small units of regular campaigners, drawn together initially by family or geographical ties, which could be taken over fully formed by captains to make up the building blocks of their contingents in the king's forces.[37] The advantage to a captain of tapping into such subsets is that he could take over off-the-peg companies which lay well within the range of his social contacts or within the bounds of his geographical lordship. At the end of the thirteenth century one such subset in north Essex was made up of perhaps just two men, Sir Jolyon de Duresme and his neighbour and close associate, Sir Ralph Bigod.[38] The two knights were recruited together to take part in the expedition to Scotland in 1296 which resulted in the capture of Berwick.[39] They were proprietors who were in regular interaction on the social and

administrative networks of north-west Essex. In 1300 they had served together as sureties for a debt, and twelve years later they were to sit alongside each other as knights of the shire in parliament for the county.[40] The tie between the Bigod family and the Duresmes was to continue into the 1320s, when a second Ralph Bigod is found fighting alongside Sir Jolyon's son, Sir Edmund, on the Scottish expedition of 1322.[41] In the 1310s a third fighting knight was to be recruited to the primary group, Sir Thomas de Lovaine, a wealthy man with interests in both Essex and Suffolk, who is found serving alongside the younger Bigod and Duresme in 1322 and before that alongside Duresme alone in 1315 and 1318.[42] Lovaine was a close associate of Bartholomew Badlesmere, thanks to whose intercession in 1316 he obtained a royal licence for the settlement of some of his lands.[43] As time went on, a fourth member was to be recruited to the group, Sir Edmund Bacon, another knight with interests in both Suffolk and Essex, and someone who was to fight alongside Duresme and Lovaine in 1318 and alongside Duresme alone in 1327.[44] Bacon in turn had close ties with a wealthy Bedfordshire and Hertfordshire landowner, Sir Robert de Kendale, who was himself to join the group in 1318.[45] Kendale was a long-standing associate of Bacon, alongside whom he had fought in 1311 and who was later to become a close friend of Duresme.[46] In the east window of the chapel which Duresme built at Ashdon his arms were to be included alongside those of Duresme himself and his fellow local proprietor, Sir Robert de Lacy.[47]

The qualities which made a medieval army an effective fighting force owed much to these bonds forged in the field, which helped bind together the members of its constituent retinues; and the bonds in turn owed much to the ties of locality which underpinned the units back home. Knightly recruitment to the king's hosts in the age of the three Edwards was heavily dependent on the strength of such locally forged ties and the fighting networks which grew out of them. There can be little doubt that, despite the initial impression which we formed of his relative rootlessness, Duresme was a man who stood at the very heart of the networks in his particular part of north Essex. Although he was by no means a rich man, he comes across as a very well connected one. Inheriting a range of ties initially forged by his father, another active knight, he forged new connections of his own in the course of his long career in arms, some with magnate families such as the de Bohuns and the FitzWalters, and others with knights of his own rank. In the 1330s, as he grew older and his involvement in war became less frequent, so his connections with the powerful helped ease his passage into the ranks of the local office-holders. In the late Middle Ages knights or esquires who had once been active in war typically became administrators in their years of retirement, the patronage they had acquired on the campaign trail helping to secure their appointment to offices or commissions in the king's gift. And so it was with Sir Edmund de Duresme. In December 1337 he was appointed a commissioner of array in Essex, and seven months after that a commissioner to collect the fifteenth in wool levied to pay for the king's Low Countries campaigns.[48] Most strikingly of all, on no fewer than three occasions he was elected to serve as a knight of the shire in parliament for Essex: in January and March 1340, and in April 1341.[49] He was so fully embedded in local landowning society by his later years that in the summer of 1340 he was involved in a notorious episode which might be considered the precise opposite of what a county office-holder should have been involved in. This was the massive assault unleashed by the Earl of Oxford, John, Lord FitzWalter, Bartholomew, Lord Burghersh, and a large section of the Essex gentry on the property of Sir John de Segrave at Great Chesterford.[50] Lawless behaviour of this sort was almost routine in medieval landed society, and its roots lay in the violent behaviour nurtured in war. Just what grievances lay behind this particular attack are not at all apparent. Whatever those reasons may have been, however, they had the effect of uniting the local gentry in a striking affirmation of local solidarity, and Duresme was to be found involved in the assault alongside his fellow proprietors.

This evidence of Sir Edmund de Duresme's integration into the ranks of Essex landowning society leads naturally onto a consideration of the scale and location of his own landholdings. In particular, there is the question of what connection he had with Ashdon. As we have seen, on the evidence of the inquisitions *post mortem* he was by no means a well-endowed man. In the inquisitions taken on his death in 1342 it is recorded that he held just one manor in chief, that of Southall in Great Dunmow, along with lands at Fenstanton (Hunts.), which he was said to have alienated to one Alice de Hernestede for life.[51] The Southall estate constituted the core of his family's inheritance, and it had come to him on his father's death in 1315. It is doubtful if the manor, which was a relatively small one, could have yielded him an income any more than about £30 per annum, and it is highly unlikely that his income as a whole would have exceeded the £40 per annum, which was the minimum threshold for knighthood.[52] Most knights in the fourteenth century, and certainly most knights of the sort that he associated with, held three, four or five manors, and would have enjoyed annual incomes of £80–£100 or more. Knights whose holdings were confined to just one manor were relatively few by the fourteenth century. In the circumstances, it is tempting to wonder if Sir Edmund could have been the owner of other estates not held in chief, and therefore not listed in the escheator's inquisitions. We have already noticed that he is recorded as a taxpayer at Ashdon in the subsidy of 1327, even though there is no evidence that he was a manorial proprietor there.[53] In the same subsidy return he is also listed as a taxpayer at Broxted, a village some five miles north-west of Great Dunmow, and near Thaxted. At Ashdon he is recorded as paying the sum of 3s in tax, and at Broxted the much higher sum of 5s.[54] In both villages it seems very likely that he was a sub-tenant of one of the local manorial lords. In Ashdon there is a strong probability that he was a lessee of the FitzWalters, the family who held the main manor in the village. Duresme was a neighbour of the FitzWalters at Southall, where his own manor adjoined the FitzWalters' substantial property of Little Dunmow, and towards the end of his life, in 1340, he is found campaigning alongside John, Lord FitzWalter in the Low Countries.[55] He and the FitzWalters are likely, therefore, to have been bound by no shortage of ties. Quite possibly, he had been granted a lease of the Ashdon estate on preferential terms in lieu of a money-retaining fee. It is probable that a relationship of a similar sort explains Duresme's presence at Broxted, close to the property of the Wauton family, whose circle overlapped with his own.[56] He had fought alongside the elder Sir William de Wauton as a member of Badlesmere's retinue in 1315, and he was in John de Warenne's retinue on

the Halidon Hill campaign of 1333 with one Robert de Wauton, while yet another member of the family, Sir John de Wauton, was a retainer of the FitzWalters.[57] If Duresme had been able to draw on the profits of all three of these properties, he would have enjoyed an annual income in the order of £50–£100, a perfectly reasonable sum for a middling knight. Together, the three properties would have constituted a compact estate, all three of them quite close to one another, and stretched out on a north-south line between Ashdon and Southall.

What we cannot be sure about is on which of his properties Duresme resided. It might be tempting to suppose that he made his principal seat at Southall, since that was the one Essex property that he held in fee. The presence of the two carved heads in Ashdon church might, however, be taken to suggest otherwise. It can hardly be coincidental that it was at Ashdon that Duresme chose to have himself and (presumably) his wife remembered by a physical witness. If the inclusion of the two heads may be taken as a form of labelling, a means of claiming the part of the church they adorned as their own, then the likelihood is that he built the south chapel to house a perpetual chantry foundation for the benefit of his and his ancestors' souls. And the parish in which he established his chantry is very likely to have been the one in which he actually resided.[58] By the beginning of the fourteenth century perpetual chantry foundations had become the most popular of all forms of religious endowment among the well-to-do gentry class, as they gave them affordable access to institutionalised intercession, when hitherto they had been reliant on the corporate and less personal intercession of the monasteries. A little over 2,000 licences for the alienation of land to chantries were issued by the crown in the course of the late Middle Ages. Thirty-six of these were issued between 1279, when the royal licensing system was introduced, and 1299, and no fewer than another 934 in the fifty years separating 1299 and the Black Death.[59] Many of these chantries were accommodated in purpose-built chapels, such as the one at Ashdon, a particularly spectacular example being the Stapleton chapel at North Moreton (Oxon.), an even bigger structure than Duresme's, stretching to three bays, and altogether overshadowing the main vessel of the church.[60] Typically, the chaplains attached to these foundations were supported by endowments in either land or rents made over to them by the founder, for the alienation of which, if the lands were held in chief, from 1279 the necessary licence would have to be obtained from the crown. Frustratingly, there is no record of the issue of any such licence in respect of the alienation of lands to support a chantry at Ashdon; nor is there a record in the London diocesan registers of the appointment of any chaplains to such a foundation. The only evidence we have to suggest the existence of a chantry is that of the chapel itself, with its signature busts high on the east wall. Admittedly there is no shortage of well attested chantry foundations for which there is no accompanying record of a mortmain licence on the chancery rolls: the explanation in such cases usually being that the lands alienated were not held in chief, which meant that a royal licence was not required. An explanation on these lines may well be applicable here. What is especially puzzling in respect of Ashdon, however, is the curious absence of any physical provision for family burial space in the chapel. In contrast to most purpose-built side chapels of this date, there are no tomb recesses to accommodate effigial slabs cut low into the wall. The combination of a chapel having all the characteristics of a chantry establishment with the lack of so many of the usual attributes of such a foundation presents undoubted explanatory difficulties.

The chapel that Duresme constructed could hardly have been conceived as a simple eastward extension of the south aisle, intended to accommodate a devotional image or side altar dedicated to a popular local saint. Not only is it altogether too big to admit of such an explanation; access to it from the aisle is restricted through a half-arch in such a way as to point to it being conceived as a private space. The structure has something of the character of a church within a church. Its most obvious architectural affinities are with such contemporary chantry chapels as those at North Moreton, already mentioned, and Glanvilles Wootton (Dorset). All three of these structures take the form of flanking chapels bolted onto the south side of the chancel. The chapel at Ashdon measures some 25 by 21 feet (7.6 by 6.4m), being wider therefore than the chancel but a little shorter; when it is viewed from the outside, its roofline is seen to rise considerably over that of the chancel (Plate 3).[61] It is built to a two-bay design and is internally separated from the chancel by an arcade with a circular pier and moulded arches. In the east wall it is lit by a three-light window with restored reticulated tracery (Plate 4), in the southern part of the west wall by a small one-light window, and in the south wall by a large window of four lights under a square head inserted in the fifteenth century.[62] At the east end of the south wall there is a simply-designed piscina, indicating the presence of a former altar. The most striking feature of the chapel is its magnificent crown-post roof, the central post of which has four-way struts and is quatrefoil in shape with a moulded capital.

It is natural to ask why Duresme should have embarked on the construction of such an ambitious chapel when his means were so relatively limited. Almost certainly, the reason is to be found in the fact that, since he was lacking a son and heir to succeed him, he was the last in his family's direct male line. According to the inquisitions taken on his death in 1342, his co-heiresses were his three young daughters, Ada aged eight, Elizabeth aged six, and Maud aged five.[63] Faced with the imminent extinction of his direct line, Duresme was moved to establish a perpetual chantry to institutionalise intercession for himself, his immediate kin and his ancestors, and to perpetuate the Duresme name. Other late medieval landowners who found themselves confronted with the same unhappy prospect followed an identical course. At Wixford (Warks.) in the early 1400s the rich esquire Thomas de Crewe, steward of the Earls of Warwick, constructed a fine two-bay chapel flush with the south side of the church, rather as Duresme did at Ashdon, with his own and his wife's tomb in the middle, before the altar. At St Michael Penkevil (Cornwall) a century earlier Sir John de Treago had been more ambitious, reconstituting the local church as a college and rebuilding it with two transeptal chapels, in each of which he incorporated tomb recesses in which members of his family could be interred. At Dennington (Suffolk) in the 1440s William, Lord Bardolf, and his wife settled simply for taking over the existing east end of the south aisle, claiming it as their own by screening it off from the rest of the church, and again making their own magnificent tomb the centrepiece of the arrangement. In the

PLATE 3: Exterior view of the south chapel, Ashdon church (photo: the author)

eyes of wealthy proprietors such as these, the fact that they were under no obligation to preserve the inheritance intact for a male heir meant that there was no limit to how much could be spent on making provision for the afterlife.

Yet, as we have seen, the chapel at Ashdon lacks some of the key elements of a major intercessory scheme, most notably the provision of tomb recesses to accommodate family burials. Moreover, again as we have seen, there is a curious absence of any documentary evidence for the establishment and administration of a chantry. It seems as if the project had been begun, and yet not seen through to completion. If, as might well have been the case, Duresme had embarked on his plans relatively late in life, it is perfectly possible to imagine that there was a change of circumstances that stood in the way of the project's completion. Some curious information that came to light a few years after Duresme's death about his complex marital life suggests that such could indeed have been the case.

Duresme appears to have been married twice. According to a settlement that he made of the manor of Southall in 1330, his wife at that time was one Joan, who had herself been previously married.[64] From the terms of the settlement it can be inferred that Joan had borne Duresme no children by that date, but had nonetheless had a son, John, by her previous marriage, and it was to this son that the Southall estate was to pass in the event that she and Duresme were to die without issue. At the time that Duresme himself died twelve years later, however, his wife was said to be not Joan but one Margaret de Stokes, the nature of whose relationship with him was shortly to be challenged. The broad outlines of the story can be reconstructed from letters or notifications enrolled on the patent rolls of the king's chancery. Shortly after Duresme's death, it appears, a complaint was received in chancery from an unnamed plaintiff alleging that Margaret was not in fact the deceased's widow, prompting the chancellor to send an order to the bishop of Ely to have a search made of the episcopal registers for any record of the annulment of Duresme's marriage to Margaret. In 1344 a reply was received from the bishop, Simon Montacute, to the effect that no such record could be found, and a notification recording as much was entered on the patent roll.[65] That was not to be the end of the affair, however, and four years later a second search of the registers was ordered. On this occasion a record of an annulment was actually found, and a new notification was entered on the patent roll to the effect that a certificate had been sent into chancery informing the king that an annulment had been decreed by the official of the archdeacon in the time of Bishop Hotham and that the process and sentence had been forwarded to Simon Montacute, his successor.[66] A month after this, however, yet another notification was entered on the patent roll which sought to explain, in somewhat apologetic terms, how the earlier oversight had occurred: it was recorded that John de Tyd, commissary of the archdeacon of Ely, 'had sent to

PLATE 4: Interior of the south chapel, Ashdon church (photo: © Martin Stuchfield)

the bishop not any original document [relating to the matter] but only some schedules wherein it was written that a divorce was celebrated between the parties, but inasmuch as some of the schedules were not sealed and others so decayed that they could not be read through … he regarded them as wholly untrustworthy and they should of right be so regarded'; and for these reasons he had not proceeded.[67] With the annulment of Duresme's marriage now apparently established, the case disappears from the rolls.

In the absence of further background information it is difficult to be certain about what was going on here. One possibility might be that Margaret, although she is only heard of towards the end of the story, was in fact Duresme's first wife; that in the late 1320s Duresme divorced her, subsequently making a settlement of his estates in favour of Joan, by this time his second wife; that Margaret, having heard of Duresme's death, entered a claim for dower, which led to a search of the Ely registers; and that her claim was rejected and Joan's rights by implication upheld. This is certainly an interpretation which makes sense of many of the facts as we have them. It fails, however, to address one major difficulty: namely, that the assumption of the early dissolution of Duresme's marriage to Margaret makes it hard to explain how the birth of Duresme's daughters, all of them aged eight or under at the time of his death, could have been so long delayed. An alternative and perhaps more plausible hypothesis might be to suppose that the wives came in the order in which we hear of them: that Joan was Duresme's first wife; that she died sometime after the making of the settlement in 1330; that Duresme then married Margaret; and that after Edmund's death, when Margaret staked her claim to dower, someone else again challenged his marital status, alleging that the couple were divorced. If this second interpretation is accepted—and its attraction is that it would make the young daughters the offspring of a late second marriage—then the question arises of who the mysterious complainant in the background could have been. In this connection, it is tempting to wonder about the identity of the Alice de Hernestede, to whom Duresme was said to have alienated his tenements in Fenstanton. It was reported by the jurors who gave evidence at the inquisition held there after his death that this Alice enjoyed a life interest in the property, and that she was still alive.[68] Conceivably, Alice was Duresme's mistress, and that by granting her this interest in one of his outlying estates he was seeking to make provision for her after his demise.

All this raises the question of just which of the ladies in Duresme's life, in that case, is represented by the female carved head in Ashdon church. It would be natural to suppose that it is his second wife, the bearer of his three young daughters, whether that be either Joan or Margaret. Unfortunately, no clue as to the lady's identity is afforded by the shield of arms she is shown holding, which bears the coat of Duresme unimpaled, so reproducing the shield on the side opposite. Either the lady concerned was not of armigerous lineage, which would seem unlikely for the wife of a knight, or her own identity was being suppressed for some reason. Besides this natural presumption that it is a wife who is represented, however, it may be worth considering a quite different possibility: namely, that it is actually a mistress. One notable feature of the carving that may point to this is that the lady is shown with the flowing hair of a maiden. Had her status been that of a married woman she would surely have been shown with a head-dress, which does not appear to be the case. Admittedly, the carving of the head may be somewhat stylised in response to its small scale, and it would be unwise to place too much weight on the idea of an extra-marital liaison. But if it is in fact a mistress who is represented, then an immediate explanation is afforded for the lack of an independent armigerous identity.

Another mystery surrounds the two connected questions of where Duresme was buried and whether or not he was commemorated by a tomb monument. As we have seen, a curiosity of the chapel at Ashdon is that no architectural provision was made in it for high-status burials; moreover, there is no evidence in the antiquarian record to suggest that there were ever any tomb effigies in the church which at some later stage were removed and destroyed.[69] It might be supposed in the light of all this that Duresme was not actually buried at Ashdon. We have already noted the possibility that he died abroad on active service, in which case his body may never have been repatriated. Another possibility is that he did in fact die at home, that he was interred at Ashdon, but that no monument was ever raised to his memory. It certainly has to be conceded that the circumstances surrounding his death are obscure. It would probably be unwise, however, to rush too quickly to the conclusion that he was never commemorated by a tomb monument at Ashdon. It might well have been the case that he was commemorated not by the familiar sculpted effigy in a side alcove but by a brass laid flush with the floor in front of the chapel altar. Brasses were a commemorative medium which were becoming increasingly popular at this time, especially among the gentry class.[70] In the eastern counties there are excellent surviving brasses to knights at Trumpington (Cambs.), Pebmarsh (Essex) and Acton and Gorleston (Suff.), and there is evidence of examples now lost at Haveringland (Norf.) and Letheringham and Stoke-by-Nayland (Suff.); it is quite possible, indeed, that the brass at Gorleston, on the evidence of its heraldry commemorating a knight of the Bacon family, and dating from the 1330s, is a memorial to Duresme's one-time comrade-in-arms, Sir Edmund.[71] In 1347 Sir John de Wauton, another knightly associate of Duresme's, was to be commemorated by a brass in his local church of Wimbish (Essex).[72] As it happens, a tiny fragment of a Purbeck marble slab, in which there were once brass inlays, survives at Ashdon as part of the step down into the church from the south door. As the inscription was made up of separately inlaid Lombardic-style letters, its wording can still be made out even though the brass inlays have all gone. What can be deciphered reads, rather enigmatically, 'TICV' or 'GICV'. Unfortunately, it is impossible to make much sense of the word, and anyway it amounts to too little to assist with identification of the person commemorated.[73] On the evidence of the lettering the slab can be dated to *c*.1320–30, which would mean that it is too early to have formed part of a monument to Sir Edmund de Duresme. It is conceivable that it is a memorial to his father, although in his case it would be a decade or so too late for convenience; and, anyway, there is no evidence that Jolyon ever resided at Ashdon. The chances are that its subject was a rector of the church, as the clergy formed another substantial part of the market for brasses in this period.[74] All we can say for certain is that if ever there was a brass to Duresme's memory at Ashdon, no trace of it survives today, and there is no record of a tomb slab to him in the notes of any visiting antiquaries.

Today the south chapel is often referred to as the Tyrell chapel by virtue of its association with a later gentry family which held lands in the parish.[75] Several generations of the Tyrells were commemorated in the church, and there is a post-Reformation tomb chest for Richard Tyrell (d. 1566) in the north-west corner of the chancel.[76] Strictly speaking, however, the chapel should be called the Duresme chapel, in honour of the lordly patron who was responsible for building it in the fourteenth century. Sir Edmund de Duresme was a careerist knight whose main estate lay at Southall in Great Dunmow but who also held landed interests in Ashdon and who probably resided in the village. Although he was not a wealthy man, he was a well-connected one. By virtue of his ties with other knightly families in the locality he was drawn into the recruitment catchment of such lords as Bartholomew, Lord Badlesmere and the de Bohun Earls of Hereford and Northampton who were to be numbered among the leading Essex captains of their day. He was a participant in many of the most important campaigns of the age, among them Halidon Hill in 1333 and the Sluys-Tournai campaign of 1340. Doubtless he had hopes of siring a son and seeing his lineage continue long into the future. Such hopes were to be disappointed, however. By the 1330s, as it became clear that he and his wife were going to be without male issue, so he initiated plans for the establishment of a chantry foundation that would perpetuate the family name and for the building of a new chapel in which that chantry would be accommodated. As a result of the disputes over his marital status that followed his death in 1342, however, the foundation was never completed, and the memory of the chapel's association with Duresme began to fade. Today, it is only the two head-stops high on the chapel's east wall that afford any reminder of its association with Sir Edmund de Duresme and its intended role as a mausoleum for him and his family.

ACKNOWLEDGEMENTS

I am very grateful to Dr Andrew Ayton for both supplying me with references and offering comments and suggestions on an earlier draft of this article. I am also grateful to Martin Stuchfield for his kindness in taking photographs of the two heads and other features in Ashdon church. Dr Jennifer Ward has on more than one occasion saved me from error in matters relating to Essex topography.

ENDNOTES

1 Green 1989, Appendix IV.
2 They are noted but not identified by RCHME 1916, 4–9, and Fitch 1996, 25. They are not mentioned at all in the descriptions of the church in Bettley and Pevsner 2007, 92, or, more curiously, the church guide book, Wymer 2000.
3 Green 1989, Appendix IV; Ward 1983, 51.
4 Woodcock and Flower 2009, 216.
5 Morant 1816, 2, 539–40.
6 *CIPM*, I, no. 573.
7 Barron 2004, 315, 316, 319.
8 *PW*, I, 298.
9 TNA C 67/11 m. 1d; Simpkin 2017, 59.
10 *PW*, I, 577; Gough 1888, 87; Moor 1929–32, I, 295.
11 *CPR 1281–92*, 429.
12 Prestwich 1988, 308.
13 *CFR 1307–19*, 231.
14 TNA C 71/7, m. 2; TNA E 101/15/6, m. 3. In the latter document, a horse inventory for the campaign, he is listed as an esquire.
15 Ibid. C 71/10, mm. 3, 9, recording the issue of letters of protection.
16 *CPR 1321–4*, 184.
17 TNA C 71/11, m.6, recording the issue of letters of protection.
18 Ibid. C 71/13, m. 28, recording the issue of letters of protection; Wagner 1950, 55.
19 Ibid. E 101/35/3, m. 1.
20 Ibid. C 76/15, m. 20, recording the issue of letters of protection.
21 In the inquisition taken on his father's death in 1315 he was said to be aged '22 or more': *CIPM*, V, no. 503.
22 TNA C 76/17, m. 44.
23 Ferguson 1972, nos. 124, 529, 843; *CIPM*, VIII, no. 375.
24 For the involvement of the Essex knighthood in war in this period, see Simpkin 2017, 51–64.
25 TNA C 71/7, m. 2; C 71/10, mm. 3, 5, 12, both references recording the issue of letters of protection
26 Wagner 1950, 55; TNA C 76/15, m. 20, recording the issue of letters of protection.
27 TNA C 71/13, m. 28, recording the issue of letters of protection.
28 Ibid. C 71/11, m. 6, recording the issue of letters of protection.
29 Morillo 2008, 243–60. See also Ayton 2016, 1–20.
30 *CIPM*, VII, no. 104.
31 For the de Bohuns, see Holmes 1957, 19–24.
32 Holmes 1957, 21; Cokayne 1910–59, I, 373n.
33 Cokayne 1910–59, VI, 471.
34 Ibid V, 715–9; *CIPM*, IX, no. 56. Bartholomew Badlesmere's life interest in Thaxted appears to have come to an end after the death of Gilbert de Clare, at Bannnockburn in 1314.
35 For Badlesmere's career, see Cokayne 1910–59, I, 372.
36 TNA C 76/15, m. 20; Ayton and Preston 2005, 214. The FitzWalters were one of the great landowning families of Essex, holding the manors of Woodham Walter, Burnham, Roydon, Dunmow, Henham, Wimbish, Tey and Lexden: *CIPM*, VI, no. 709; they also held the main manor in Ashdon, which was not listed in this inquisition (Morant 1816, 2, 539–40). The connection between the family and the Duresmes probably went back to the previous generation: in 1291 Sir Jolyon de Duresme appointed one John FitzWalter (probably a clerk, and not to be confused with the head of the family) as one of his attorneys when he went abroad: *CPR 1281–92*, 429. I am grateful to Andrew Ayton for advice on the FitzWalters' service with the de Bohuns.
37 Ayton 2011, 18–29.
38 Bigod held the manor of Alfreton, later known as Bigod's manor, in Great Dunmow, very close to Duresme's manor of Southall in the same parish: *CIPM*, V, no. 600; *Feudal Aids*, II, 152.
39 TNA C 67/11, m. 1d.
40 *CCR 1296–1302*, 376; *Return of the names of Members of Parliament* 1878, 37.
41 *CPR 1321–4*, 184. This second Ralph Bigod, who was probably a younger son, is not to be confused with the

elder man of the same name, who had died in August 1316: *CIPM*, V, no. 600.

42 *CPR 1321–4*, 184; TNA C 71/7, m. 2; TNA C 71/10, m. 3; TNA E 101/15/6, m. 2. Thomas was the son of Sir Matthew de Lovaine, and was born at Bildeston (Suffolk) in 1291 and baptised at neighbouring Chelsworth: *CIPM*, V, no. 539 (his proof of age). He died in 1345 holding the manors of Wix, Little Easton, Little Bromley and Little Chesterford (Essex) and Bildeston, Felsham and Hopton (Suff.): *CIPM*, VIII, no. 585. In 1316 he is also recorded as holding the manor of Drinkstone (Suff.): *Feudal Aids*, V, 46. For a summary of his career, see Moor 1929–32, III, 65–6.

43 *CPR 1313–17*, 455.

44 TNA C 71/10, m. 3; TNA C 71/11, m. 6. Bacon held the manor of Patching in Essex: *CIPM*, VII, no. 300. For a summary of his career, see Moor 1929–32, I, 30–1.

45 TNA C 71/10, m . 3. On his death in 1331 Kendale was recorded as holding the manors of Hitchen, Maydencroft and Wakeley (Herts.), Shalden (Hants.) and a sixth of the manor of Luton (Beds.): *CIPM*, VII, no. 288. For details of his career, see Moor 1929–32, II, 278–9.

46 TNA C 71/4, m. 13. Both men had court connections, and Kendale had been a retainer of Piers Gaveston: *CPR 1307–13*, 397.

47 Green 1989, Appendix IV.

48 *CCR 1337–9*, 222; Ferguson 1972, no. 529.

49 *Return of the names of Members of Parliament* 1878, 128, 130, 134.

50 *CPR 1340–3*, 96–7. For discussion of this episode see Harris 2017, 68–71.

51 *CIPM*, VIII, no. 375.

52 At the time of Sir Jolyon's death in 1315, the Southall estate was said to have consisted of one messuage, 180 acres of arable held in chief and another 80 held of John de Gisors, 15 acres of pasture, 14 acres of meadow, and rents to the value of £3 10s 0d yearly: *CIPM*, V, no. 503. Thirty years later, on Sir Edmund's death, if the inquisition jurors are to be believed, the lands remained largely the same: the demesne was said to amount to 200 acres of arable held in chief and another 50 held of John de Gisors, and to include various pasture lands, while the rents of assize were said to come to £3 6s 8d: *CIPM*, VIII, no. 375; TNA, C135/66/26. On each occasion, extensive labour services owed by the villeins were detailed. By way of comparison, on the larger manors of the time the demesne would have extended to some 400 acres or more and the rents would have come to at least £20. The manor of Southall lay about a mile to the south of Great Dunmow: Morant 1816, 2, 426.

53 He is not recorded as a taxpayer in Ashdon in the assessment of 1319, the only complete one to survive from before that of 1327: TNA E 179/107/10, m. 21d. He evidently established himself in the village, therefore, between that year and the later date.

54 Ward 1983, 51, 71. I am grateful to Jennifer Ward for advice on the location of Duresme's lands. By way of comparison, at Southall in Great Dunmow in 1319 he paid as much as 8s: TNA E 179/107/10, m. 13d

55 TNA C 76/15, m. 20. His manor of Southall lay a mile to the south of Great Dunmow church: Morant 1816, 2, 426–7.

56 The Wautons held the small manors of Chawreth and Horham in Broxted (today represented by the hamlet of Cherry Green): *Feudal Aids*, II, 152, 173; TNA, E179/107/10, m. 13. They also held three other manors in Essex, those of Willingale Doe and Thurrock, which are recorded in inquisitions *post mortem*, and Waltons in Ashdon, which was not: *CIPM*, VIII, no. 682; Morant 1816, 2, 540

57 TNA C 71/7, m. 2; TNA C 71/13, m. 28; TNA E 101/15/6, m. 3; *CIPM*, VIII, no. 681; Ward 2017, 44, 46. Duresme had sat alongside Sir John as one of the two knights of the shire for Essex in the parliament of April 1341: *Return of the names of Members of Parliament* 1878, 134.

58 One reason why he may have preferred Ashdon to Southall is that he had poor relations with another of his gentry neighbours there, Jacomina, widow of Sir Robert de Merke. In 1319 he was involved in attacks on Jacomina's property: *CPR 1317–21*, 305, 359. For the Merks see Moor 1929–32, III, 149–50, and Morant 1816, 2, 423–4. In terms of the geography of resident territorial lordship, Ashdon was distinctly less crowded than Great and Little Dunmow were.

59 Saul 2017, 140.

60 Ibid. 2017, 156 (fig. 7.7)

61 The fullest architectural description is in RCHME 1916, 4–6.

62 Unfortunately the tracery in the east window is of little assistance in dating the chapel with any precision, as it is unclear whether it is an accurate copy of the original. At the beginning of the twentieth century the window was blocked: RCHME 1916, 5.

63 *CIPM*, VIII, no. 375.

64 *CPR 1327–30*, 538.

65 Ibid. *1343–5*, 253.

66 Ibid. *1348–50*, 205. John Hotham was bishop of Ely from 1316 to 1337, and Simon Montacute from 1337 to 1345.

67 Ibid. *1348–50*, 218.

68 *CIPM*, VIII, no. 375. In consequence, a writ was sent to the escheator in Huntingdonshire ordering him not to meddle with the lands in Fenstanton: *CCR 1341–3*, 616.

69 No monuments that are not in the church today were recorded by the antiquary David Powell, when he visited in the early nineteenth century: BL, Additional MS 17460, fo. 419.

70 Saul 2009, 76–8.

71 Coales 1987, 93, 95, 96, 98, 126, 84, 85.

72 Ward 2017, 44.

73 I am grateful to Fr J.F.A. Bertram for assistance with interpreting the letters.

74 A rector of Ashdon would certainly have been able to afford such a monument: the rectory was a valuable one, worth £20 per annum in the 1290s: *Astle et al.*, 22.

75 Wymer 2000, 8.

76 Not Thomas Tyrell, as in Wymer 2000, 7.

ABBREVIATIONS

BL	British Library, London
CCR	*Calendar of Close Rolls*
CFR	*Calendar of Fine Rolls*
CIPM	*Calendar of Inquisitions post Mortem*
CPR	*Calendar of Patent Rolls*
PW	*Parliamentary Writs and Writs of Military Summons*
RCHME	Royal Commission on the Historical Monuments of England
TNA	The National Archives, Kew

UNPUBLISHED SOURCES

BL, Additional MS 17460 Notes of David Powell
TNA C 67 Supplementary Patent Rolls
TNA C 71 Scottish Rolls
TNA C 76 French Rolls
TNA E 101 Exchequer Accounts Various
TNA E 179 Records of lay and clerical taxation
TNA C 135 Inquisitions *post mortem*

BIBLIOGRAPHY

T. Astle, S. Ayscough and J. Caley (eds) 1802, *Taxatio Ecclesiastica Anglie et Wallie circa A.D. 1291* (London, Record Commission)

Ayton, A. 2011, 'Military service and the dynmics of recruitment in fourteenth-century England', Bell, A. R., Curry, A., Chapman, A., King, A., and Simpkin, D. (eds) 2011, *The Soldier Experience in the Fourteenth Century* (Woodbridge, Boydell), 9–60

Ayton, A. 2017, 'The military careerist in fourteenth-century England', *J. Medieval Hist.* 42, 4–23

Ayton, A. and Preston, P. 2005, *The Battle of Crécy, 1346* (Woodbridge, Boydell)

Barron, C. M. 2004, *London in the Later Middle Ages. Government and People, 1200–1500* (Oxford Univ. Press)

Bettley, J., and Pevsner, N. 2007, *Essex* (New Haven and London, Yale Univ. Press)

Calendar of the Close Rolls preserved in the Public Record Office (HMSO, 1892–1963)

Calendar of the Fine Rolls preserved in the Public Record Office (HMSO, 1911–62)

Calendar of Inquisitions post mortem preserved in the Public Record Office (HMSO, 1904–2004)

Calendar of the Patent Rolls preserved in the Public Record Office (HMSO, 1891–1986)

Coales, J. (ed.) 1987, *The Earliest English Brasses. Patronage, Styles and Workshops, 1270–1350* (London, Monumental Brass Society)

Cokayne, G. E. 1910–59, *The Complete Peerage* (new edn, revised by V. Gibbs, H. A. Doubleday and others), 12 vols in 13 (London, St Catherine)

Ferguson, J. (ed.) 1972, *Treaty Rolls, II, 1337–1339* (London, Her Majesty's Stationery Office)

Feudal Aids, A.D. 1284–1431, II. Dorset–Huntingdon (London, Her Majesty's Stationery Office, 1900)

Fitch, J. (ed.) 1996, *Essex Churches and Chapels* (Stamford, Paul Watkins)

France, J. (ed.) 2008, *Mercenaries and Paid Men: the Mercenary Identity in the Middle Ages* (Boston, Brill)

Gough, H. 1888, *Scotland in 1298* (London, Alexander Gardner)

Green, A. 1989, *Ashdon. A History of an Essex Village* (Aldham, A. Green)

Harris, G. 2017, 'Organised crime in fourteenth-century Essex: Hugh de Badewe, Essex soldier and gang member' in Thornton, C., Ward, J., and Wiffen, N. (eds) 2017, 67–77

Holmes, G. A. 1957, *The Estates of the Higher Nobility in Fourteenth-Century England* (Cambridge Univ. Press)

Moor, C. 1929–32, *Knights of Edward I*, Harleian Society, 80–84 (London)

Morant, P. 1816, *History and Antiquities of the County of Essex*, 2 vols (London, George Virtue, 1768, reprinted 1816)

Morillo, S. 2008, 'Mercenaries, mamluks and militia: towards a cross-cultural typology of military service', in France, J. (ed.) 2008, *Parliamentary Writs and Writs of Military Summons*, collected and edited by F. Palgrave, 2 vols (London, 1827–1834)

Prestwich M. 1988, *Edward I* (London, Methuen)

Return of the names of Members of Parliament, I: Parliaments of England, 1213–1702 1878, (London, Parliamentary Papers)

RCHME 1916, *An Inventory of the Historical Monuments in Essex Volume 1* (London, Her Majesty's Stationery Office)

Saul, N. E. 2009, *English Church Monuments in the Middle Ages. History and Representation* (Oxford Univ. Press)

Saul, N. E. 2017, *Lordship and Faith. The English Gentry and the Parish Church in the Middle Ages* (Oxford Univ. Press)

Simpkin, D. 2017, 'The contribution of Essex gentry to the wars of Edward I and Edward II' in Thornton, C., Ward, J., and Wiffen, N. (eds) 2017, 7–14

Thornton, C., Ward, J., and Wiffen, N. (eds) 2017, *The Fighting Essex Soldier* (Hatfield, Univ. Hertfordshire Press)

Wagner, A. 1950, *A Catalogue of English Medieval Rolls of Arms*, Harleian Society, 100 (Oxford)

Ward, J. (ed.) 1983, *The Medieval Essex Community. The Lay Subsidy of 1327* (Chelmsford, Essex Record Office)

Ward, J. 2017, 'Essex and the Hundred Years War: taxation, justice and county families', in Thornton, C., Ward, J., and Wiffen. N. (eds) 2017, 27–50

Woodcock, T., and Flower, S. (eds) 2009, *Dictionary of British Arms: Medieval Ordinary*, Volume 3 (London, Society of Antiquaries)

Wymer, M. 2000, *All Saints Church, Ashdon: Visitors' Guide* (Linton, E. and E. Plumridge)

THE ESSEX SOCIETY FOR ARCHAEOLOGY & HISTORY
Volume 8 · 2017

Crisis and change in Thaxted Manor, 1350–1500

Richard Till

In 1960, the Essex Record Office (ERO) published a work by its assistant archivist, Ken Newton, about Thaxted in the fourteenth century. Newton had translated four documents from the late fourteenth century, all relating to the manor of Thaxted. Three were bailiff accounts (compoti) for, respectively, 1361–2, 1377–78, and 1380–1. The fourth was a survey of the manor, prior to partition, from 1393. Newton's introduction pointed to the importance of the documents, but a detailed analysis has not been forthcoming. This article seeks to remedy the omission. It traces the fundamental changes in manorial organisation which began immediately after the Black Death and follows their consequences into the fifteenth century. The Essex Record Office has a significant number of documents relating to land transfer in Thaxted during the later period. Most relate to the sub-manor of Yardleys. Further information comes from secondary sources cited in the bibliography, the most significant being by L.R. Poos (2004).

CLIMATE CHANGE AND THE BLACK DEATH, 1350–1400

The fourteenth century was a period of acute social crisis. Much of it was caused by climate change. The relatively benign conditions of the thirteenth century gave way to colder and wetter weather, a pattern that persisted for more than three centuries. The onset of this 'Little Ice Age' was sudden and dramatic. Between 1315 and 1317, bad weather ruined successive harvests. Food prices trebled, leading to widespread starvation.[1] Two years later, cattle plague further impacted on food security. It was a pattern that occurred again and again. As a result, the gradual rise in population that had characterised the thirteenth century was put into reverse. People struggled to adapt. Numbers fell and, at best, remained stagnant throughout the first half of the fourteenth century.

The new reality sank in slowly. It took the best part of 60 years for landowners to realise that changes in farming practice were inevitable. In the meantime, food supplies were hit and large sections of the population were weakened by periodic shortages.

The Black Death (1348–9) hugely exacerbated the situation. The population of England, approximately 5 million in 1347, fell sharply and was probably halved by 1377. Worse, plague spread evenly across classes, hitting the ruling elites just as badly as those further down the social order. Major short-term disruption followed. The economic system broke down as did some aspects of political control.

Post-Black Death, there should have been a rapid recovery. Young people survived disproportionately well. Food prices were low. Wages rose by more than 20%.[2] Population might have been expected to increase rapidly. It did not. There was a further outbreak of plague in 1361. This time young people seem to have suffered badly. Numbers continued to decline until about 1450. Even after that date, some areas remained hard hit. Lawrence Poos, writing about the east and south of Essex, noted 'the data [implies] that at the beginning of the sixteenth century local population stood at under one half of the level it had achieved two centuries earlier'.[3]

As a result, from the mid-fourteenth century onward, labour was in short supply. People moved between less and more favoured areas, often against a background of landowner opposition. The most significant result was social disruption exacerbated by war and the poll tax. Dobson picked out Thaxted as a prime example: 'Less than a quarter of the [agricultural] holdings were in the same family's hands in 1393 [than] had been [the case] in the year before the Black Death. Such extreme lack of personal continuity … provided hot-house conditions for resentment of royal taxation, the enforcement of labour legislation and seigneurial intervention of any kind'. The result was the Peasants' Revolt of 1381.[4]

The disasters of the fourteenth century changed the way that the landed economy worked. It rendered increasingly obsolete the feudal model of large landed estates run by peasant labour and enriched by agricultural sales. Landowners, faced with a plethora of problems, responded by changing their role, taking land out of cultivation, protecting key assets (mills and wood-land) and leasing or renting the demesne land. They were no longer reliant on peasants' labour services. They were landlords in a diminished world. This simplified administration and moved the uncertainties of production to those who had leased the land.

NORTH ESSEX, 1350–1400

A study of five hundreds in North Essex, Chelmsford, Dunmow (which included Thaxted), Freshwell, Hinckford and Uttlesford, has added local detail to the national picture.[5] North Essex was a rich agricultural area. It was covered by a thick till of chalky boulder clay which produced a naturally fertile soil.[6] Over time, farming developed around old enclosed fields producing a pattern of dispersed settlement. But in the north-west, Thaxted and Saffron Walden, a different system applied. This was based on the Midland pattern of open fields, arable strips and common grazing. Nucleated settlements developed to provide a necessary pool of labour and craft skills. Around them were satellite hamlets, useful for farming the more remote areas of the demesne.[7]

Fertile land meant high population density, above 100 per square mile in places; a marked contrast with that part of Essex to the south and east. This was true before the Black Death and, in subsequent years, true also for the north-west through inward migration. The resulting population density produced a distinctive set of secondary characteristics. Scarcity of land led to social and economic change. In a competitive market, some benefitted, others lost out. The result was social instability. Unrest occurred in this part of Essex at the time of the Peasants' Revolt of 1381 and during Oldcastle's Lollard-inspired uprising, 1413–14.[8] On the other hand, population density diversified the local economy. Very few people could exist on agriculture alone. They therefore developed skills that would enable them to survive. Cloth weaving was one such skill, occurring east of a line running from Saffron Walden to Chelmsford.[9] Thaxted was different.

Although there was evidence of cloth making in the fifteenth century, the cutlery trade played an increasingly dominant role.[10]

Meantime, the very nature of agriculture was in flux. Climate change, shortage of labour and reduced demand moved the balance from arable to pastoral. To facilitate this, the area of meadow land, crucial for winter feed, seems to have increased by 6% between 1300 and 1400, rising by a further 38% by the 1470s. Grazing land similarly increased in area, 10% between 1300–1400 and a very significant 300% between 1400–1470.[11]

These changes had a marked effect on medieval society. Landowners followed the national pattern by leasing out land. However, traditional social distinctions were doggedly upheld. The 1393 Survey of Thaxted was carried out twenty-two years after the lords of the manor surrendered direct involvement in agriculture.Nevertheless, the survey insisted on the preservation of distinctions drawn in feudal times when labour services were compulsory. It referred to 'bond tenants', setting out in detail their responsibilities. An example: Thomas Bolter and Agnes Spryngold who rented a house and a small plot of land were asked for 'plough service' and 'they will carry with one cart with two horses and men for three days, that is to say for one day hay, for one day wheat, for one day oats or peas, receiving of the lord, for this service, 9d.'.[12] It was a form of legalism that persisted and added uncertainty to social dislocation.

The Alienation of Manorial Land, 1350–1400

In 1300, Thaxted manor had been part of the Honour of Clare for more than 200 years, its five great open fields worked as three. Cereals were the principal crops and were run on a three-year cycle: wheat/barley; oats/peas; fallow. Meadow and pasture for cattle and sheep ran north-south, along the Chelmer Valley. There were two parks: the Little Park, immediately south of the manor, little more than a landscape feature, and the Great Park to the south-east at Richmonds, an area used by the aristocracy for hunting. Managed woodland, a considerable source of profit, was found in the Great Park and also east of the town at Oldefrith, west of Magdalen Green. Finally, the common fields and strips of the tenants were found south of the town, either side of the Dunmow Road (Fig. 1).[13]

The Administration of the Manor

The Domesday survey of 1086 showed that Thaxted manor was farmed by the Honour of Clare for an annual fixed fee, having been granted to them in 1075. It was administered by a bailiff, who supervised the estate and was expected to live locally. Meantime, the management of labour was a communal responsibility and rested with an elected official, the reeve.

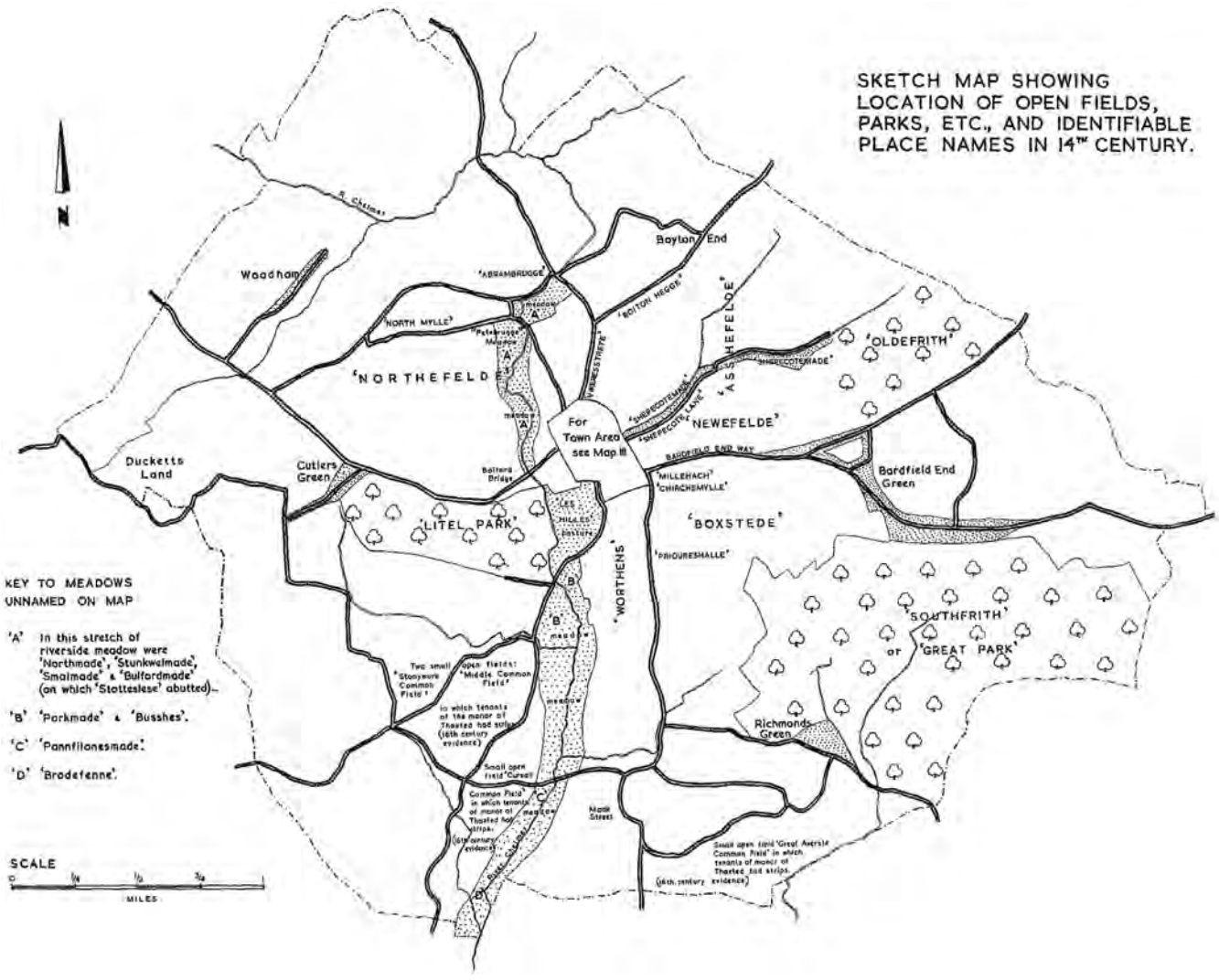


FIGURE 1: The sketch map is taken from Newton (1960), courtesy of the Essex Record Office.

By 1300, this pattern was changing. As the administration of the Honour became more complex, hence costly, small-scale alienation of land became more acceptable.[14] Subinfeudation (the internal division of estates) began early and, in some cases, was allowed to proceed piecemeal. A sub-manor at Yardleys, to the north of the town, was established in the late eleventh century. Priors Hall estate was given to the ecclesiastical College of Clare, subsequently the College of Stoke-by-Clare.[15] It included land south of the town, the church and the vicarage lands in Newbiggen Street, to the north of the church. Richmonds was in practice the Great Park and the Richmond family were its parkers. Over time they came to control it as a sub-manor. Finally, there was another rather shadowy sub-manor, Venors. In reality, it was no more than a lease of sixty acres of meadow (for sheep) to the Abbey of Tilty, a Cistercian house to the south of Thaxted).[16]

Adding to the mix, the fourteenth century saw confusion over ownership. Sometime between 1307 and his death in 1314, Gilbert de Clare had alienated Thaxted manor to Bartholomew de Badlesmere. However, Margaret de Audley, Gilbert de Clare's sister, claimed it on the death of her brother. The de Audleys lived at the manor, on and off, for nearly twenty years but faced legal action from the de Badlesmeres for much of that time. Eventually, following the death of Hugh de Audley in 1347, the estate passed to the four grand-daughters of Bartholemew de Badlesmere. The resultant division of manorial income was recorded in the Survey of 1348.

Over the next forty or so years there were more changes. Three parts of the estate were consolidated in the hands of Roger de Mortimer, 2nd Earl of March, son of Elizabeth de Badlesmere. The Survey of 1393 was undertaken to resolve the extent of the de Mortimers' holdings. However, a fourth part of the estate remained separate. It eventually descended through the de Badlesmeres to Philip le Despenser as Spensers Fee. This part was run separately throughout the fifteenth century and only re-absorbed during the reign of Henry VIII.[17]

That said, in 1348, when the manor was surveyed prior to partition, it operated as a single entity in the traditional manner. Profits were simply divided amongst the ruling families. It was an agricultural concern, centrally directed and worked largely through peasant labour. However, there were hints of something new. A small amount of meadow and demesne land had been leased out and some tenant holdings converted from labour service to rent.[18]

Post-Black Death, the Bailiff's Accounts for 1361–2, 1377–8, and 1380–1 show a rapidly changing picture.[19] In 1362, local control lay with the bailiff, Simon Crowe. He was assisted by a hayward, John Godard. Haywards had traditionally been responsible for fencing and enclosure. However, Godard was paid at the same annual rate as Crowe (£3.0s.8d.). It therefore seems reasonable to assume that his role was extended. He may well have acted as accountant. He certainly did so at a later date.[20] The parker of the Little Park, Walter Godard, was also paid centrally (£1.10s.4d.) as was Walter Woklyn, the collector of rents and tolls (6s.8d.). Finally, there was an accounts clerk, paid 10s. per annum. Supervision lay with the Lord's steward, John Bienge. Bienge was non-resident although the accounts record '[him] being here on many occasions to hold court'.[21] He held land in the manor. All three accounts say this totalled more than two virgates (approximately sixty acres).

Sometime after 1362, the structure was simplified, and its costs reduced. The accounts of 1377 include only two names, John Neel, the bailiff, and Thomas Warewick, 'the collector of the rents and of the court of the borough'. There was no mention of a hayward or parker. There was no steward. External control lay with the Lord's Constable, Thomas de Hildeburghe. The bailiff noted he was 'here for one night' to review the accounts.[22] Manorial profits went to the receiver at Clare (the de Mortimers were lords of Clare). The pattern was repeated in 1380–1. John Godard was the bailiff and Walter Clerk the collector of rents. This time, Thomas de Hildeburge, accompanied by colleagues, was 'here for taking view of the account … and others superintending things'.[23] It was the lightest of light touch supervision in a year that saw the Peasants' Revolt.

Renting and leasing manorial lands to freeholders

These changes came about because the manor was simplifying its role, from agricultural producer to rent collector. This meant ridding itself of as much demesne land, meadow and pasture as possible on lease or at rent and abandoning (at least temporarily) the rest. The accounts show the extent of this enterprise, adding over 20% to manorial income.[24]

Newton has calculated that the 'new farms' were initially being leased at about 1¾d. per acre. Thereafter it becomes more complex. The market for land was initially weak, population having fallen by about 45% following the Black Death. 1¾d per acre was a discounted price and extremely low by North Essex standards.[25] There followed considerable internal migration. The market for land recovered rapidly, so the price per acre increased. This was seen in the bailiff's account of 1362, which noted the lease of 114 acres of ploughed land to customary tenants at 4d. per acre.[26]

Collectively, the effect was transformational. By 1393, the entire demesne of over 1,000 acres was leased out or rented as can be seen from this note in the survey. 'And there were arable lands lying in three seasons [*i.e.* worked on a three-fold rotation] while worked by the lord, but now they are demised to farm and the seasons are made by the will of the farmers'.[27]

The clearest sign of the manor's move towards lease and rent were the changes around the lord's residence and its surrounding gardens and parks. At its height, early in the fourteenth century, the residence was made up of an inner court comprising the great hall, the 'Quarellshall', possibly where the court of the manor was held, and two further large buildings, the 'Knightes Chamber' and the 'Countesses Chambre' which included a number of adjacent offices. Beyond was another hall including a granary, bakery, brewery and wine-making facilities. Beyond still were the buildings of the home farm, a garden that stretched down to the River Chelmer and opposite, the Little Park.[28]

The non-residential offices remained for a time. The 1393 Survey notes, 'there is a certain site of the manor wherein are the houses … now standing for receiving the lord's council and for holding courts'. However, much of the rest was abandoned. 'There are other houses in the lower court, various ruined rooms which are worth nothing because they are not repaired'.[29]

The Bailiff's Accounts, from 1362 onwards, show the manor selling off parts of the outer court, abandoning the farm buildings and downgrading the Little Park, hence the

disappearance of the parker. In 1362, one John Delauill rented land in 'Bolfordegardyn'. John Friend rented 'a piece of ground in the enclosure of the manor between the granary of the lord and his house'. William Coteler, rented land 'next to the granary on the eastern part'. By 1378, William Botelmakere had been granted a piece of land next to 'Bolfordegardyn', with Jane Sawyer renting land 'between the lord's garden and the highway'. In 1381, John de la Vyle was taking 'a piece of land in the lord's garden next to his messuage', whilst Thomas Lyghtfoot was renting 'a piece of the lord's garden below his messuage'.[30] By 1393, matters had gone much further. John Herry, butcher, was renting 'the [entire] gardens of the lord for a term of twelve years'.[31]

In short, the manorial complex was being leased or rented off. It would never again form the centre of an agricultural business. Money was raised, risk reduced and the proceeds were significant. They appeared under the heading 'Rents of Assize of the Borough with the Tolls of the Markets and Fairs' (1378 heading). Averaged out, they contributed over 3% of total manorial income.The figures are as follows: 1362, £5.11s.6¾d. (4.5% of total income), 1378, £5.16s.3¼d. (3.2%) and 1381, £5.17s.2¼d. (3.1%).[32]

Meantime, in the fields of the manor, other changes were taking place. In 1348, 195 acres of demesne land had been rented to freeholders, their holdings ranging from 82 acres to a quarter of a virgate (about seven and a half acres). Ten freeholders owned more than fifteen acres, the minimum for self-sufficiency, at an average size of thirty-three acres. The remaining fifty-eight tenants worked 195 acres, with an average size of just under three and a half acres each, which was very much in line with Poos' figures for North Essex. The remaining land was worked directly by the manor).[33]

After the Black Death, the Bailiff's Accounts show a much-changed picture. The manor had surrendered its involvement in farming and was leasing out or renting the land. Where this was not possible, the land was abandoned, 'in the hands of the lord'.[34]

The extent of lease and rent is made clear in the accounts.[35] In 1362, 176 acres was held by freeholders. This included both demesne land, and land previously worked by peasants. Eight people farmed fifteen acres or more, John Bienge the steward, held sixty acres. Only one tenant, Margary Essex, leased less than fifteen acres. By 1378, freeholders leased 364 acres, all a result of land transfer. Eight people leased more than fifteen acres. Of these, John Yardley held 159 acres of arable in the Northfield, John Bienge held sixty acres and John Godard held over forty-five acres having increased his holding from fifteen acres in 1362. Only two tenants rented or leased land of less than fifteen acres, averaging nine and a half acres each. By 1381 freehold land had increased further, to 371½ acres.

Over twenty years, land leases had more than doubled the acreage controlled by the free tenants. Income from 'Farms of Land' increased in real terms though remained relatively constant at about 6% of an increasing manorial income. The figures are as follows: 1362, £7.5s.6d. (6% of total income), 1378, £11.14s.8d. (7%) and 1381, £10.17s.0d. (5.8%).[36]

There was a third change. Very small holdings by free tenure, lease or rent, increased rapidly. So-called 'Rents of Assize' applied to tenements with land or small parcels of land both in and out of the borough. The accounts suggest that a significant land market was going on here, with leases, rentals and changes in ownership being registered in the lord's court, the leet.

There were many different types of activity. First, there were freehold land sales. In 1378, 'Nicholas Cetard, a brewer, bought an area of free land from Bartholomew Chamberlain', justifying an increase of manorial rent by ½d.[37] Secondly, there were leases of land that had formerly belonged to unfree tenants. In 1362, Walter atte Fan, a cutler, purchased 'bond meadow', whilst in 1381 John Gace, from another cutler family, acquired half an acre in the 'Asshefeld' from John Godard, bondman to the lord.[38] Third, there were 'new rents', leases of demesne land direct from the manor. In 1381, John Boyton bought a piece of demesne land in the Newefeld, 'with a right to exit through the postern gate', an increasingly familiar arrangement for land on the open fields.[39] Fourth, there were land transfers that legalised earlier, unauthorised seizures of land, 'purpestures'. Purprestures were parcels of land adjacent to a road, or in this particular case in the middle of it, 'for 1d. for the rent of Thomas Huberd for one purpesture in Middelrowe'.[40] Most purprestures were workshops connected with the cutlery trade. Their legalisation was in expectation of further profit. Finally, there was the issue of charters, land transferred from one to another outside the normal procedures of the manor. These needed to be legitimised. In 1378, for example, there was a ½d. increase in the rents of Nicholas Cetard, who we have met previously, 'bondman of the lord, for one acre of meadow purchased by charter from Thomas Bray'.[41] Rents of assize formed a very significant element of manorial income and showed the importance of rental income, transcending legal niceties and former illegal activities, subsequently legitimised. Income was substantial, averaging just under 12% of manorial income over the three bailiff's accounts. The figures are as follows: 1362, £19. (15.7% of manorial income), 1378, £19.15s.0d. (11.7%), and 1381, £14.2s.7d. (7.7%).[42]

However, there was more to it than sales and rentals. Land transactions needed to be registered, hence paid for. This applied equally to freeholders and unfree tenants leasing or renting manorial land. Registration came via the manorial court, which had an unusually large number of annual meetings during this period, more than one a month on average. The leet was the lord's court and its judicial powers were jealously guarded. Income was substantial, averaging just under 10% of the manor's total income. The figures are as follows: 1362, £12.12.1d. (10.4% of manorial income), 1378, £19.15.0d. (11.7%), 1381, £14.2s.7d. (7.6%).[43] Much of this came from land registration.[44]

The Growth and Development of the Town

The manor's move from ownership to rent or lease was nowhere more clearly illustrated than in its relationship with the town of Thaxted. The original 'vill' was a nucleated settlement on a down-slope clustered around the church and manor. It contained a mix of agricultural workers, local craftsmen, shopkeepers and small landowners. The arrival of the cutlers changed all that.[45]

Cutlers began to arrive in numbers in the early fourteenth century. Hugh de Audley, Earl of Gloucester, offered them significant economic privileges. These included free stallage at markets and fairs, the right to erect workshops (purprestures), freedom from tolls and the cost of maintaining the highway.

The survey of 1348 revealed a significant cutler presence. Numbers mushroomed from the 1360s onward. This can be seen most clearly in the growth of tenancies within what became the borough. In 1361 there were nineteen, almost all agricultural. By 1381 there were forty-eight, mostly cutlers. By 1393 there were in excess of fifty-three within the three-quarters of the manor covered by the survey.

In order to accommodate this rapid influx, land was released to the south of the original settlement along what is now Town Street, Middle Row, the Tanyard and Park Street. Ownership was, for the most part, by burgage tenure. This freed the cutlers from the normal obligations of the manor and offered them representation through the election of a bailiff.[46]

The manor sought to benefit from what amounted to a doubling in the size of the population. The building boom that followed the cutlers' arrival enhanced sales of wood and other building materials. Rental income increased substantially, up by approaching 30% between 1360 and 1393. The arrival of rich cutlers and cutler merchants enhanced the market and led to its move to Town Street. Finally, the estates of its owners benefitted from the need for raw materials, in particular for wood which, as charcoal, was essential to the forging process.

The Changing Role of Unfree Tenants.

The Bailiff's Accounts tell us very little about the unfree or customary tenants, those who, in the past, had worked the fields of the manor on behalf of the lord. Their seasonal roles were laid out in 'An Account of Works', the schedule to be followed throughout the agricultural year. However, as we will see, this was a reconstructed account, the original having been seized by local people during the Peasants' Revolt.

In 1362, the accounts showed that the working of arable land had ended.The schedule simply indicated what should have been done but did not cost it. Forty-two acres of meadow were mown by customary tenants, and they were also used to repair extensive storm damage. This included '150 perches of hedge made at Southfrith'.[47] Thereafter, specialist workers were bought in from the locality. John Neel 'was hired for five days to right and repair the cowshed … almost thrown down by the exceptional blowing of the wind'.[48] John Neel and Walter Hamelyn were similarly hired 'to repair and erect the … mills being thrown down by the tempest'.[49]

In 1378, no demesne land was worked. The acreage of meadows mown by customary tenants had reduced further to seventeen acres, at a cost of 2s.11d. The hiring of local labour was becoming more extensive. Two carpenters had been bought in 'for twelve days felling timber and thence making two new bays' (for a house). Further repairs to the mill were carried out by 'one man for four days' at a cost of 16d. Repairing damaged fencing 'next to the gate of the Great Park' was carried out 'by one man for three days' at 12d. per day.

By 1381 customary labour had almost ceased. Two and a half roods of meadow (three quarters of an acre) were mown and carried back to the manor by cart. A bridge was repaired employing labour 'in boon service' and it is possible that the '1500 faggots' cut in the Little Park and Southfrith came from the work of customary tenants. Other than that, nothing.[50]

The signs of a growing cash economy were everywhere. In 1362, 114 acres of ploughed land was leased to customary tenants.[51] In 1381, customary land, rented to an unfree tenant, recently deceased, was being leased out without the requirement for labour service. The 'Farms of Land' section of the accounts list nine parcels of customary land handed over on these terms. In addition, a further four parcels of land described either as 'bond meadow' or belonging to a 'bondman' were leased out to free tenants.[52] The accounts show that the beneficiaries came from a variety of backgrounds. Some, like John Beinge, John Godard and John Yardley were accumulating larger holdings. Others were small scale leaseholders, some holding as little as a croft.

The manor increasingly employed local labour and paid wages. There was a new heading in the accounts that related to this change. It was called 'The Expenses of Necessaries' and, in 1381, it reported the employment of sawyers, carpenters, masons, 'ten days work of digging and collecting stones', cart hire, the mending of fences and the making of '200 perches of new hedge around the Great Park'.[53]

The 1393 survey of the manor tells us more about the customary tenants and their relationship with the land. Mortimer's customary or unfree tenants were listed by category in descending order of status.[54] Information included the extent of their land holding, rents paid, and the customary work they were expected to undertake on behalf of the manor. In this respect, it was an archaic document even as it was written, reflecting a time when the manor applied its rules in a uniform way.

The amount and nature of work undertaken for the manor related to the status of customary tenants and that status related to the extent of land they held in lieu of their duties. Virgaters held thirty acres, half-virgaters held fifteen, akermen (holding 'akermanlondes') held ten acres, whilst cotterells (holding 'cotterellonde') and cotmen (holding 'cotmenlonde') held land of five acres or less.[55]

Only the most trusted of the unfree tenants, the molmen, pose problems of definition. Most were located in an arc of hamlets at the extremes of the manor, Bardfield End, Monk Street, Boyton End, Cutlers Green and Woodham. They managed the distant workforce as hayward or reeve. As such, their customary obligations were identical. However, by 1393, their landholdings, through rent or lease, had become enormously varied in size.

There were in theory twenty-two molmen. However, three jointly held parcels of 'molmanlonde'. The wealthiest tenant was John Bienge, the former steward, who held in excess of eighty acres. Most was demesne land and held 'at rent'. He also leased land that included labour duties; service as reeve, mowing the lord's meadows, ploughing nine acres and tending it throughout the agricultural year. His rental was 12s. per year but there was an additional cost of 6s. in lieu of his duties. At the other extreme was William Finch. Finch held a tenement plus half an acre of land. However, he carried the same set of labour duties as Bienge. His rental was 1s. per annum with an apparent adjustment in lieu of his duties. The remainder held land of varying sizes from twenty-two acres downward. All owed labour duties. None carried them out.[56]

Though the amount of land held by the virgaters and half-virgaters was defined locally, the reality was very different. John Thrower held two virgates of land (sixty acres) and was subject to full labour services or additional rental in lieu. There were eight half-virgaters. Four held land 'at rent', their labour services having been forfeited. Only one

person, Joan Willem, held less than a half-virgate. She owned a 'quarterland', probably seven and a half acres, because some of her land had been alienated in the past. That left two others, both members of the Godard family, descendants of the parkers and bailiffs. John Godard's entrepreneurial skills had led to the acquisition of a portfolio of holdings, thirty acres of demesne, a cottage with a further seven acres, a small amount of 'free' land, a virgate of land (Puntes) which still carried labour service plus a half virgate held 'at rent', a total of approximately eighty-two acres. His relative, John Thomasongodard held a half virgate inherited from Thomas Godard but had managed to acquire akerman land (ten acres) which carried full labour services.[57]

At the next level, there were five akermen. As early as 1362, the accounts show changes to their holdings. Customary land belonging to John Cok, John Peyt, and a man named Grene was demised for rent at sums of 5s.6d., 5s.6d. and 5s.[58] Nonetheless, as late as 1393, four holdings still carried obligations, whilst the other 'pa[id] to farm'. Four akermen worked ten acres, the fifth, John Abraham, worked twenty.

Change also applied to the coterells. There were six coterells with holdings of between seven acres and one 'coterellonde', all rented on customary terms. However, the land of William Heldere had been put out to rent at '3s. yearly' as early as 1362.[59] The other four seem to have paid rent in kind including the supply of eggs. Finally, there were four cotmen, one holding a 'cotmanlonde', two an acre and one three acres. All paid money rent but retained the obligation of labour service.

To sum up, virtually all labour services had ceased for customary tenants. Like free tenants they held land at rent. The 1393 survey illustrates the point. 'Bond tenants', between them, contributed £13.11.4½d in rent plus some commuted rent in kind. This was a significant amount, more than that paid by free tenants (£10.2.11¾d.).[60] They farmed more land, in the region of 527 acres.[61] However, the land they held on customary terms was insecure. It could easily be removed at the will of the lord and was, as such, a source of concern.

The extent of this concern was apparent from a footnote in the 1393 survey. 'It [is] said that the tenants have a custumal [a written account of the customs of the manor] other than that destroyed at the time of the rebellion [the Peasants' Revolt] and do not wish to tell the lord's council at present. Therefore, they pay for their work as is … specified'.[62] In effect, the survey tells us that some details of customary dues had been lost as a result of the Peasants' Revolt and that, where doubt existed, tenants were being charged rent in lieu, a precarious position for those concerned.

Resolving transitional problems of this type was difficult. Time was probably the key factor. A land market had developed, and as the market churned, it turned customary tenants into copyholders and often blurred distinctions between differing types of land holding. The evidence was there, in the 1390s, but for contemporaries, it was not fully understood.

THE IMPACT OF CHANGE ON THE MANOR

By the end of the fourteenth century, enormous changes had taken place in the manor at Thaxted. The open fields had gone and there was now a patchwork of individual holdings held on all sorts of legal terms where there had once been a degree of lordly uniformity. The same applied to the meadows and the pastures. Legal documents, which referred to specific pieces of ground, increasingly related them geographically to other people's holdings, a sign of that growing patchwork.[63]

Three examples will serve to illustrate the market as it grew in the fifteenth century. Much was generated from within the borough, for that was where the wealth lay. Ease of purchase was apparent in the sheer range of property transfers. Finally, the first signs of consolidation were emerging towards the end of the period.

A late fifteenth-century conveyance of land at Stanbrook, a mile south-west of the town, proves a link between Thaxted's tradesmen, on the one hand, and the surrounding countryside on the other. It involved the Spilmans, butchers and small-scale land owners. They needed to consolidate their holdings to pasture animals prior to slaughter. This was possible as the family was doing well. John Bayley, mentioned in the conveyance, was 'hosier to John Spilman,' the head of the family. The land in question was, 'one rood [a quarter acre] in the hamlet called Stanbrook…in a meadow called Great Mead between the meadow of the said Robert Spilman… on the south and that of Robert Spilman on the north, [with] one head abutting a meadow called Prior's Mead, and also a piece of meadow in the said hamlet between the meadow of William Taylor, with one head abutting the land of Nicholas Gace [a cutler] and the other on the stream [Cripsey Brook] flowing from Thaxted towards Tilty'.[64] The Spilmans' land was to be held freehold. The surrounding meadows were also held freehold on what had previously been the lord's meadow.

Many of Thaxted's cutler families sought land or were moving into part time farming. In 1446, a group of cutlers, John and William Morce, Robert Gace and John Brown, bought land in Boyton End, to the north-east of Thaxted. It was 'a piece of land in a field called Boytenshot between the land of William Smith and Henry Boyton on the one side with the hedge belonging thereto and on the other side the land of Richard Mace (also from a cutler family) …with one end abutting the land of Henry Boyton and the other on the land of Thomas Morce and that of Robert Yardley, which they lately had…from a grant of John Dix according to a charter'.[65] It was a substantial venture involving a number of other cutlers, some of whom already owned land at Boyton End. They may have been intent on taking up farming. Equally, they may have bought land to lease or rent for profit.

For a richer and much smaller group of cutlers, farming morphed into large-scale landowning. This was apparent in a document of 1471.[66] The Fan family, sometimes atte Fan, were rich cutler merchants. Their land holdings were based, but not entirely limited, to the sub-manor at Yardleys, their property encompassing 'all lands and tenements lying in the town and fields of Thaxted…which John Bayle and John Fan had jointly of Thomas Chapman and William Fan…of the gift and feoffment of John Fan senior, as appears in a deed of 6th November 1441'. This was a substantial holding held over a period of time. The Fans did not farm the land. They rented it out and it formed part of their income and profits. It also provided a degree of social status to go with their mercantile wealth.

Yardleys was a sub-manor within the Thaxted estate and, following the death of its owner, was run as a charity by feoffees appointed from within the town. Many of them were cutlers. Sometime in the 1370s, the Yardley family had

bought into demesne land in the Northfield (157 acres) and rented property in the town. In 1441, a bundle of this property had been leased out to John Bayle and John Fan. In 1486, it was returned to John Chapman (chaplain), William Fan's old business partner (Fan, meantime, had acquired a substantial estate). Manorial rights still applied, with Chapman granted 'all lands and tenements, meadow, pasture feedings, rents and services lying in the town and fields of Thaxted'.[67]

It was not the only grant of this type. The feoffees seem to have deliberately simplified the running of the sub-manor by leasing out bundles of land controlled by a nominee. Another such was John Turtell, a husbandman of Saffron Walden. A quitclaim of 1490 saw him handing back 'the messuages and lands lying in diverse places in the town and fields of Thaxted'. This included thirty-six acres of former demesne land in the Northfield and another thirteen acres made up of crofts and small holdings.[68] The policy of consolidation went on. Over sixty years later, a lease of thirty-one years brought together land, which had previously belonged the Spilmans, mentioned earlier, and the former cutler land near Boyton End.[69]

CONCLUSION

The fourteenth century was a time of very significant social and economic change. Climate change, the Black Death, labour shortage and increased costs transformed England's agrarian economy. The result was a developing market economy, albeit one constrained by the manorial courts and their sometimes archaic feudal controls.[70]

In many respects, the lords of Thaxted followed the national picture. Post-1348, a decision was taken to lease or rent out the demesne lands and to extend burgess tenure within the borough. The lord's bailiff was the rent collector in a simplified administrative structure. However, the willingness to accept economic change through the creation of a land market was matched by an unwillingness to accept the social consequences; an increasingly entrepreneurial society. Customary duties remained in law long after the need for them disappeared.

What made Thaxted distinctive was the Midland system of open fields and strips coupled with the impact of non-resident ownership over a century and a half. The open field system produced a central nucleated settlement, Thaxted, home of the estate workers, the craftsmen and the shopkeepers who provided for their needs. It also produced the ring of satellite hamlets that provided labour for the geographical extremes of the manor. This was very unlike the dispersed settlements that typified other areas in North Essex. Meantime, the death of Hugh de Audley in 1347 left the manor without a resident lord. It was now in the hands of the Mortimers and the de Spencers. The running of the manor was delegated and light-touch.

Shortage of labour was never a problem. The land was fertile but, more important, the town of Thaxted was enriched by the arrival of a substantial number of cutler families from the 1360s onward. Their dominance within the town and their wealth had a further effect on the countryside. Many bought into the land market. For some land was a source of sustenance, for others a source of income, and for very few a proof of status.

In this last category, three stand out. The Fan family has been mentioned. At the turn of the fifteenth century, John Kent, Thaxted's master cutler, held extensive properties including, briefly, the lordship of Matching.[71] Later, Richard Aleyn and his son John, both cutler merchants, held substantial property in and around Thaxted. John Aleyn went on be Lord Mayor of London twice.

By the end of the fifteenth century, the manor was virtually unrecognisable. Its principal buildings had gone to be replaced by farms and cutler houses held by burgage tenure. The bailiff no longer resided in the manor. He lived in Town Street. The business of administration was in part carried out from his premises, in part through the newly-built guildhall.

Meantime, the fields had been let out and formed a patchwork of varied ownership, most of it local in origin. By the end of the century, some consolidation of holdings was taking place, largely generated by wealth within the town. Farms were established on the fringes of the town and the beginnings of piecemeal enclosure begun.

ENDNOTES

1 Chavas and Bromley 2005, 224–5.
2 Ibid., 217–8.
3 Poos 1985, 523.
4 Dobson 1983, xl–xli.
5 Poos 2004, 3–4.
6 Hunter 1999, 34–5. The coins of Cunobelin, overlord of the Eastern Kingdom at about the time of the Roman Conquest, include on the obverse a sheaf of barley, the key to the region's prosperity and the richness of its soil.
7 Ibid., 99. Cutlers Green near Thaxted is a particularly interesting example of this development. It was first mentioned as a hamlet in 1332. Its name suggests that cutlers, seeking land to provide additional security, found it along the borders of the demesne.
8 Poos 2004, 265–6.
9 Ibid., 58–72.
10 Till 2018.
11 Poos 1985, 43–50. For a comparison of the rental value of land see 48–50.
12 ERO, D/DHu M58, Survey of three fourth parts of the manor of Thaxted. A translation of the document is found in Newton (1960), 33–66. The reference to Thomas Bolter is found on p. 48.
13 Ibid., 9–10.
14 Ward 1981, 94–7.
15 Newcourt 1710, 578–80.
16 Newton 1960, 7–9.
17 ERO, D/DHu M20. This document consists of the rents paid to Lady Margaret Roos, daughter of Philip le Despenser. See also Newton (1960), 2–5 for the complexities of ownership.
18 Newton 1960, 23–4.
19 Ibid., 67–102. The bailiff's accounts or compoti were produced on a yearly basis. These three survive locally. However, between them they do paint a picture of agricultural change and the section that follows is based on an analysis of the documents.
20 Ibid., 98.
21 Ibid., 72.
22 Ibid., 84.
23 Ibid., 98.
24 In 1362, alienated demesne land amounted to £24.3s.9d., about 20% of total income. In 1378 the amount increased

to £37.0s.1d., 22% of total income. In 1381, it rose further to £41.8s.0d., again 22% of total income. Ibid.,67–102.

25 Poos says the average price for land at this time in North Essex was 9d. an acre. The Thaxted figure suggests that the situation was significantly worse than average at that time.
26 Newton 1960, 70.
27 Ibid., 34.
28 Ibid., 8–9.
29 Ibid., 33.
30 Ibid., 67-8, 79–80, 91–3.
31 Ibid., 66.
32 Ibid., 67–8, 79–81, 91–3.
33 Ibid., 10; Poos, 2004, 18.
34 Ibid, 70
35 Ibid., 68–9, 81–2, 93–4.
36 Ibid.
37 Ibid., 78.
38 Ibid., 78, 90.
39 Ibid., 92.
40 Bailiff's Account 1378 in Newton 1960, 80. Middle Row was located on the southern side of the borough between Mill End and Orange Street. The survey of 1393 shows this was an area extensively used by the cutlers. Skilled workers established purprestures or workshops there. Cutler holdings extended along adjacent streets with the rich cutlers holding property along Town Street and Park Street with an intensively worked industrial area along Sheepcote Lane, now Copthall Lane.
41 Newton 1960, 67, 78, 90–1.
42 Ibid.
43 Ibid., 70, 82, 95.
44 The leet met 11 times in 1362, 16 times in 1378 and 13 times in 1381. Income ranged from £12.12.1d. in 1362 to £19.15.0d. in 1378.
45 Till 2018, 319–24.
46 Ibid., 321–24.
47 Newton 1960, 71
48 Ibid.
49 Ibid.
50 Ibid., 86–9, 83, 96–7, 100–03.
51 Ibid., 70.
52 Ibid., 93–4.
53 Ibid., 96–7.
54 Ibid., 48–58.
55 Ibid.
56 John Bienge's holdings as a molman are listed in the Survey of 1393, ibid., 52. He is cited as steward in the Bailiff's Accounts of 1362, ibid., 72. Finch appears as a molman, ibid., 52.
57 John Thrower, ibid., 47, 53,54; John Godard (father and son), 29, 53–4; John Thomasongodard, 54–5.
58 Ibid., 76.
59 Ibid.
60 Ibid. 58.
61 The survey of 1393 suggests that Mortimer's share of the manor amounted to 1010 acres. Customary tenants worked over half of it.
62 Newton (1960), 58.
63 ERO, D/P 16/25/14, 16/25/16, 16/25/19, 16/25/20.
64 ERO, D/DAv 59.
65 ERO, D/P 16/25/25.
66 ERO, D/P 16/25/26a.
67 ERO, D/P 16/25/26A.
68 ERO, D/P 16/25/27.
69 ERO D/P 16/25/42.
70 Emmison (1976, 204–219) looks at the survival of 'ancient customs' as administered by the manorial courts. Specific references to Thaxted are found between pp. 204–8.

BIBLIOGRAPHY

Chavas, J-P. and Bromley, D.W. 2005, 'Modelling Population and Resource Scarcity in Fourteenth-century England', *J. Agricultural Economics* 56, Issue 2, 217–37

Dobson, R.B. 1983 (ed.), *The Peasants' Revolt of 1381* (London, Macmillan)

Emmison, F.G. 1976, *Elizabethan Life: Home, Work & Land* (Chelmsford, The Essex Record Office)

Hunter, J. 1999, *The Essex Landscape: A study of its form and history* (Chelmsford, Essex Record Office)

Newcourt, R. 1710, *Repertorium Ecclesiasticum Parochiale Londinense* (London)

Newton, K.C. 1960, *Thaxted in the Fourteenth Century* (Chelmsford, Essex Record Office)

Poos, L.R., 1985, 'The Rural Population of Essex in the Later Middle Ages', *Economic History Review* 38, 515–30

Poos, L.R. 2004, *A Rural Society after the Black Death: Essex, 1350–1525*, Cambridge Studies in Population, Economy and Society in Past Time 18 (Cambridge Univ. Press)

Till, R.D. 2018, 'The Cutlers of Thaxted', *The Local Historian* 48, No. 4, 319–32

Ward, J.C. 1981, 'The Honour of Clare in Suffolk in the Early Middle Ages', *Suffolk Institute of Archaeol. Hist.* 35, Part 3, 94–112

THE ESSEX SOCIETY FOR ARCHAEOLOGY & HISTORY
Volume 8 · 2017

Maldon's Old Moot Hall and Market Place: a reinterpretation

J. R. Smith

In the 1960s it was first claimed, by W. J. Petchey, that Maldon's medieval moot hall (superseded in 1576 by another hall on a different site) stood on the site now occupied by numbers 19 and 21 High Street. At the same time the sites of other market place components were identified, including the Corn Cross and Butcher Row. This essay, based on evidence discovered in 2013 in The National Archives, and on evidence in Essex Record Office, shows most of Petchey's site identifications to be incorrect, and offers a reinterpretation.

INTRODUCTION

Maldon was already a borough town by the time of the Domesday Survey, one of only two such towns in Essex. By the early twelfth century liberal privileges had been obtained from the Crown,[1] the townsmen were using a common seal by 1287 (HMC 1883, 41)[2] and local government was well developed by the second half of the fourteenth century.[3] There was a moot hall, a home for the townsmen's assemblies and courts, by the 1380s; in 1384 Maldon's inhabitants included a 'John attemotehalle',[4] and in 1389 a borough ordinance decreed a court should be held every Monday 'in its own hall'.[5]

The next moot hall reference is to be found in the Bishop of London's 1403 grant by which the Maldon townsmen received, *inter alia*, a house with one solar over the same called 'le Motehall'.[6] In 1576 this moot hall was superseded by the present moot hall (otherwise known as Darcy's Tower) and was henceforth referred to in the borough records as the 'Old Moot Hall',[7] the name used for the remainder of this essay. By the 1960s it was being claimed by W. J. Petchey that the Old Moot Hall stood on that part of an island site at the west end of the market place now occupied by numbers 19 and 21 High Street (Edwards 1967, map by W. J. Petchey reproduced as item 19; Rowley 1970, map (item 7); Petchey 1972, figs 5, 7, 13A).[8] This was followed in 1991 with a specific link being made with numbers 19 and 21, and a suggestion that the jetty might be 'the original jetty of the south side of the old Moot Hall' (Petchey 1991, 134 and fig. 16).[9] The identification of the Old Moot Hall with the site of the present-day premises 19 and 21 High Street, which seems to have been based on nothing more than guesswork,[10] in turn impacted on Petchey's interpretation of the layout of the High Street market place (Petchey 1972, 6, 12–20, and figs 5, 6, 7 and 9; Petchey 1991, 133–40 and fig. 6). (For convenience the town's main street is referred to throughout this essay as High Street, although that name was not in general use until the nineteenth century.)[11]

In 2009 the author was invited by a former Maldon law firm, Messrs Crick and Freeman, to examine and sort a large quantity of manuscripts, and to recommend which items should be deposited in Essex Record Office. During the course of this work, which extended from April 2009 until late June 2010, a bundle of title deeds of numbers 19, 21 and 23 High Street was found, covering the years 1700 to 1865.[12] The information in those deeds led the author to question the identification of 19 and 21 High Street with the site of the Old Moot Hall. Then, in 2013, a bundle of deeds of properties in Maldon owned in the sixteenth and seventeenth centuries by the Freshwater family, including 19 and 21 High Street, was discovered in The National Archives, and photographic copies were given to the author.[13] The deeds in this second bundle run from 1427 and dovetail with the later deeds in Essex Record Office. Taken together they show the Old Moot Hall never stood on the sites of 19 and 21 High Street, and that instead a house stood there. In the fifteenth century the house belonged to the Darcy family, and remained in Darcy ownership until, in the middle of the sixteenth century, probably in late 1549 or 1550, Sir Thomas Darcy (soon to become first Baron Darcy of Chiche) transferred ownership to the Crown. Sometime between 1570 and 1591 the house became the Fleur-de-Luce alehouse (later an inn), and remained a licensed house until 1780 or 1781 when it became the private house of a merchant, John Drake.[14] It was rebuilt in *c*.1857.[15] In the 1890s a Maldon solicitor noted that recent work for a conveyance of 19 High Street had 'disclosed the fact that for many years the house ... was known by the name or sign of the "Flower de Luce."'[16]

SITES OF OLD MOOT HALL, CORN CROSS, BUTCHER ROW, MERCERY ROW, FISH MARKET AND BULL RING

Examination of documentary evidence in the Essex Record Office has revealed that the Old Moot Hall stood in the market place in High Street, formed the westernmost part of Butcher Row (Fig. 1), and that in the fifteenth and sixteenth centuries (and probably earlier) there were shops on the ground floor, four in the sixteenth century.[17] A series of shop leases by the borough provide crucial information. One of those leases, April 1540, describes the Old Moot Hall as being 'in le bocherrowe', states that between two of the shops there was a prison called 'le lobhole', and that one of those two shops lay between the Lobhole on the west and another building, 'le merketcrosse', on the east.[18] In 1590 the Old Moot Hall was again described as being 'within the Bocherrowe'.[19]

The Old Moot Hall was a timber-framed building, and the solar, or chamber, on the first floor was the centre of borough administration, a room used for meetings of the borough's governing body, the Common Council until 1554 and the Corporation thereafter, and for sittings of the borough's courts. Access was by stairs with a stair-rope, heating was by a coal fire, and in 1536 or 1537 3s was paid for a carpet.[20] W. J. Petchey's statement that the Old Moot Hall's shops were latticed is problematic.[21] The borough custumal required 'foreigners' (people who were not permanent residents) who kept shops in the town to have lattices before their windows,[22] but the tenants of the Old Moot Hall shops appear always to have been townsmen. For example, in the 1580s and 90s the lessees were the butchers Christopher Living (two shops) and Peter

Jervis (two shops converted into one), and both were Maldon residents and freemen.[23]

The Old Moot Hall also housed the market bell, rung to announce the opening and closure of the weekly (Saturday) market and sittings of borough courts. For the year Michaelmas 1532 to Michaelmas 1533, for example, Thomas Becke and John Sharp, the two market lookers, were paid 12d for ringing on market days, while Philip Goldborne (town clerk) was paid 8d for ringing for the weekly Monday court.[24] When Darcy's Tower was converted into Maldon's new moot hall in 1576 the market bell was hung there.[25]

A two-storey market cross, or corn market building, was built in 1540 a very short distance to the east of the Old Moot Hall (Fig. 1).[26] This building was subsequently variously described as the Corn Cross, Corn Market, Moot Hall Corn Cross, Market Cross, Cornhill or Market House. On the first floor there were rooms, and at ground level the floor was probably of compacted gravel.[27] In addition to its market functions the Corn Cross was used to display public notices, and as a convenient place for the payment of mortgages, rents and legacies.[28]

By the 1530s parts of the Old Moot Hall seem to have been in disrepair. In 1536 or 1537 the end where the market bell was hung was demolished.[29] At least two of the Old Moot Hall shops were in poor condition by 1540 and on 10 January 1541 the Common Council discussed a complaint and claim for compensation from the tenant, a butcher and prominent member of the local community named Reynold (*alias* Reginald) Smith, who stated that because his shops 'were not sufficiently repaired and enclosed' dogs had caused four calves to stray from them and that four sheep had also strayed. In addition, twenty-four pieces of meat worth 6s 8d had been stolen from his shop next to the Corn Cross, which was 'uncovered', and Smith had been unable to occupy that shop for 'one quarter of a yere' while the Cross was being built. Four weeks later, on 7 February, he was permitted to surrender his lease of both shops with effect from 25 March, and on 8 April the Council agreed to allow his claim for compensation for the 'hurts and harms he had sustained'.[30] The same two shops were then leased to John Ketyll (*alias* Ketell) and repairs, including underpinning, were carried out.[31] By 1544 the other two shops under the Old Moot Hall (held by Robert Ketell) had been 'inclosed' into one.[32] Thereafter repairs took place at intervals, such as roof tiling (possibly a complete re-tiling) in 1565, and in 1611 when Robert Peerse (*alias* Pierce) '& his man' laid 'one hundred of Tyles ... uppon the Roofe'.[33]

In 1550–51, ten years after the construction of the Corn Cross, a new covered market place with a tiled roof was built at the top of St Peter's Lane (by 1739 also known as Market Hill, the present-day name)[34] adjoining St Peter's churchyard wall (Plate 1 and Fig. 1), and its construction involved alterations to or rebuilding of part of the wall, to the cost of which it was agreed the inhabitants of St Peter's parish should contribute.[35] It is impossible to reconcile this evidence with W. J. Petchey's statements that the new market place was constructed as a lean-to extension to the Old Moot Hall (shown on his maps as being on the north side of the Old Moot Hall), and that the market place in St Peter's Lane was constructed 'before 1614'

PLATE 1: Site of the new market place (Butter Market) constructed in 1550–51 at the top of St Peter's Lane (now Market Hill). Photograph by the author, 2018

(Petchey 1972, 14 and fig. 9; Petchey 1991, 134–6 and fig. 16). The new market place was for small victuals including rabbits, poultry, eggs, dairy produce, vegetables, oatmeal, etc.[36] A borough rental, 1597, lists the tenants and annual rents *inter alia* for an oatmeal bin (3s) and eight rooms or units (seven at 12d, one of which was for 'Lambert Toplie ...to sell oatmeal') in the 'Apple market house'.[37] This was almost certainly the market place or house constructed in 1550–1. By the second decade of the seventeenth century it was being referred to both as 'the longe market howse' and the 'butter markett',[38] but from the 1620s it seems to have been known exclusively as the Butter Market.[39]

Maldon thus had two market houses from 1551, and the borough chamberlains' account for 1592 records expenditure on repairs to borough property including 'the two m[ar]kett houses'.[40]

By 1567 there was another 'new market cross'.[41] It is postulated this was 'the Brickcross' which in May of that year the Corporation resolved should be converted into a gaol, the work to be paid for by levying an allotment.[42] It seems likely this 'Brickcross' was the brick building which stood at the east end of Butcher Row (Fig. 1) and which by the 1580s comprised two ground-floor shops with 'lofts & rooms' above. In 1589 the Corporation granted 21-year leases of the two shops to Henry Hurrell, butcher, and John Burton, tailor.[43] At street level the building was separated from the remainder of the Row by a passage, but was linked above the passage by 'lofts and rooms'.[44] Two new leases were granted in 1611, to Robert Pope and Edward Smith *alias* Reynolds the younger, both butchers.[45] In the same year, 1611, 5s was paid for two beams and ironwork 'to hoiste up ... bullocks in the Towneshopp Called the Brickshopp in the butcherowe'.[46]

The High Street market place by the 1540s extended from the bend at present-day number 15 eastwards as far as the corner of St Peter's Lane (Fig. 1 and Plate 2),[47] and under the provisions of a borough custumal made in 1555 the market place trading area for butchers was defined as being in High Street from the Old Moot Hall eastwards to the corner of St Peter's Lane.[48] Seven years later, in March 1562, a by-law made with the 'consent will & agrement' of the butchers resident in the town re-defined and reduced by rather more than half the open area in which all butchers should henceforth carry on their market-day trade. The newly defined area lay in the High Street market place, was bounded in the west by All Saints' church gate 'against Mr Dawes house' and in the east by Darcy's Tower (Fig. 1), and was somewhat confusingly named as 'the bourcher Rowe'. The church gate was near the south-west corner of the churchyard and the line of buildings (including the Old Moot Hall) in High Street with shops on the ground floor and constituting Butcher Row lay within and formed part of the newly defined area. All butchers 'inhabiting & dwelling w[i]thin the said Towne of Maldon' were on market day to slaughter animals and sell meat there and 'no where els', and any butcher who disobeyed the ordinance was to be fined 40s.[49] However, when in 1564 Thomas Colleyne (*alias* Collin), one of the butchers who had agreed to the enacting of the 1562 by-law, was found guilty of selling meat outside 'of the m[ar]kett place Appoynted ... & contrarie to An ordynance', he was fined only 3s 4d.[50] The leniency of the fine may have been an acknowledgement of the 'many discomforts and inconveniences' and 'serious complaints' by inhabitants about the reduction of the butchers' trading area, 'Le fleshe markett'.[51] In May 1569 the 1562 by-law was revoked, so that henceforth butchers could once again operate in the market

PLATE 2: View of High Street looking west, *c.*1855. The junction with the road on the right, Market Hill, (formerly known as St Peter's Lane), marked the eastern limit of the main market place and trading area for butchers. Printed and published by R.J. Bridge from a drawing by an unknown artist (possibly Robert Nightingale), and reproduced by courtesy of Mrs Lynne Raymond

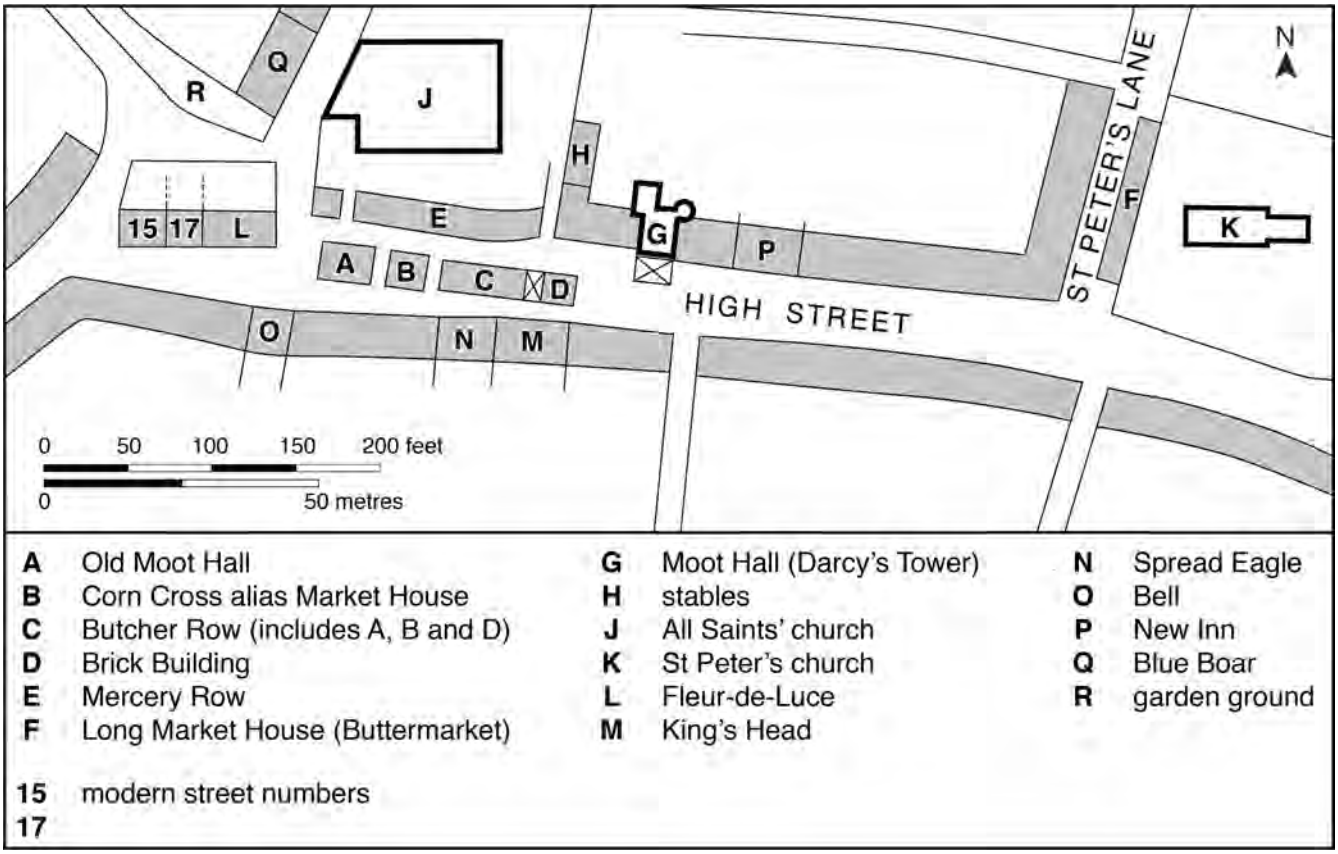


FIGURE 1: Maldon market place *c.*1590. Map drawn by Mrs Catherine D'Alton from a draft by the author

place from 'le dawes house' against All Saints' church gate down to St Peter's Lane.[52] All this is valuable evidence showing the Old Moot Hall with its ground floor shops forming the western end of Butcher Row must have stood close to All Saints' church gate.

There were two market rows, Butcher Row, already discussed, and Mercery Row which also lay in High Street and flanked the south side of All Saints' churchyard (Fig. 1). Unlike the buildings comprising Butcher Row (including the Old Moot Hall and Corn Cross) the houses and shops in Mercery Row were in private ownership. In 1545, for example, William Reynolds of Chelmsford owned a shop near the east end, while John Peyte owned two shops.[53] No post-1600 use of the place-name Mercery Row has been noticed in documentary sources, a reflection of the decline of textile manufacturing at Maldon.[54]

In 1544 Richard Collett paid a year's rent to the borough for a stall in the 'Fysshem'kett'.[55] This is the earliest evidence found for a defined space for a fish market. While the exact location of the Fish Market has yet to be determined beyond all doubt, it seems likely it was at the upper end of the market place, a short distance to the west of the Old Moot Hall. Evidence for the location appears in a description of a rampage in 1623 by apprentices who went 'up the town as high as the fishstalls and [there] ... overthrew the stocks',[56] and the payment in 1625 of Landcheap tax by Benjamin Brockis of All Saints' parish, tailor, on the purchase of a messuage opposite 'the Fishemarkett'.[57] In addition to the stall owned by the borough at least one other was privately owned. This, a stall and ground 'in the m'kett' in All Saints' parish, was bequeathed in 1605 by Thomas Wells, senior, a Maldon glover, to his son Christopher.[58] It may have been the same stall in All Saints' that in *c.*1666 was sold for 20s by Thomas Wells to Robert Francis, cordwainer, and by Francis for the same sum to John Greening.[59]

In towns throughout England the baiting of bulls prior to slaughter was required by and took place under the control of municipal authorities. Baiting, a public spectacle, took place in Maldon at 'the Bull Ring in the open face of the market',[60] but the exact location is not known.[61] The baiting equipment was owned and maintained by the Corporation, and the chamberlains' accounts contain many references: for example, Bailiff [Thomas] Spigurnell was paid 2s 6d in 1576 for 'a rope to baight the Bulles'; in 1603 John Jefferey was paid 12d 'for mendinge the Bull Cheyne'; in 1611 Walter Penson was paid 5s 6d 'for a Coller to baite bulls' and tallow for the collar; and in 1660 Samuel Sturgeon was paid 1s 'for looking to the Bulrope'.[62]

Lastly, it was being claimed by the 1970s that stables were erected in the sixteenth century 'on the open ground west of the Old Moot Hall' (Petchey 1972, 14 and fig. 9; Petchey 1991, 134).[63] That was not the case, and the stables referred to stood instead on the east side of a small street now known as Church Path, about 15m to the west of Darcy's Tower, the building that in 1576 was to become the Moot Hall (Fig. 1).[64]

Old Moot Hall, Corn Cross and Butcher Row, 1576–*c.*1650

Following the conversion of Darcy's Tower into Maldon's new moot hall the first-floor chamber of the Old Moot Hall, now no longer used for public business, was leased to tenants. In the mid 1580s the tenant was Francis Anthony,

a Corporation member. He moved from Maldon in 1586 and the chamberlains in their account for that year recorded his failure to pay the rent, 40s, due at Michaelmas.[65] In the 1590s the tenant was John Spigurnell, paying an annual rent of 13s 4d.[66] Spigurnell was innkeeper at the nearby New Inn (Fig. 1) and another Corporation member.

The Old Moot Hall shops continued to be leased to butchers. In 1576 Christopher Living took a lease of two.[67] His lease was renewed in 1588 for a further 21 years, when he was additionally permitted to hang meat on the Lobhole prison exterior wall.[68] Another butcher, Peter Jervis, a Corporation member, was granted a 12-year lease in March 1585. In his case the lease was of two shops converted into one. The terms were the same as for Living: a lump sum down payment of £10 10s, and an annual rent of 14s.[69] Both Living and Jervis were still tenants of the shops in 1597, although Living's rent had been reduced to 10s.[70]

Several changes to the Old Moot Hall took place in the second decade of the seventeenth century. The shops appear no longer to have been in use, and part of the building was being used by the Corporation for storage of borough property, including in 1618 'certeine things p[ar]cell of the gyn appteyning to the Towne'.[71] Other items stored there included 'loose Tymber' and iron.[72] The Lobhole, however, continued to be used as a prison. In 1617 repairs to its door cost 6d, and in the following year, 1618, a new lock was fitted at a cost of 14d.[73]

In April 1616 the 'whole Companie' of the Corporation resolved that the brick building marking the eastern end of Butcher Row should be demolished, together with the 'lofts & rooms' over the passage between it and Mrs Living's shop.[74] Although this resolution was not carried into effect and the shops continued in use,[75] it heralded even bigger changes in 1620 and 1621, when the Corporation commenced a programme of remodelling the whole High Street market place. In 1620 a large part of Butcher Row, the timber-framed section between the Corn Cross to the west and the brick building to the east, was demolished. It was described as tenements, shops and rooms and was 'Ruinous and noisome'. Building materials, including timber, salvaged from the Row were sold to Jeremiah and Samuel Pratt for £5.[76]

A few months later, in March 1621, the Corporation debated again the future of the brick building, in which Jeremiah and Samuel Pratt now had an unspecified interest. The decision (by eleven votes to five) was 'To take downe' and this time the resolution was carried into effect.[77] The demolished Butcher Row buildings were now replaced by two parallel rows each of twelve stalls, to be set up on market day, Saturday. These were primarily for butchers, but also for other traders if there were insufficient butchers. In about 1623 the site was leased to a Maldon merchant, Thomas Plume, who in turn rented out the market-day stalls to butchers and other tradesmen. In connection with Plume's lease the bailiffs ordered that six posts be erected to mark the site. They cost 10s.[78] Plume seems to have remained lessee until about 1640. The next lessee was John Walker of Little Baddow, yeoman. His lease, for 21 years from Christmas Day 1641 at an annual rent of £13 6s 8d, specified the exact location and boundaries of the site. It was outside the King's Head and Spread Eagle inns (Fig. 1) and measured 91ft by 13ft 6in. (27.7m x 4.1m).[79]

The Old Moot Hall was another casualty of the market place remodelling; it, too, was dismantled in 1621.[80] The Lobhole prison, however, was reconstructed, together with a cage, as a single-storey building with a tiled roof, and a pillory erected. Most of this reconstruction, which cost £7 17s 4d, was carried out by the carpenter John Scott, who was paid £4, while the tiler Robert Pierce received 10s for his labour.[81] (An earlier cage, repaired in 1599, had 'fallen downe' in 1618 when 18d was paid for 'laying up' its timber and tiles.)[82]

The market place remodelling was completed by the enlargement, also in 1621, of the Corn Cross. A new bay was constructed at its east end, the upper floor was divided into four chambers, and the whole building re-roofed. The cost was not to exceed £50 and once again John Scott and Robert Pierce were employed to carry out the work. Scott additionally repaired the stairs, for which he was paid 5s 3d. The new ground floor addition was to be used by maltsters while the chambers were to be let at £4 a year 'or above'.[83]

When in 1628 the lock on the Lobhole door was broken the blacksmith Goodman Rayner supplied a new lock for 12d, and one of the constables was paid 8d to fit it. Prisoners slept on straw, and cleaning and new straw in that year cost 4d.[84] Eighteen years later, in 1646, 4s was paid for cleaning both the Lobhole and the Moot Hall prison.[85] That is the last mention found of the Lobhole, and it seems probable it was demolished shortly afterwards, in the process sweeping away any vestiges of the Old Moot Hall.

Corn Cross, Butchers' Stalls, Fish Stalls and Buttermarket, *c.*1650–1847

With the removal probably *c.*1650 of the Lobhole prison the Corn Cross now stood alone in the middle of the High Street market place, sole survivor of the former Butcher Row apart from the stalls erected on market day. Routine maintenance of the Cross continued throughout the seventeenth century. For example, in 1640 it was underpinned with bricks and in 1696 repairs cost £6 5s 6d.[86] It was eventually demolished in 1737 and its timber re-used in the construction of a house of correction.[87]

The butchers' stalls probably remained in use until the late 1760s, but a steady decline in the annual rent from the middle of the seventeenth century is evidence of a diminishing demand. In 1648 John Walker renegotiated his 1641 lease, when 14 years of the term remained unexpired, and the rent was reduced to £10.[88] When a 21-year lease was granted in 1688 the annual rent had fallen to £5, and the lessee, Edmund Whitefoot, was bound by detailed covenants. He was to maintain 24 'strong and sufficient shop stalls' and 'cause the same ... to be sett upp ... upon the Market days ... onely'. He was also to maintain four posts 'for the manifestation of the limits and bounds of the ... ground'. The row of stalls 'next to the houses towards the North' was to 'be wholly removed and carried away' on Saturday night following the closure of the market, and the other row was to be removed 'upon every Monday by twelve of the Clocke'. The stalls were not to be re-erected until the following Saturday.[89] The rent remained the same when a new lease was granted in 1710, but by 1741 (and perhaps somewhat earlier) it had fallen to £1, and remained the same in 1757.[90]

The borough still owned a fish stall in 1660 when Robert Jennings was paid 26s 2d for 'erecting a newe Fishstall in the m'kett'.[91] This indicates the stall may have been a permanent structure. By the 1670s (and possibly earlier) the leases of

Maldon's float fishery in the Blackwater estuary included a stipulation that the lessees should offer for sale every Wednesday and Saturday at the fish stalls 'within the market place ... a sufficient quantitie of Eeles and Floatfish for the ... supplying of the Inhabitants of the ... Burrough ... att reasonable rates and prices' before offering for sale elsewhere.[92] A lease granted in 1728, possibly the last, contained the same provisions but by the 1730s fish was peddled on the town's streets.[93]

It is likely both the butchers' stalls and Buttermarket did not disappear until the last quarter of the eighteenth century, and the site of the Buttermarket 'near St Peters Church adjoining the Church Yard' was still remembered as late as 1847, as was the site of the 'Butchers Shambles'.[94] The absence of borough records from 1769 to October 1810 makes it impossible to be more precise about the dates of disappearance.

Mercery Row site, *c.*1847–1917

In *c.*1847 buildings on the site of Mercery Row comprised a block of houses and shops stretching from Silver Street in the west to Church Path in the east.[95] The westernmost three were destroyed by fire in 1858 and the land on which they stood was given for the improvement of the highway and to the vicar of All Saints in perpetuity.[96] A few years later, in 1862, the antiquary Henry William King described the remaining houses as 'one ugly block' which entirely obscured the view from High Street of 'the grand south front' of All Saints' church.[97]

Images in photographs of *c.*1900 show a block of four houses with ground-floor shops occupying the east part of the former Row (Plate 3).[98] This visual evidence indicates a late eighteenth-century building date for all four (27, 29, 31 and 33 High Street), but it is possible they may have incorporated vestiges of earlier structures. In 1912 the vicar and churchwardens of All Saints drew attention to 'four unsightly shops' standing in the churchyard and asked for contributions to a fund for their purchase and demolition.[99] The buildings were purchased between 1912 and 1916 by the Maldon solicitor Frederick Bright, acting on behalf of All Saints Churchyard Improvement Committee, and demolished in 1917.[100]

CONCLUSIONS

When Darcy's Tower became Maldon's new moot hall in 1576 the Old Moot Hall's chief functions, of the centre of borough administration and venue of the borough's courts, came to an end. The use by the second decade of the seventeenth century of the former court room and council chamber as a store is symbolic of the Old Moot Hall's loss of relevance and status, and the demolition in 1621, as part of a reorganisation of the High Street market place, marks the end of that process.

PLATE 3: High Street looking east, *c.*1900, showing the area where once stood the Old Moot Hall, Corn Cross and Butcher Row. The jettied building on the extreme left is 21 High Street. Further down on the left the mansard-roofed shop buildings, behind the horse and carriage, stood on part of the site of Mercery Row. They were demolished in 1917. Reproduced by courtesy of Mrs Lynne Raymond

The alternative methods of marketing and trading that had begun to emerge in England in the later sixteenth century doubtless played a part in the fates of Maldon's market-place rows and buildings. Those alternative methods were private marketing and unofficial buying and selling away from the formal market place, which in part represented an effort by traders to evade the dues, tolls, regulations and restrictions of the official market place while at the same time being a response to the growth of inland trade. At Maldon the falling rental income from the borough's stalls reflects a decline in demand for open stalls and a growing preference by butchers and other tradesmen for permanent shops.

With many aspects of market activity migrating to them Maldon's inns were particular beneficiaries of these changes and the number of licensed houses (both inns and alehouses) rose from fourteen in 1632 (of which eight were in or very near the market place)[101] to twenty-two in 1700.[102] In addition, the changes probably rendered obsolete Maldon's Corn Cross, leading to the decision in 1737 to demolish it.[103]

While no traces remain of the Old Moot Hall, Corn Cross, Butcher Row and Mercery Row, the locating of their sites explains the bulbous shape of Maldon's High Street from number 21 eastward to the Moot Hall (Plate 3). This is a market-place shape found in numerous English towns, with Essex examples at Billericay, Chelmsford, Dunmow, Halstead, Rayleigh, Thaxted and elsewhere.

ENDNOTES

1 ERO D/B 3/13/1,2 (*inspeximus* and confirmation, 6 June 1290, of charter granted 7 Oct. 1171 by Henry II in turn confirming privileges in time of his grandfather (Henry I (reigned 1100-35)). The text is published *in extenso* in *Calendar of the Charter Rolls* (vol. II, 1257–1300), 1906, 351–2.

2 W. Gurney Benham and W. J. Petchey seem to have been unaware of the existence of this seal (see Benham 1914, 55–75; Petchey 1972, 165; Petchey 1991, 152–3).

3 The borough's splendid series of court books, papers and rolls (now in ERO) runs from 1384 (ERO D/B 3 series).

4 ERO D/DMb M1 (court roll of manor of Little Maldon, 1383–7).

5 ERO D/B 3/1/1, f. 4r (ordinance made on Monday 8 January 1389).

6 The charter handed to the townsmen has not survived but the borough records include copies made in 1819 (ERO D/B 3/11/5) and *c*.1840 (ERO D/B 3/3/578/25). The text is published *in extenso* in *Calendar of the Patent Rolls*, Henry IV (vol. II (1401–1405)), 1905, 307–8.

7 ERO D/B 3/1/3, f. 58, enrolled conveyance to Maldon Corporation for £55 of Darcy's Tower, 20 February 1576; ERO D/B 3/3/261 (chamberlains' account for 1576 containing details of conversion costs and works). See also Petchey 1972, 166–7; Petchey 1991, 93, 162–3, 181.

8 Edwards includes the statement in caption to item 19 that on the island site 'stood the old Moot Hall'. On the basis of the claims by Edwards and Petchey a similar statement about the island site also appears in Smith 1971, item 12.

9 The author of this essay has seen no evidence the Old Moot Hall was jettied, although it is possible it was.

10 No documentary reference in support of his proposition was given in either Petchey 1972 or Petchey 1991.

11 An early and isolated use of the name ('the High Strete') appears in a valuation of the property of Sir Thomas Darcy, 1545, entry in section for the manor of [Great] Maldon about John Spudell's tenement (ERO D/DGe M135). Another early use is to be found in the chamberlains' account for 1564, recording payment of 4d to Graunt of Heybridge for 'Carying Away of mucke in the High Strete' (ERO D/B 3/3/251).

12 The deeds were deposited in ERO in 2010 as part of accession A12877 and catalogued as D/DCf T316. Messrs Crick and Freemen ceased practising in 2010 and the business premises in Gate Street were taken by another law firm, Kew Law.

13 TNA C 108/15. The deeds were discovered by Kevin Bruce of Tillingham who was investigating the Freshwater family, owners from the late sixteenth to late seventeenth century of real estate in Maldon.

14 A deed of conveyance 24 November 1591 in bundle TNA C 108/15 bears the following contemporary endorsement: 'An assignment ... of the flower deluce & a stable ... w^{ch} was first gr[an]ted by Queen Eliz: to Mr. Mildmay for 60^{tie} years 6 Maii A^{o} 12 Eliz' [1570]. For information on the Drake family and Fleur-de-Luce see Smith 2013, especially 156–7, 223, 225.

15 Smith 2013, 223.

16 Freeman 1895, 128. [Freeman was town clerk and a member of the Maldon law firm Crick and Freeman.]

17 In 1421–22 William Aylewyn paid 6s 8d rent to the borough for one shop 'sub aula' (ERO D/B 3/1/3, mem. 20), while in 1462–63 John Kele held a shop with 'a penteise' under the west end of the hall (ERO D/B 3/1/2). Sixteenth-century references appear below.

18 Lease to John Betyll enrolled in court book ERO D/B 3/1/12, f. 118r.

19 ERO D/B 3/1/33, f. 64v; ERO D/B 3/1/34, f. 40v.

20 A rope of 'here' [horse-hair] fitted in 1532 or 1533 cost 2d (ERO D/B 3/3/233). 12d was paid for a new hearth in 1548 or 1549 (ERO D/B 3/3/241) and two and a half bushels of coal cost 10d in 1565 (ERO D/B 3/3/252). Payment for the carpet was recorded in the chamberlains' account for 1536–37 (ERO D/B 3/3/235).

21 Petchey 1991, 134.

22 Ibid., 31, 106.

23 Details of the leases held by Living and Jervis appear below.

24 ERO D/B 3/3/233.

25 The chamberlains' account for 1576 includes in section headed 'The Chardges and expence aboute ... Darcies Tower' an entry for payment to Loveday, carpenter, for 'hanging of the m[ar]kett bell' (ERO D/B 3/3/261).

26 Evidence for its construction appears in D/B 3/1/2 f. 120r and v.

27 In 1611 Vincent Hastler was paid 16d for 'a loade of gravell' used at the Corn Cross (ERO D/B 3/3/280 (chamberlains' account for 1611)). The author has found no evidence to support W. J. Petchey's statement that the Cross had a 'stone-flagged floor' (Petchey 1991, 134).

28 For example, the chamberlains' account for Michaelmas 1548–Michaelmas 1549 contains a note of 3d paid for nails to fix the king's proclamations 'on the crosse' (ERO D/B 3/3/241), and John Bentley, Maldon's town clerk from 1625 to 1635, instructed in his will, January 1635, that a

legacy of £80 to his son John be paid in two instalments 'at or in the Corne Crosse' (ERO D/ABW 52/214).

29 ERO D/B 3/3/234 (chamberlains' account for 1536–37).

30 ERO D/B 3/1/2, f. 120r and v. Smith had become a member (wardman) of Maldon's Common Council in 1536 at the age of 21, and in January 1538 was elected head wardman. He left the Council during 1540 but was again elected (as a wardman) in January 1542 and in January 1543 became one of the two bailiffs (ERO D/B 3/1/2).

31 ERO D/B 3/3/237 (chamberlains' account for 1540–41).

32 ERO D/B 3/3/238 (chamberlains' account for 1543–44).

33 ERO D/B 3/3/252, 280 (chamberlains' accounts for 1565 and 1611).

34 For evidence of the use of the place-name Market Hill see presentment of the inhabitants of St Peter's parish 'for the Road called by the Name of Market Hill' at a view of frankpledge, 1 October 1739 (ERO D/B 3/1/25).

35 ERO D/B 3/3/243 (chamberlains' account for Michaelmas 1550–Michaelmas 1551) recording the receipt of £3 9s 1d from the parishioners as part payment. The same account gives much interesting detail about the construction of the new market place. A year later the parishioners paid the balance (ERO D/B 3/3/244 (chamberlains' account for Michaelmas 1551–Michaelmas 1552)).

36 ERO D/B 3/1/3 (custumal, 1555, paragraph 55).

37 ERO D/B 3/1/3. (Apples were an important part of Maldon's market gardening industry and in the second half of the seventeenth century were the chief fruit product shipped to London (Cook 2006, 159–160).)

38 For use of the name 'the butter markett' in 1611 see ERO D/B 3/3/280. For use of the name 'the longe markett howse' in 1611 and 1614 see abuttals in title deeds, December 1611 and August 1614, in bundle ERO D/DA T640.

39 See, for example, Petchey 1991, 140.

40 ERO D/B 3/3/269.

41 ERO D/B 3/1/6 f. 28v.

42 D/B 3/1/33 ff. 19v.–20v. A few years previously, in January 1559, the Corporation had decided an allotment be levied 'for & towards the newe making bying or p[ro]viding of one prison' in the town, but nothing further seems to have been done (ERO D/B 3/1/5 ff. 33–34).

43 ERO D/B 3/1/3 ff.73–74 (enrolled copies of the leases). Hurrell's annual rent was 13s 4d and Burton's 26s 8d. Payments of their fines (down-payments or premiums) by Hurrell (20s) and Burton (40s) were recorded in the chamberlains' account for 1589 (ERO D/B 3/3/266). (In their account for 1586 the chamberlains asked that an allowance of 33s 4d be made 'for the rent of the newe shoppe in the Budgerowe heretofore in the tenure of Edward Reynolds, for that noo tenant haith occupyed the same' (ERO D/B 3/3/265). It is postulated the shop may have been in the brick building.)

44 Information about the passage and rooms above is to be found in a Corporation minute, 7 April 1616 (ERO D/B 3/3/479/7).

45 ERO D/B 3/3/280 (chamberlains' account for 1611 recording 4d paid 'for Redd waxe to seale a lease made ... to Robert Pope of a brick shop'); ERO D/B 3/3/564/12 (lease to Smith *alias* Reynolds, 2 March 1612, for 11 years from Christmas 1611). In 1615 the chamberlains noted that Smith *alias* Reynolds had not paid his rent for 1613 and 1614, and that Pope, tenant of 'thother' brick shop owed 35s rent for 1614 (ERO D/B 3/3/284 (account for 1615)).

46 ERO D/B 3/3/280. W. J. Petchey's claim that the Market Cross *alias* Corn Cross was the same building as the brick building seems to stem from confusion (Petchey 1972, 17, footnote 1).

47 Evidence it extended this far up High Street is to be found in a 1542 conveyance of a house plot in the block now forming numbers 15, 17, 19 and 21 High Street, probably the site of the present-day number 17, which describes the plot as abutting on the market place ('forum de Maldon') (feoffment or deed of gift, 23 March 1542 (reciting from 12 February 1522), in bundle TNA C 108/15).

48 ERO D/B 3/1/3.

49 ERO D/B 3/1/5, f. 78v. The resident butchers were named as William Living, William Reynolds, Thomas Reynolds and Thomas Collin. On the other weekdays (Monday to Friday) it was to remain permissible for all butchers to trade at their own houses. (W. J. Petchey distorted the evidence by stating the new trading area for butchers was bounded in the west by the 'east end of the Old Moot Hall' (Petchey 1972, 15–16).)

50 ERO D/B 3/3/251 (chamberlains' account for 1564).

51 This name appears (June 1565) in court book ERO D/B 3/1/5 f. 139v.

52 ERO D/B 3/1/6, f. 70v., ordinance 9 May. The eastern limit was described as the workshop ('officina') of Anthony Hussey, saddler, next to St Peter's Lane.

53 ERO D/DGe M135. Both shops were held of the manor of Great Maldon. For title deeds 1669–1916 of four houses and shops at the east end of the Row (giving interesting information) see ERO T/B 428. W. J. Petchey's statement (Petchey 1972, 11, 33, and Petchey 1991, 96) that the house called the Bull purchased by John Manning (from Queen Elizabeth at an unknown date between 1558 and 1567), and rebuilt and renamed the Spread Eagle, stood in Mercery Row is incorrect. It stood on the south side of High Street in the parish of All Saints, and on the west side of the King's Head inn. Detailed and interesting information, 1567, about Manning's purchase is set out in ERO D/B 3/1/33, f. 17r and v. For information about the Spread Eagle in the eighteenth century see Smith 2013, especially 223–5, 251–2, 278, 325.

54 Textile manufacture had ceased altogether by the late 1720s (Smith 2013, 281).

55 ERO D/B 3/3/238 (chamberlains' account for Michaelmas 1543–Michaelmas 1544). (Collet continued to rent a stall until 1559.)

56 (Petchey 1991, 140); the stocks were beside the Old Moot Hall (Petchey 1991, 136).

57 ERO D/B 3/3/294 (chamberlains' account for 1625). For evidence that Brockis was a tailor see ERO D/AZ 1/6 (record of marriage by licence 1628). W. J. Petchey's statement that the Fishmarket had been in existence since 'at least 1547', and that it was 'near the New Market Place' is problematic (Petchey 1972, 14). The evidence cited is the chamberlains' account for 1547 (ERO D/B 3/3/240), but this records merely that rent had been received from Richard Collett for 'a stall in the Fyshem'kett'. Even more

problematic are Petchey's statements in 1991 that the Fish Market comprised 'two or three stalls' and was situated alongside All Saints church tower, for which no evidence is cited (Petchey 1991, 134 and fig. 16). While the messuage opposite the Fish Market purchased by Brockis has yet to be identified it can with certainty be said that it was not the Blue Boar, the large house opposite All Saints' church tower

58 ERO D/ABW 41/59. The will was proved on 11 July 1607.
59 Note of Landcheap payments by Francis and Greening in chamberlains' account for 1666 (ERO D/B 3/3/93).
60 Petchey 1991, 118.
61 W. J. Petchey claimed the Bull Ring was 'beside' and to the west of the building he incorrectly identified as being on the site of the Old Moot Hall (Petchey 1991, 135 (map, fig. 16) and 136). Unfortunately, Petchey cites no evidence and the author of this essay has seen no evidence to substantiate Petchey's claim. Furthermore, Petchey's map (Petchey 1991, 135 (map, fig. 16)) shows the postulated site to be in open ground, but by the fifteenth century much that ground had already been developed for houses (sites of present-day 15 and 17 High Street) (see title deeds in TNA C 108/15). For information about bull baiting at Maldon in the late seventeenth and eighteenth centuries see Smith 2013, 217, 441.
62 ERO D/B 3/3/261, 274, 280 and 109 (accounts for 1576, 1603, 1611 and 1660).
63 The building (19 and 21 High Street) incorrectly identified by Petchey as the site of the Old Moot Hall abutted west not on stables but upon another house (see abuttals in title deeds 12 February 1522 and 23 March 1542 in TNA C 108/15). The 1522 deed recites a deed (feoffment given at Maldon) of 4 Nov. 1517.
64 Recitals from 1577 in quitclaim, 29 August 1587 (TNA C 108/15); abuttals and measurements in enrolled deed of conveyance, 31 March 1589 (ERO D/B 3/1/34, f. 39r); abuttals and recitals in deed of conveyance of 35 High Street, 23 February 1856 (original in private custody in Maldon, synopsis made by and in possession of the author).
65 ERO D/B 3/3/265.
66 Borough rental, 1597, in ERO D/B 3/1/3.
67 ERO D/B 3/3/261 (chamberlains' account for 1576). Living paid a 12d fine for the lease.
68 ERO D/B 3/1/3, ff. 69–70.
69 ERO D/B 3/1/3, ff. 67–8; D/B 3/11/19.
70 Borough rental, 1597, in ERO D/B 3/1/3.
71 In 1618 8d was paid for carrying those things 'into thold moothall' (ERO D/B 3/3/287 (chamberlains' account for 1618)).
72 ERO D/B 3/3/290 (chamberlains' account for 1621).
73 ERO D/B 3/3/286, 287 (chamberlains' accounts for 1617 and 1618).
74 ERO D/B 3/3/479/7 (minute (fragmentary) with marks and signatures of twenty members). Mrs Living was undoubtedly Elizabeth Living, widow of Christopher Living, alderman and butcher, who had died in February 1616 (ERO D/ABW 24/161; ERO D/P 201/1/1).
75 In 1618 the chamberlains recorded that the previous year's rent of 30s for one of the shops remained unpaid by Edward Smith *alias* Reynolds the younger (ERO D/B 3/3/287 (chamberlains' account for 1618)).
76 ERO D/B 3/3/289 (chamberlains' account for 1620).
77 ERO D/B 3/3/393/25, resolution 14 March 1621.
78 ERO D/B 3/3/293 (chamberlains' account for 1623). (Plume's son Thomas, baptised in All Saints' church in August 1630, became archdeacon of Rochester and Maldon's greatest benefactor.)
79 Lease, 30 December 1639, of Butcher Row 'now or late in the tenure of Thomas Plume, gent', to John Walker of Little Baddow, yeoman (enrolled in ERO D/B 3/1/3, ff. 105–7). See also Smith 2013, 24.
80 ERO D/B 3/3/290 (chamberlains' account for 1621).
81 ERO D/B 3/3/290 (chamberlains' account for 1621).
82 ERO D/B 3/3/162, 287 (chamberlains' accounts for 1599 and 1618).
83 Corporation resolution 30 May 1621 recorded in ERO D/B 3/1/19, f. 136r; ERO D/B 3/3/290 (chamberlains' account for 1621).
84 ERO D/B 3/3/297 (chamberlains' account for 1628).
85 ERO D/B 3/3/309 (chamberlains' account for 1646). W. J. Petchey's statement that the Lobhole was re-roofed in 1640 is problematic (Petchey 1972, 20). The chamberlains' account for 1640 (ERO D/B 3/3/304) is cited as evidence, but the author of this essay has been unable to find any mention of re-roofing in the account.
86 ERO D/B 3/3/304, 499 (chamberlains' accounts for 1640 and 1696).
87 Smith 2013, 24, 84.
88 ERO D/B 3/11/21 (lease for 21 years, 26 December 1648).
89 ERO D/B 3/11/32.
90 The lease granted in 1710 (to William Spalding and Henry Eve) was for a few months only, from 10 July to 25 December (ERO D/B 3/1/30 (vote of house, 10 July 1710)). See also borough rentals, 1741 and 1757 (ERO D/B 3/3/340, 354).
91 ERO D/B 3/3/109 (chamberlains' account for 1660).
92 ERO D/B 3/11/26 (lease, 24 April 1674, for 7 years from 25 March at an annual rent of 40s, Corporation to Thomas Turner of Maldon, fisherman). This is the earliest surviving lease of the float fishery. For leases granted in 1681, 1701 and 1709 and containing the same provisions, see ERO D/B 3/3/578/6 and D/B 3/11/36, 40.
93 ERO D/B 3/11/43; Smith 2013, 220.
94 ERO D/DCf B6 (case for opinion of counsel in dispute about Maldon Fair).
95 Fitch 1895, 70; Hughes 1909, 1. Tithe map ERO D/P 201/27/2.
96 The donor was the Revd John Bailey, vicar of Stoke Holy Cross, near Norwich. His gift is commemorated in a mural tablet above the church south-west door.
97 ERO T/P 196/4 p. 332 (H. W. King, 'Ecclesiae Essexienses').
98 See, for example, photograph reproduced in Came 1985, item 22, and Lacey 2010, 26.
99 ERO D/P 201/6/2.
100 ERO T/B 428.
101 Alehouse recognizances February 1632 in ERO D/B 3/1/20.
102 Smith 2013, 222. For the trading functions of English urban inns during this period see Everitt 1973, 104–13, and for Maldon examples in the eighteenth century see Smith 2013, 25–7.
103 Smith 2013, 25.

ACKNOWLEDGEMENTS

Thanks are extended to Mrs Lynne Raymond and Dr Christopher Thornton for helpful comments and criticism during the writing of this essay.

ABBREVIATIONS

ERO Essex Record Office
HMC Royal Commission on Historical Manuscripts
TNA The National Archives

BIBLIOGRAPHY

Benham, W. Gurney 1914, 'Arms of the Essex Boroughs. II. Maldon', *Essex Review*, 23, 55–75

Came, P. 1985, *Maldon and Heybridge in old picture postcard*s (Zaltbommel, Netherlands)

Calendar of the Charter Rolls 1906, vol. II, 1257–1300 (London, HMSO)

Calendar of the Patent Rolls, Henry IV 1905, vol. II (1401–1405) (London, HMSO)

Cook, B. 2006, 'The Coastal Trade of Maldon, *c*.1565-*c*.1702' (unpubl. PhD thesis, Univ. of Essex)

Edwards, A.C. 1967, *The Face of Essex*, Essex Record Office Publication No. 46 (Chelmsford)

Everitt, A. 1973, 'The English Urban Inn, 1560–1760', in Everitt, A.M. (ed.), *Perspectives in English Urban History* (Basingstoke), 91–137

Fitch, E.A. 1895, *Maldon and the River Blackwater* (Maldon)

Freeman, J.C. 1895, 'Maldon Sign', *Essex Review*, 4, 128

Hughes, L. 1909, *A Guide to the Church of All Saints, Maldon* (Maldon and London)

Lacey, P. 2010, *Maldon and Heybridge Revisited* (Stroud)

Petchey, W.J. 1972, 'The Borough of Maldon 1500–1688' (unpubl. PhD thesis, Univ. of Leicester)

Petchey, W.J. 1991, *A Prospect of Maldon, 1500–1689*, Essex Record Office Publication No.113 (Chelmsford)

Rowley, N. 1970, *Essex Towns 1540–1640*, Seax Teaching Portfolio No. 2, Essex Record Office Publication No. 53 (Chelmsford)

Royal Commission on Historical Manuscripts 1883, 'Report on the Manuscripts of the Dean and Chapter of St Paul's' in *Ninth Report of the Royal Commission on Historical Manuscripts. Part I Report and Appendix* (London, HMSO), 1–72

Smith, J.R. 1971, *Maldon: A Pictorial History* (London and Chelmsford)

Smith, J.R. 2013, *The Borough of Maldon 1688–1800: a Golden Age* (Studley)

THE ESSEX SOCIETY FOR ARCHAEOLOGY & HISTORY
Volume 8 · 2017

A history of the oil, gas and petrochemical industries on Canvey Island

Stephen Murray

The oil, gas and petrochemical industries were established on Canvey Island in the Thames estuary from the 1930s. Canvey's location and setting engendered the deployment of innovative engineering and technology and subjected facilities to considerable scrutiny and challenge. Pioneering technologies included a liquefied natural gas plant and the seminal use of quantified risk assessment to evaluate industrial hazards. Sometimes technology failed, or failed to meet expectations, thereby adversely affecting public perceptions of industry. Developments were opposed by local authorities, protest groups and in Parliament, and were examined at several public inquiries. Some planning permission refusals were overturned by the government on the premise that national economic interest outweighed local amenity and environmental concerns. Yet, despite these approvals, politico-economic externalities meant that none of the projected oil refineries on Canvey was ever completed. Hazardous facilities continue to be subject to scrutiny by the local community.

INTRODUCTION

Early gas companies and their iconic gas-holders have an established place in the historical and industrial archaeological record (Everard 1992; Francis 2010). However, the facilities of the late-twentieth century hydrocarbon—oil, gas and petrochemical—industries have been largely neglected. As Stratton and Trinder (2000, 34–5) have observed: 'behind their high-security fences, oil refineries appear secretive ... scarcely mentioned in the standard works on industrial archaeology', but they deserve attention as some of 'the most important industrial sites established during the twentieth century'. This article addresses this lacuna through an examination of the hydrocarbon industries of Canvey Island, Essex from 1930 to 2017.

Canvey is a 1,840ha low-lying island in the Thames estuary, 48km east of London (Fig. 1); it is well located for the loading and discharge of ocean-going vessels. At their peak in 1975, oil and gas organisations owned, or planned to develop, over one-third of the island (Turner 1975). Canvey was a *cause célèbre* with protests against oil refineries and the pioneering use of quantified risk assessment to analyse the hazards to which the public were exposed. Hydrocarbon facilities were subject to close scrutiny including at an exceptional seven public inquiries held between 1963 and 1982.

This paper addresses three themes. First, it identifies and examines the hydrocarbon facilities proposed or built on Canvey and the factors that shaped their establishment, development or abandonment. Secondly, it assesses the extent to which economic, commercial and political factors, such as the requirement for increased refining capacity, were in conflict with local needs for a safe and healthy place to live and work, and how these tensions were manifest and addressed. Thirdly, it examines the engineering detail of some of the novel or pioneering technologies which were deployed on Canvey and assesses their operational effectiveness and limitations.

EARLY PETROLEUM INDUSTRY ON THE THAMES

Petroleum products had been imported into the UK, principally from the United States, since the 1860s. An 1872 Thames byelaw prohibited any vessel carrying petroleum from proceeding 'above or westward of Thameshaven' (Cracknell 1952, 80). To the west the river narrows with an increased risk of collision, fire or explosion. Ships were therefore required to offload petroleum at this point, for which oil companies built jetties, storage facilities and small refineries. In the inter-war period large refineries were built close to sources of crude oil such as Abadan, Iran; Aruba and Curaçao in the Dutch Caribbean; and Houston, Texas (Cracknell 1952, 85). British refineries were generally small-scale, designed to produce speciality products from imported petroleum. For example, in 1921, London and Thames-Haven Oil Wharves Limited built a refinery at Shell Haven, and Cory Bros constructed an oil cracking plant at Coryton for the production of petroleum products.

The hydrocarbon industry started on Canvey Island in the 1930s when its road connections improved. Before 1931 when a bridge was built the access to Canvey was by ferry or across a ford at low tide (McCave 1985). In 1931 London & Coastal Oil Wharves Limited planned to construct an oil refinery and tank farm in the south-west of Canvey (Fig. 1). Canvey Island Urban District Council refused to sanction the proposal on the basis that it would injure 'the holiday resort character of the island' (Cracknell 1952). At the ensuing public inquiry, London & Coastal argued that Canvey was the only remaining suitable site on the Thames. The Government Minister permitted development of a storage facility but not the refinery (Penn 2010).[1] By 1937, the company had built a deep-water jetty and twenty-seven storage tanks (Britain from Above 1937).

After the Second World War refining strategy changed; consuming nations built refineries to meet expanding home demand for petroleum; crude oil for refining was imported rather than refined products (see Fig. 2 (Stone and Wigley 1968, 102–3)). The Shell Group constructed the Middle East Crude refinery at Shell Haven and Cory Bros a refinery extension at Coryton. As demand for petroleum grew new companies entered the market. In 1948, Trinidad Leaseholders and Caltex established joint marketing arrangements in the UK through a new business, the Regent Oil Company (Grace's Guide 2017). Regent built an oil terminal on Canvey immediately east of the London & Coastal site, including two deep-water jetties. In 1954 this site had twenty-five storage tanks and distributed petroleum products by road tanker (Britain from Above 1954).

GAS INDUSTRY ON CANVEY

The gas industry's interest in Canvey began in 1930 when the Gas Light and Coke Company (GLCC) purchased 15.4ha

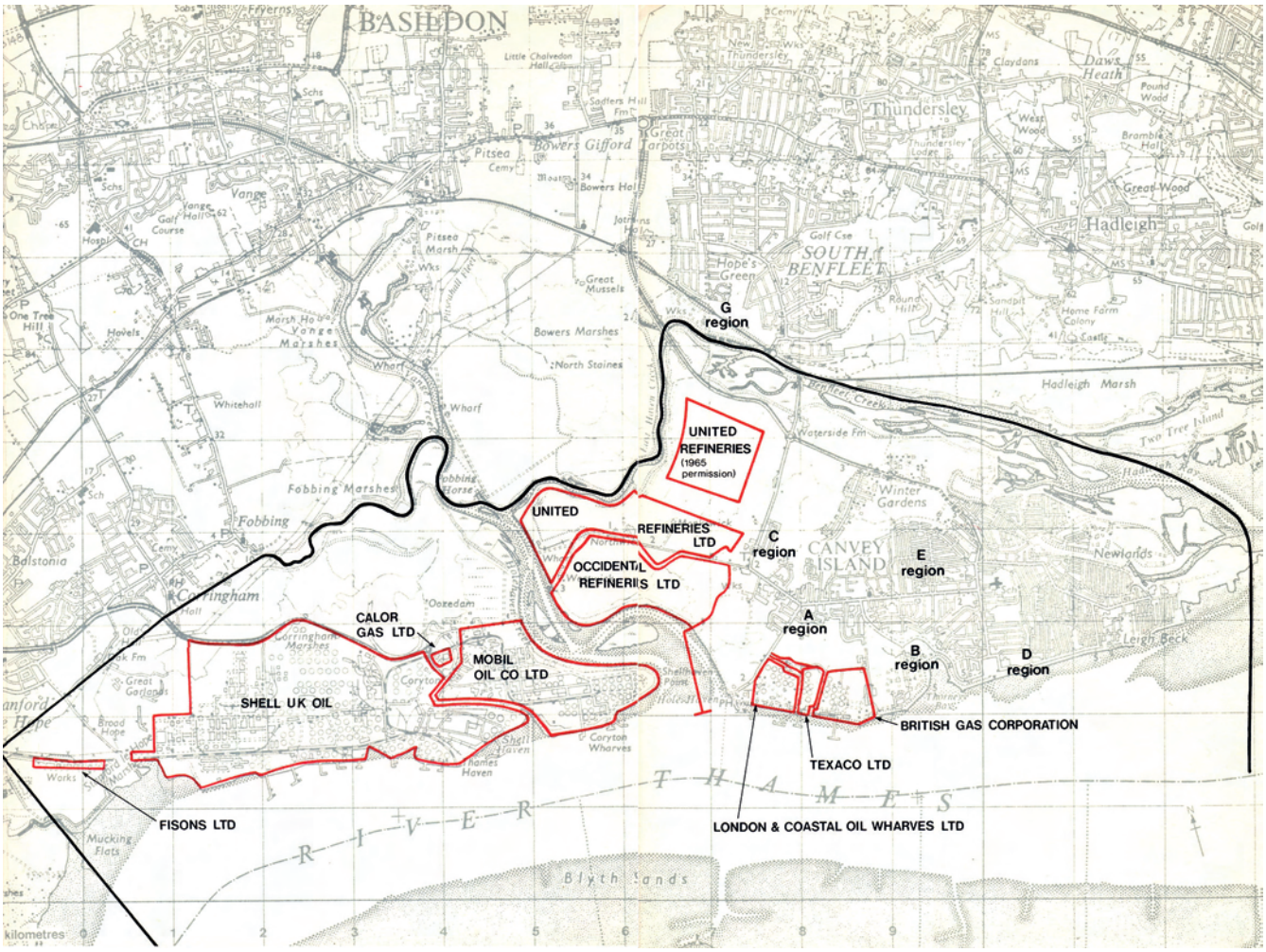


FIGURE 1: Location of hazardous industries in South-East Essex (HSE 1978).

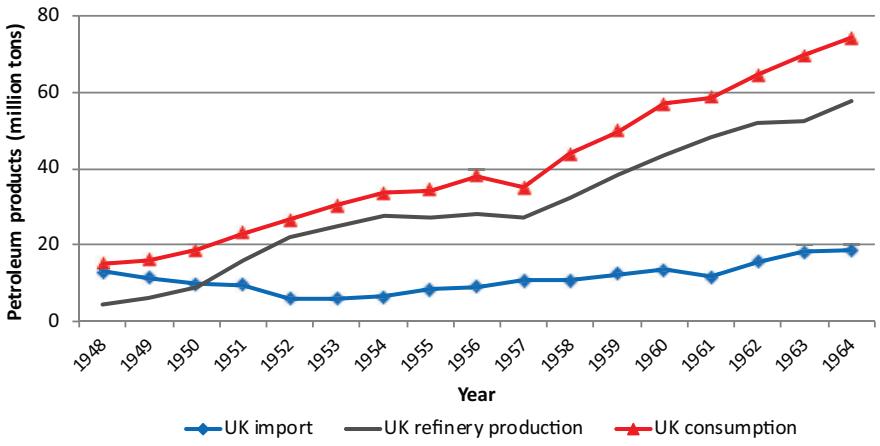


FIGURE 2: UK petroleum imports, consumption and refinery production, 1948–64 (adapted from Stone and Wigley 1968, 102–3).

of Scar House farm to construct a gasworks (Everard 1992, 331–36). This was originally intended to replace the works at Southend-on-Sea, 11km downriver; Canvey's deepwater moorings would have enabled colliers to offload at any tidal state. However, the GLCC rebuilt the works at Southend-on-Sea. The company obtained legal powers in 1933 to supply gas to the island; this was through an extension to the high pressure—50 psi (344kPa)—distribution system of the former Grays and Tilbury Gas Company, absorbed by the GLCC in 1930 (Copp 1967, 19–21). The system on Canvey included two high-pressure gas storage vessels, a sphere in 1937 and a cylindrical 'bullet' built in the late 1940s, known locally as the 'ball and sausage' (Essex County Council 2001). These provided diurnal storage: a compressor filled the vessels with pressurised gas when demand was low during the night and supplied gas to consumers during the day (Canvey Community Archive 2015).

Developments on Canvey from the late 1950s reflect two major technological changes in the nationalised British gas industry. The first was a shift from coal carbonisation to

alternative processes for the manufacture of town gas, and secondly the use of natural gas as a primary fuel instead of town gas (Williams 1981, 121–38; 180–204). Coking coals used for carbonisation had become scarce and expensive; furthermore, the gas-making process was labour intensive in a period of rising wages, and working conditions were unpleasant. There was a limited market for some by-products and many were toxic and presented difficulties of disposal. Alternative processes for manufacturing town gas were developed including the Lurgi process using low-grade coal, superheated steam and oxygen, and reforming processes that used refinery tail-gases or light distillate as feedstock (Williams 1981, 124–5; Wilson 1969, 19–34). The availability of petroleum feedstock was facilitated by the post-war expansion of refining capacity. In 1958, the North Thames Gas Board (NTGB) built a reforming plant at Romford gasworks supplied with tail-gases from Shell Haven refinery via a 24in (0.6m) diameter pipeline, this was extended to take gas from Coryton refinery in 1959 (Falkus 1988, 62–4).

Liquefied natural gas – Canvey pilot plant

Meanwhile, in 1956, the Gas Council entered an agreement with Conch International Methane Ltd to import liquefied natural gas (LNG) from Lake Charles, Louisiana for use as reformer feedstock (Wilson 1969, 38). A cargo vessel, renamed 'Methane Pioneer', was converted to carry 2,200 tonnes of LNG, kept below its boiling point of minus 162°C. The first international transhipment landed at Canvey in February 1959. LNG was imported at 7*d.*/therm (£1/MWh) and town gas produced by continuous reforming using methane cost 9.04–9.52d./therm (£1.29–£1.35/MWh), this compared favourably with gas produced by coal carbonisation costing 13.89–18.04d./therm (£1.98–£2.56/MWh) (Falkus 1988, 71–3). The NTGB, on behalf of the Gas Council, constructed a LNG storage and processing facility at Canvey (Plate 1).[2] The plant included two 1,000 tonne insulated storage tanks, a 100,000 ft^3 (2,832 m^3) Wiggins boil-off gasholder and open-rack seawater LNG vaporisers. Novel materials were used for the low-temperature conditions: aluminium alloy with 3–5% magnesium for tanks and pipework, and 9% nickel steel for high-strength service (Walters and Ward 1965, 3).[3] Re-gasified methane was fed to the Shell Haven–Romford pipeline (Falkus 1988, 3; Copp et al. 1966, 6). The first 2,400m was constructed from 'close grained steel suitable for cold-stressed conditions' to mitigate against fracture in the event that cold fluid was inadvertently introduced into the pipeline. Plate 1 shows the layout of the terminal with the 'ball and sausage' in the foreground, the aluminium roofs of the in-ground LNG tanks on the left, the 1964 LNG plant in the middle distance, the 1958 LNG plant to the right, and the vertical structures of the reformer plant in the top right. In all 12,000 tonnes of LNG was imported over 14 months.

Liquefied natural gas —bulk storage and processing

Having proven the viability in the trial scheme, the Gas Council embarked on a project to import 300,000 tonnes of LNG annually, enough to supply 10% of Britain's gas needs (Wilson 1969, 38). The Gas Council negotiated a 15-year

PLATE 1: Canvey LNG terminal *c.* 1970 (Gas Council 1971, 33).

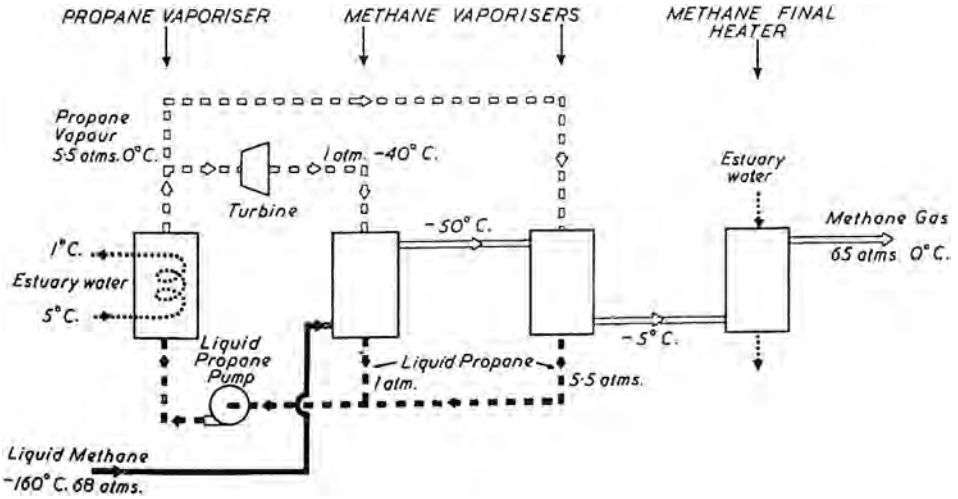


FIGURE 3: LNG intermediate fluid vaporisers (Walters and Ward 1965, fig. 7).

contract to purchase LNG from Algeria (Peebles 1980, 190–4). Two dedicated tankers, each of 12,000 tonnes, were loaded at the port of Arzew on the Mediterranean, produced from the gas field at Hassi R'Mel in the Sahara. The first commercial shipment of LNG arrived in October 1964. The new £3.5 million plant at Canvey included a 229m jetty with insulated 14in (0.36m) diameter Aluminium-Magnesium alloy pipes feeding five, later six, storage tanks, each of 4,000 tonnes capacity, 30m in diameter and 19m high. These consisted of an aluminium alloy inner tank and a steel outer tank with the 0.9m interstitial space filled with Perlite insulation (Wilson 1969, 40–2). Boil-off gas was fed to a 500,000 ft^3 (14,158m^3) gasholder. The original open-rack vaporisers were operationally challenging because of the formation of ice. The problem was overcome in two further vaporisers each rated at fifty tonnes/hour, which used propane as an intermediate heat-exchange fluid as shown in Fig. 3 (Walters and Ward 1965, fig. 7).

In 1962–3, the Area Gas Boards jointly constructed a 341km, 18in (0.46m) diameter methane pipeline from Canvey Island to Westgate Hill, Bradford (Fig. 4). Operating up to 1,000 psi (6,895kPa), it had eight spur lines to give eight Gas Boards access to methane to enrich Lurgi gas or as reformer feedstock (Wilson 1969, 43).[4] In 1963–4, two ICI continuous catalytic reformers were commissioned at Canvey each with an output of 15 million ft^3 (425,000m^3)/day of lean gas. The reformers used naphtha, liquefied petroleum gas (LPG) or methane as a feedstock; the former was transferred by pipeline from Shell Haven refinery. The local gas network was supplied with this lean gas via a 10in (0.25m) diameter pipeline operating at 150 psi (1,034kPa). Later, reformer gas was used to reduce the Wobbe Number of the rich Algerian natural gas—1,440–80 Btu/ft^3 (53.65–55.14 MJ/m^3) fed to the methane pipeline to make it compatible with leaner North Sea gas—1,335 Btu/ft^3 (49.74 MJ/m^3) (Tiratsoo 1972, 216; Walters 1971, 557). Given this major NTGB development the District Council argued that the methane terminal's rateable value should be increased to reflect that it manufactured, rather than just processed, gas and that the community had been 'denied any direct financial benefit in terms of rates' since the pioneer plant had been completed in 1959.[5]

To further expand its operations the NTGB applied for outline permission to construct 'within the next five years' a larger LNG import and reforming plant on a 45ha site west of the London & Coastal site. A public inquiry in October 1963—see Table 1—recommended that consent should be granted.[6] The government approved the outline development in February 1966; however, by this time North Sea gas had been discovered and the plans for the new facility were abandoned.[7]

In place of the new plant the Gas Council constructed four innovative in-ground LNG storage tanks (Plate 1 and Fig. 5 (Williams 1981, 146)). Each tank was 39.6m in diameter, 39.6m deep and held 21,000 tonnes of LNG. The tanks were constructed by sinking a ring of double-pass tubes to a depth of 46m. Chilled brine was circulated to freeze the ground and unfrozen soil was excavated from the centre. Concrete ring-beams at ground level supported the gas-tight domed aluminium roofs (Bishop 2010). However, the tanks were operationally problematic. LNG permeated into fissures in the bare walls leading to excessive boil-off which added to operating costs as this gas had to be compressed.[8] The British Gas Corporation (BGC) claimed the issue was 'engineering and economic, rather than safety oriented' (McLain 1975, 11).[9] The frozen area around the tanks continued to grow leading to ground heave of about 1m over ten years and a lateral growth of about 2m per year (HSE 1978, 64–5). To limit gas leakage the tanks were operated no more than one-third full, thus reducing their operational capability. A number of double-pass pipes were sunk in an outer ring around the tanks through which warm water was circulated to limit the growth of the frozen ground (Bishop 2010). The tanks were decommissioned in 1982.

North Sea gas

The second major technological change in the British gas industry arose from the discovery of natural gas in the North Sea. The first gas was landed at Easington, East Yorkshire in May 1967; a 24in (0.6m) diameter feeder main was constructed to supply gas to the Canvey–Bradford/Leeds methane pipeline at Totley near Sheffield (see Fig. 4). The Gas Council constructed further 36in (0.9m) diameter feeder pipelines from the gas terminal at Bacton, Norfolk from 1968 (Wilson 1974, 26–7). The methane pipeline and its feeders formed the basis of the National Transmission System (NTS) akin to the 275/400 kV electricity 'super grid' that was being built at this time (Hannah 1982, 252–3), both designed to

Organisation(s)	Proposal	Inquiry held	Main issues	Inquiry recommendation	Ministerial decision	Outcome
NTGB	LNG and reforming plant	October 1963	Visual amenity, property devaluation, fire hazard	Development approved	Consent granted, March 1966	Not built
AGIP/URL	Two million ton/year refinery	May–June 1965	Amenity (air pollution), appearance, traffic congestion, 'green belt'	Refusal upheld	Consent granted: national interest should override local interest, December 1965	Not built
ORL/URL	Six million ton/year refinery	December 1970	Pollution, economics, fire and explosion, traffic congestion	Development approved	Consent granted to ORL, November 1971	Construction 1972–5, abandoned 1978
URL/Murco	Four million ton/year refinery	March–April 1971	A 'serious environmental mistake', space between industry and residential areas	Consent refused	Consent refused: impact on open space, November 1971	Re-sited, URL reapplied for consent
URL	Four million ton/year refinery (resited)	January 1973	Public campaign against refinery pollution	Consent refused	Consent granted: 'economic interests outweigh environmental disadvantages', March 1973	Not built, URL and ORL discuss joint 10 million ton/year refinery
Dept. of the Environment, URL	Revocation of URL's 1973 planning permission	February–March 1975	Totality of risk to people	Deferred pending assessment of totality of risk	HSC to assess risks, March 1976	*Canvey Report* published June 1978, inquiry reconvened 1980
		June–July 1980	HSE *Canvey Report*	Deferred pending methane terminal inquiry	Methane terminal discontinuance inquiry established, 1981	Discontinuance inquiry held 1982
Dept. of the Environment, Dept. of Energy, BGC	Methane terminal discontinuance	January–May 1982	Risk quantification, Canvey: a second report	BGC terminal operations to continue, URL's 1973 planning consent to stand	Inquiry recommendations adopted, 1982	Continued operation of BGC terminal, URL refinery not developed

TABLE 1: Summary of public inquiries into hydrocarbon developments on Canvey Island 1963–1982.

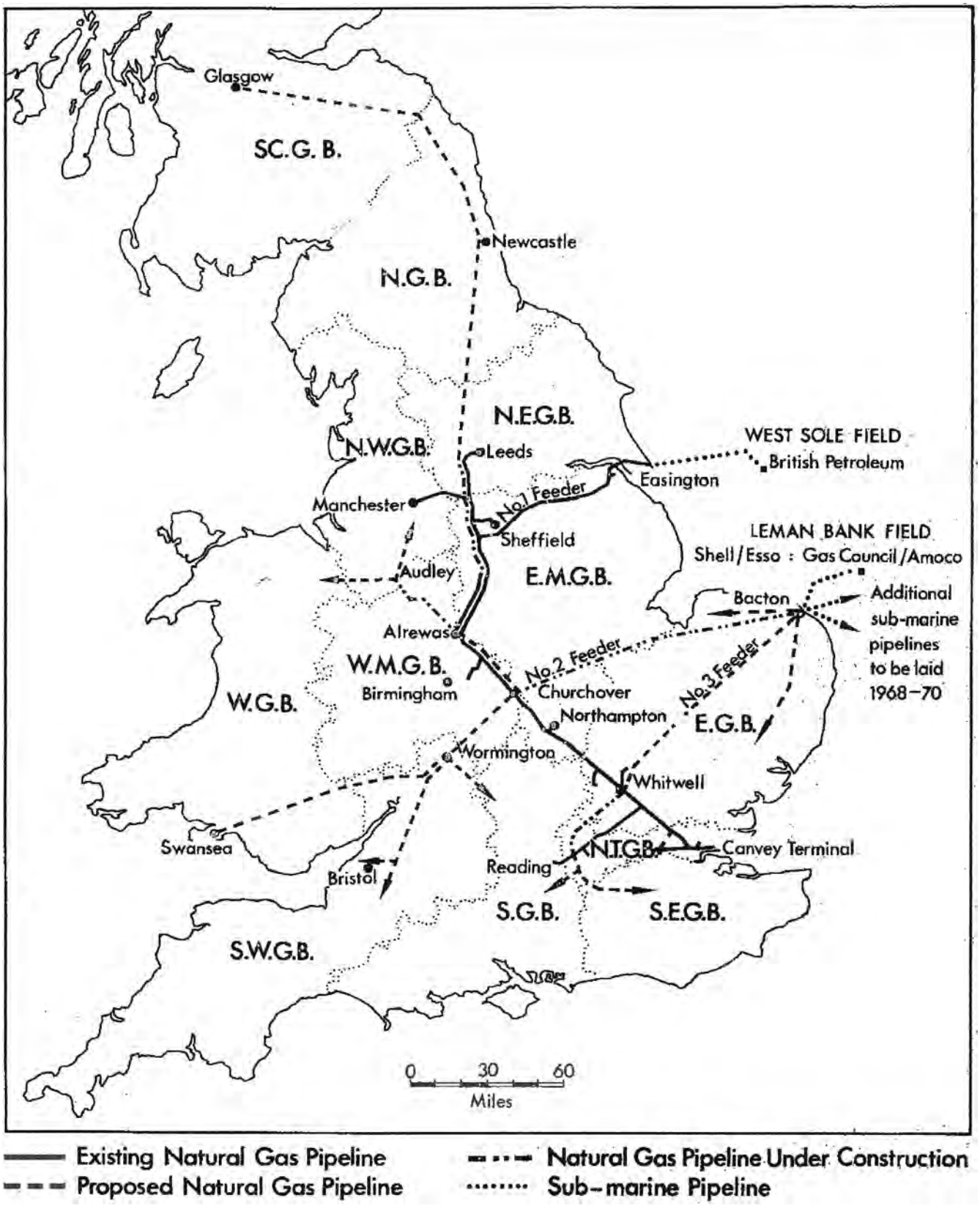


FIGURE 4: The National Transmission System 1969 (Cormack *et al.* 1968, fig. 1).

transmit and distribute energy in bulk. With an assured supply of North Sea gas the Gas Council instigated a programme to convert all British users to natural gas over the period 1967 to 1977, Canvey having been converted in a pilot scheme in 1966 (Williams 1981, 180–204).

The advent of North Sea gas shifted the role of Canvey from a supply terminal to a seasonal storage peak-shaving plant. A 205 tonnes/day mixed refrigerant cascade-cycle liquefaction plant was commissioned in 1975. This enabled gas to be abstracted from the NTS at periods of low demand and stored as a liquid, then re-vaporised and fed to the NTS when demand was high. To augment supplies road tankers took LNG from Canvey to the terminal at Ambergate near Derby where it was stored and then vaporised and fed into

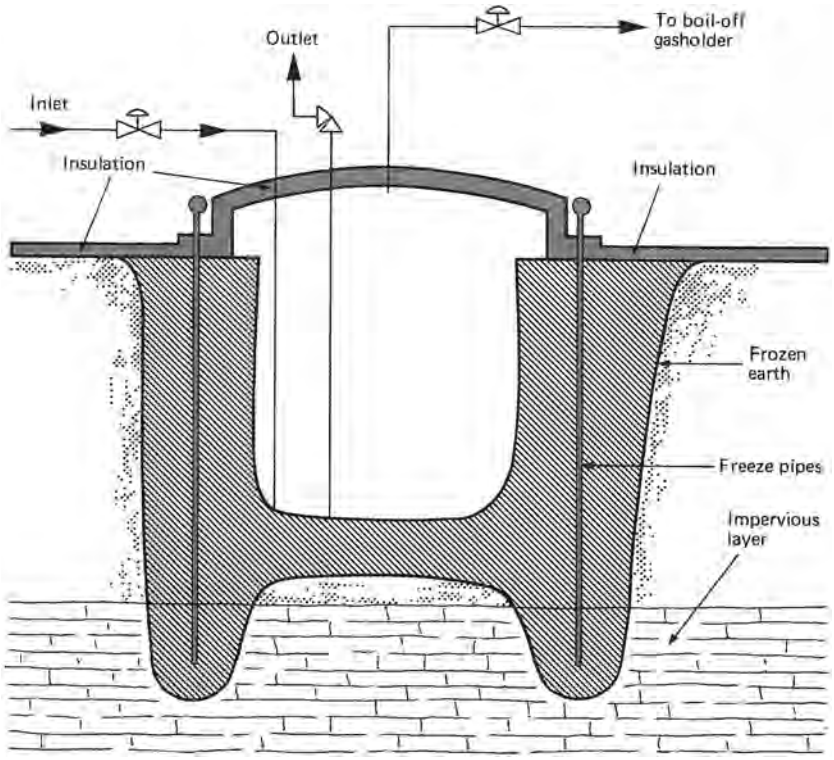


FIGURE 5: In-ground LNG storage tank (Wilson 1974, fig. 16).

the NTS when required (McHugh 1983, 192). The import of LNG became less significant and ceased from Algeria in 1981, although occasional cargoes were delivered to Canvey until 1990. The import of LNG became important again in the late 1990s, including a proposed development on Canvey, see below. While developments by the gas industry on Canvey were largely uncontentious, proposals by the oil industry were more controversial.

OIL REFINERY PROPOSALS

In the early 1960s the oil refining industry took an interest in Canvey's strategic location as British demand for petroleum was expected to grow significantly (Fig. 2) and further refinery capacity was required.[10] Several oil companies were involved with Canvey: Azienda Generale Italiana Petroli (AGIP) and United Refineries Ltd, both subsidiaries of the Italian state-owned ENI S.p.A.; Occidental Refineries Ltd (ORL), a subsidiary of the American Occidental Petroleum Corporation; and Murco Petroleum Ltd, a subsidiary of the US Murphy Oil Corporation. During the period 1964–75, these companies formally proposed four oil refineries on Canvey, although only one was partly constructed. The proposals illustrate the tensions between national and commercial interests, public concerns about amenity, and the hazards associated with industrial developments. Petts *et al.* (1986, 3) note that public inquiries into hydrocarbon developments in the UK are relatively uncommon; exceptionally, there were seven inquiries concerning developments on Canvey between 1963 and 1982; details are summarised in Table 1.

AGIP refinery

In 1964, Essex County Council refused an application by AGIP to build a refinery on Canvey. Public opposition included a petition signed by over 20,000 people objecting to air pollution and fumes (Anon 1964). The local Member of Parliament, Bernard Braine, raised the issue during a debate in the House of Commons, noting that residents 'would be exposed for short periods to high concentrations of sulphur dioxide' and 'the additional nuisance of [an] oily smell' (Hansard 1964).[11] AGIP appealed against the refusal decision and a public inquiry was held which recommended the appeal be dismissed on the grounds the refinery would diminish the amenity function of the 'green wedge separating the Thames-side industrial belt from the residential districts'.[12] However, the Labour Minister of Housing and Local Government, Richard Crossman, ruled that since the refinery would save £4–6 million per year in petroleum import costs, national economic interest should override local objections.[13] As Fudge *et al.* (2008, 6–8) have said, this reflects the concern of political leaders to assure security of energy supply and, in a period of nationalisation, to facilitate national economic performance and deliver post-war 'public good'. Crossman overturned the inquiry recommendation and granted consent for the refinery. Yet, no construction work was undertaken as the two million tonnes/year refinery was thought by contemporary commentators to be too small to be economic (Hansard 1974).[14]

Occidental Refineries Ltd (ORL)

In 1970 ORL, initially in partnership with United Refineries Ltd, applied to build a six million tonnes/year refinery near Hole Haven creek for the production of heavy fuel oils.[15] There were objections about pollution; the impact on health; amenity; and traffic congestion. Nevertheless, the inquiry inspector recommended approval, which was endorsed by the Secretary of State.[16] Occidental constructed about twenty oil tanks, a concrete chimney and a deep-water jetty (Plate 2). Work stopped in 1975 when, having invested £55 million,

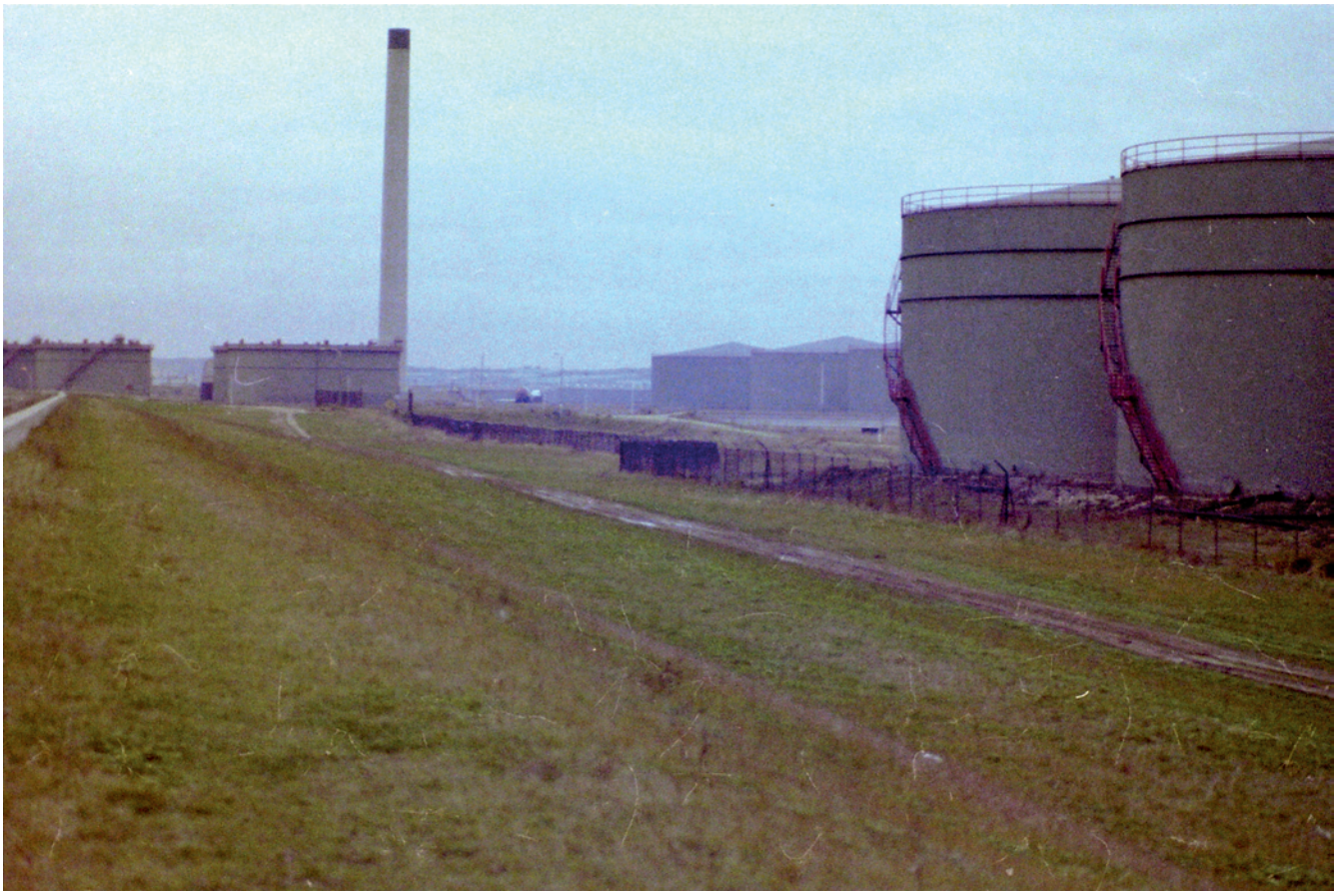


PLATE 2: Occidental refinery— abandoned tanks and chimney 1981 (Author).

economic studies demonstrated that the refinery was unlikely to be profitable. This was a consequence of the Middle East crisis of 1973–4 when the price of oil increased from $2 to $11 per barrel between 1970 and January 1974 (More 2009, 139–40). In 1977, ORL applied to adapt the refinery to produce high-octane fuels.[17] Then in 1980 they planned to build a 60,000 barrel (9,539 m^3)/day residue-upgrading refinery but this too was not developed, a consequence of the Iranian revolution when the oil price increased from $13 to $34 per barrel between 1979 and 1981.[18]

United Refineries Ltd (URL)

Following Occidental's successful application, URL in partnership with Murco Ltd reapplied for permission in 1971 for a larger refinery on URL's 1965 site. The inquiry inspector concluded that permitting the refinery would be a 'serious environmental mistake', but said that a similar proposal would not necessarily be ruled out if a site could be found to which there were not 'such strong amenity objections'; he recommended refusal.[19] This was endorsed by the Secretary of State, Peter Walker.

URL made a further application in April 1972 on a new site immediately north of the Occidental refinery (Fig. 1). This time the inspector found there were 'no insuperable objections' and noted that the repositioning of the refinery's prominent structures further west was an improvement. However, he still had concerns about the encroachment on the 'green gap' so recommended that permission be refused. The Conservative Secretary of State, Geoffrey Rippon, considered that, as in 1965, local amenity objections were not strong enough to outweigh the wider economic advantages and granted planning permission in March 1973.

Protest and reappraisal

Local residents formed the Refinery Resistance Group which campaigned and took direct action to oppose developments (Whatley 2016). This reflects Petts' (1988, 510–11) argument that: 'public concern over the agglomeration of petrochemical industry was instrumental in forcing a re-examination of siting decisions'. The group petitioned the leader of the opposition, Harold Wilson, and Labour's environment spokesman, Anthony Crosland, who undertook to examine the matter if a Labour government was returned to power (Smith 1990, 11). URL and ORL discussed a 10 million tonnes/year joint refinery to be built mainly on the ORL site. In July 1974, Braine spoke in Parliament about the dangers of the Canvey refineries (Hansard 1974). The objections had shifted from pollution to industrial hazards, part of what Barrell (1985, 1) has called a 'quantum leap in the public perception of the hazard potential of large scale industrial operations'. The context was the Flixborough disaster in June 1974 where the failure of a poorly designed engineering modification at the Nypro Ltd petrochemical site in Lincolnshire released a large quantity of flammable cyclohexane vapour which exploded, killing twenty-eight people (Walker *et al*. 2000, 123).

In September 1974 when discussions about the joint refinery had collapsed, Crosland, now Secretary of State, announced an exploratory inquiry into revoking the planning permission for the URL refinery. There were concerns within government about the implications of such an inquiry. The

Department of Energy was worried about the 'very far-reaching consequences ... if the outcome of any investigation were to call into the question the continued operation of the major Shell and Mobil refineries at Thurrock, and of the British Gas facility at Canvey Island or the eventual completion of Occidental's new refinery'.[20] The exploratory inquiry reported in February 1975: it recommended revocation but also that the totality of risks to people should be examined.[21] The Secretary of State asked the Health and Safety Commission (HSC) to 'undertake an investigation of the risks to health and safety associated with various installations, both existing and proposed, on Canvey Island and the neighbouring part of Thurrock'; the analysis by the Health and Safety Executive (HSE) took over two years and cost £400,000.[22]

INDUSTRIAL HAZARDS AND RISK

A result of the HSE's investigation was the *Canvey Report* (HSE 1978) which has been seen as 'seminal to the methodology of risk evaluation of major hazards and their public impact' (Barrell 1985, 2). A summary of the hazardous inventories on Canvey is shown in Table 2. The principal hazards were releases of LPG or LNG forming flammable clouds potentially leading to fire or explosion; the escape of burning hydrocarbons; and of toxic clouds of hydrogen fluoride.

The report also addressed the adjacent hazardous installations at Thurrock (Fig. 1) that had a potential impact on Canvey (Table 3). Additional hazards were the escape of toxic clouds of ammonia and the explosion of ammonium nitrate.

Risk and risk reduction measures

The *Canvey Report* identified individual and societal risks for people living or working in the area; these are summarised in Tables 4 and 5 (HSE 1978, 25). The existing hazardous installations exposed individuals on Canvey to a risk of fatality over five times greater than those in neighbouring South Benfleet. The report identified other scenarios. These include engineering 'improvements' to reduce the risks and 'additional measures' such as further technical studies. The 'developments' were the construction of the URL and Occidental refineries.

The engineering and operational 'improvements', and their status in 1981 (HSE 1978, 26–31; HSE 1981, 9–13), included the following:

- Higher retaining walls around the London & Coastal and Texaco sites, and around critical areas on the Occidental and URL sites, to contain any outflow and spread of flammable liquids. Completed at the existing sites in May 1981.
- A water dousing system at alkylation plants to dissolve releases of hydrogen fluoride. This was installed at Shell and the Mobil refinery extension; the Occidental refinery was not completed.
- The unused LPG pipeline from Shell Haven to the BGC site to be decommissioned. Completed in 1979. In 1980 BGC proposed to re-commission the pipeline to import LPG to augment gas supplies, this would have entailed the storage of 14,000–20,000 tonnes of butane at the terminal.
- Diverting all road tankers transporting hazardous fluids on Canvey to the proposed road to be constructed by the new refineries. Neither refinery was completed.

Further 'improvements' at Thurrock included:

- Installing water sprays on the Shell ammonia offloading jetty. Completed by 1980, the ammonia plant was subsequently decommissioned.
- Monitoring the purity of ammonia at the Fisons site, to ensure impurities do not contribute to stress corrosion cracking of the ammonia sphere. In October 1979, serious cracking was found and the sphere was decommissioned.

'Additional measures' included:

- Segregating the alkylation plant from other process units at the Occidental refinery to reduce risk of damage from process missiles. Refinery not completed.
- Re-routing the Occidental/URL LPG trans-shipment pipelines from the Occidental jetty to a jetty at Thames Haven. Refineries not completed.

Company	Facility	Hazardous inventory
London & Coastal Oil Wharves Ltd	Liquids storage	>300,000 tonnes of flammable and toxic liquids. Petroleum pipeline.
Texaco Ltd (formerly Regent)	Petroleum products storage	>80,000 tonnes of petroleum products. Petroleum pipeline.
British Gas Corporation	LNG terminal	106,000 tonnes of LNG. 20,000 tonnes of butane. Four gas pipelines. Butane pipeline.
Occidental Refineries Ltd	Oil refinery (proposed)	125,000 m^3 of hydrocarbon liquids. 2,300 tonnes of LPG. 10–20 tonnes of hydrogen fluoride.
United Refineries Ltd	Oil refinery (proposed)	125,000 m^3 of hydrocarbon liquids. 3,500 tonnes of LPG.
United Kingdom Oil Pipeline, and Government Pipelines and Storage System	Pipelines	6in (0.15m) and 8in (0.2m) diameter pipelines, petroleum products.

TABLE 2: Hazardous industries on Canvey Island 1978 (adapted from HSE 1978, 4–6, 48–77).

Company	Facility	Location	Hazardous inventory
Mobil Oil Co Ltd (formerly Croy Bros)	Oil refinery	Coryton	1.5 million tonnes of crude oil and petroleum products. 9,000 tonnes of LPG. Proposed extension: 9,000 tonnes of LPG. 100 tonnes of hydrogen fluoride.
Shell Oil UK Ltd	Oil refinery	Shell Haven	3.5 million tonnes of crude oil and petroleum products. 5,000 tonnes of LPG. 14,000 tonnes of ammonia. 10 tonnes of hydrogen fluoride.
Calor Gas Ltd	Gas cylinder filling	Coryton	500 tonnes of LPG.
Fisons Ltd	Ammonium nitrate plant	Stanford-le-Hope	2,000 tonnes of ammonia. 7,000 tonnes of ammonium nitrate.

TABLE 3: Hazardous industries at East Thurrock 1978 (adapted from HSE 1978, 4–6, 48–79).

Installations	Location	
	Canvey	South Benfleet
Existing facilities	5.3	1
Existing + improvements	2.7	0.4
Existing + improvements + additional measures	1.4	0.4
Existing + improvements + developments	3.4	0.4
Existing + improvements + developments + additional measures	1.4	0.4

TABLE 4: Average individual risk of fatality 1978 (chances in 10,000 a year) (adapted from HSE 1978, 25).

Company site	Assessed risk	Mitigated risk
Shell UK Oil	7.8	3.3
Mobil Oil Co Ltd	1.4	0.3
British Gas Corporation	14.7	4
Fisons Ltd	3.6	1
Texaco Ltd and London & Coastal Wharves Ltd	3.9	–
Mobil extension	2.8	0.4
Occidental refinery	2.9	0.9
URL refinery	1.4	0.9
Occidental jetty	9	–
Total	**47.5**	**10.8**

TABLE 5: Societal risk on Canvey 1978 (chances in 10,000 a year for >10 fatalities (adapted from HSE 1978, 32)).

- Limiting the speed of passing shipping to eight knots to reduce the risk of collision. Enacted by the Port of London Authority in 1981.
- Conducting a hazard analysis of the ammonia sphere at Fisons. Sphere decommissioned.

Table 5 shows the societal risk on Canvey and identifies the contribution of individual sites. The mitigated risk assumes the implementation of the above 'improvements' and 'additional measures'.

The analysis identified that the BGC terminal contributed nearly one-third of the total societal risk. The *Canvey Report* was explicit: 'we have serious doubts whether the British Gas Corporation should continue to store large amounts of LNG and LPG at their terminal' (HSE 1978, 32). This conclusion realised the concerns of the Department of Energy about calling into question current operations. Furthermore, the analysis re-focussed attention away from the new refineries to the methane terminal which had not hitherto been seen as a major risk (Rookard 1978).

There were criticisms of the *Canvey Report*. Bernard Braine said it was a 'strange report … with serious flaws'. He criticised it as a 'weak and indecisive' and as 'unconvincing on the scale of risk to the residents'. He pointed out that a

technical appendix prepared by the BGC was not, at their request, published with the report (Hansard 1978).[23] This gave an impression that the Canvey study team had compromised their autonomy. The consultants Cremer and Warner reviewed elements of the risk analysis; worst-case rather than realistic assumptions had produced overly pessimistic results. They also noted the remedial measures had not been identified systematically and the 'acceptable' level of risk had not been addressed (Cremer and Warner 1980, 51–3). A general criticism is that the findings of quantified risk assessment are not in a form that is easily understood by the majority of the public (Smith 1990, 9). Nevertheless, at a meeting held to introduce the *Canvey Report*, the public agreed to a resolution that 'no further construction would be acceptable until the risks had been reduced to the average level for the UK', demonstrating the public do understand the comparability of risk (Cave 1979, 4–5).

AFTERMATH OF THE CANVEY REPORT

The URL revocation inquiry reconvened in 1980 where there was, in the context of the *Canvey Report*, 'much argument over levels of assessed risk'. The inspector said 'there are no grounds for URL's planning permission to be revoked on health and safety grounds, but only if either the Methane Terminal installs a source of ignition on its perimeter, or it is closed down'.[24] The Government estimated there would be a compensation liability of £6–9 million to URL if planning permission were revoked.[25] However, the decision was deferred pending completion of a further public inquiry into the activities at the BGC terminal.

Meanwhile, in 1981 the HSE published *Canvey: a Second Report*. This addressed the criticisms of the 1978 report, particularly pessimistic risk assumptions. The individual risks were now estimated to be over twenty times smaller: 'reduced from 7.4 chances in 10,000 a year to 0.35 chances in 10,000 a year' (HSE 1981). More widely, the risk assessment approach espoused by both Canvey reports was adopted at a European level under the 'Seveso' Directive—a response to another major incident—enacted in the UK as the Control of Industrial Major Accident Hazard Regulations 1984. These required identification and demonstration of the control of risks by the operator (Walker *et al*. 2000, 123).[26] Later, the Control of Major Accident Hazards Regulations 1999 required hazardous installations to be taken into account in land-use planning policies (Walker 2000, 127–43).

The inquiry into the methane terminal was held in 1982. Only BGC and HSE had access to commercially confidential operating data; the objectors— local authorities, the Refinery Resistance Group and Bernard Braine— were therefore unable to question the validity of underlying assumptions (Petts *et al.* 1986, 5). A significant issue arising from the inquiry was that 'a qualitative case was no longer deemed acceptable evidence in the face of the detailed quantitative arguments presented by industry' (Smith 1990, 16). The inspector noted that some witnesses were 'too emotive and much of their evidence proved to be based on misunderstandings and oversimplified assumptions'. Furthermore, objectors were let down by their expert witnesses; some were 'fudging numbers', or 'constructing complex scenarios to produce the maximum credible (or incredible) accidents'.[27] The inquiry decided in favour of the continued operation of the BGC terminal based on HSE's evidence that the plant could be operated safely, it also determined that URL's permission should be allowed to stand; these findings were endorsed by the government.

DEVELOPMENTS SINCE 1982

Despite holding valid planning permission, neither URL nor ORL further developed their refineries on Canvey; this was due to the economic climate, particularly the price of oil, and excess refining capacity in the 1980s. The unused tanks and the chimney on the Occidental site were demolished in 1996–7; only the concrete foundations of the tanks and the jetty remain. The Texaco site closed in 1985, the tanks were demolished although the disused jetties are extant (McCave 1985, 119). Upriver, Shell Haven refinery closed in 1999 and was subsequently demolished; the site was purchased by DP World in 2006 and is now the 'London Gateway' container port and logistics park. Coryton closed in 2012 and the refinery was demolished although the tank farm was retained and is currently operated as 'Thames Oilport' (Plate 3).

The methane terminal operated until 1994. It was eventually bought by Calor Gas (Plate 4) and was adapted to import, store and export LPG. In 2004, Calor planned to re-convert the terminal to a 5.4 billion m^3/year LNG import and regasification facility (Killajoules 2005). This would meet 5% of the UK's gas demand and was a response to the country becoming a net importer of natural gas as home production declined.[28] A group of Canvey residents formed People Against Methane—PAM—to campaign against the proposal; in a local referendum 8,425 people voted against the terminal with thirty-four in support (PAM 2008). Castle Point Borough Council rejected the planning application on the basis that there was not 'sufficient evidence that the scheme was sufficiently ''in the national interest'' to outweigh concerns that the new plant would have an adverse impact on the local environment' (Killajoules 2007). The local MP, Bob Spink, raised the matter in Parliament; he claimed there was 'an overwhelming safety case on which to reject the LNG plans' (Hansard 2006). In an echo of Bernard Braine's reference to the Flixborough disaster in 1974, Spink used the recent Buncefield incident to argue against the project. At Buncefield storage depot in Hertfordshire the failure of level measurement devices on a storage tank led to the overflow of about 300 tonnes of petrol which ignited and exploded (HSE 2008).[29] In March 2007, the Calor LNG consortium submitted an appeal against the Borough Council's refusal, noting that 'Canvey could be vital in terms of the UK's long-term security and diversity of energy supply' (Killajoules 2007). A public inquiry was planned for September 2008, for which PAM identified a number of objections. One of Calor's co-venturers, Centrica, withdrew from the project on commercial grounds which led to Calor Gas withdrawing their appeal. Although the project was abandoned because of commercial factors, further development may have been more difficult following an incident at the Calor terminal in October 2008. While a ship was off-loading cargo a protective bursting-disc unexpectedly opened releasing about 163 tonnes of LPG, and a leak-detection sensor also failed to operate; the incident was reported in the media and Calor Gas were subsequently prosecuted and fined (HSE 2010).

Castle Point Borough Council adopted a strategic 'New Local Plan' in 2016 (Castle Point Borough Council 2016, 37–8). During consultations, thirty-eight residents expressed

PLATE 3: Occidental jetty, Hole Haven Creek and 'Thames Oilport' 2017 (Author).

concerns about risks associated with the hazardous facilities on Canvey (Anon 2015). The Plan identified that Calor and Oikos—formerly London & Coastal—'are considered to be nationally significant and have a role to play in ensuring the security of energy supplies in the UK'. The Plan states that any future development must demonstrate 'that the proposal is in the national interest' and 'the level of hazard or risk posed by the site must be reduced compared to existing levels at the time of application'; a reflection of the arguments used at the earlier discussions and public inquiries.

CONCLUSION

From the 1930s the oil, gas and petrochemical industries sought to exploit Canvey's location in the Thames estuary through the construction of facilities for the storage and processing of hydrocarbons. The developments were contingent on an array of influences including social needs, economic forces, political expediency, technological capabilities, locational considerations and environmental concerns. Economic factors were a key influence: the pioneering LNG plant was a response to a major economic and technological shift in the British gas industry—the search for a feedstock cheaper than coal. The Canvey plant deployed innovative technology and was instrumental in the supply and later the conversion of Britain to natural gas. Other hydrocarbon facilities—oil storage depots and refineries—aimed to meet the socio-economic demand for petroleum products to support the UK economy and to be commercially profitable. The industry was supported by both Labour and Conservative governments arguing that national economic interest outweighed local environmental concerns. However, refinery proposals foundered on poor economic viability either through issues of scale or politico-economic crises in the Middle East.

PLATE 4: Calor Gas terminal 2017 (Author).

This paper has argued that the proximity of a residential population to hazardous industry gave rise to both public protest and close official scrutiny of developments. As the HSE observed: 'new technologies have brought widespread economic benefits, but they have also brought new hazards to... the public' (Wright 1978). These hazards were examined at a number of public inquiries and analysed using the innovative technology of quantified risk assessment; thereafter widely adopted throughout the hazardous industries. However, as a consequence qualitative concerns and arguments in formal inquiries were seen as less valuable than professional quantitative analyses. Canvey illustrates how the nature of public protest shifted in the 1970s from concerns about air pollution to the risks associated with industrial hazards. Public perceptions were influenced by technology failures: either operational malfunctions on Canvey, or the initiating events in major accidents at Flixborough and Buncefield. Other sub-optimal engineering and technology has been identified, such as the in-ground LNG tanks that failed to achieve their full potential. The hydrocarbon industries on Canvey, now principally storage and distribution facilities, continue to operate but any future developments will be subject to public scrutiny and will need to demonstrate they are in the national interest and will not increase levels of risk to people.

GLOSSARY

barrel	volume of oil 42 US gallons or 159 litres
Btu	British thermal unit (energy)
kPa	kiloPascal (pressure)
psi	pound-force per square inch (pressure)
therm	100,000 British thermal units (energy)
Wobbe No.	combustion energy of gas

ENDNOTES

1 B.E. Cracknell (1952, 85) says construction of the refinery was halted by the outbreak of war in 1939. In 1938 the limit of navigation for petroleum ships was moved upriver to Crayfordness, allowing development of the industry in Purfleet and West Thurrock.

2 The NTGB was established upon nationalisation of the industry in 1949 and acquired the assets of the GLCC; the Gas Council provided strategic oversight of the industry.

3 Because the site had been acquired in the 1930s it was 'operational land' and could be developed without planning consent. Proof of Evidence by R.H. Stevens, The National Archives—hereafter TNA— AB 62/641.

4 The easement for the pipeline was 6m wide to allow for two further pipelines (Cormack *et al*. 1968, 6).

5 Letter Canvey Island Urban District Council to Ministry of Housing and Local Government 11 March 1964, TNA HLG 154/6.

6 Letter C. Johnson Ministry of Housing and Local Government to Sir K. Joseph 30 October 1963, TNA HLG 156/240.

7 Letter Ministry of Housing and Local Government to NTGB 28 February 1966, TNA HLG 156/241.

8 HSE file note, 'Visit to liquid methane terminal' 26 August 1975, TNA AB 38/1230.

9 The British Gas Corporation was established in January 1973 as a part of the centralisation of the industry under the Gas Act 1972.

10 In December 1963 UK refining capacity was 56.2 million tonnes/year, by December 1964 this increased to 66.0 million tonnes, a further 26.4 million tonnes of capacity was planned by 1967 (Luckas 1965, 154).

11 Braine had raised the issue of Thames-side refinery air pollution as early as 1953 (Hansard 1953).

12 Letter H.F. Yeomans to R. Crossman 26 July 1965, TNA POWE 61/378.

13 'Oil refinery for Canvey Island Minister decides on planning appeal', undated, TNA POWE 61/378.

14 In 1965 AGIP's interest in the Canvey refinery was taken over by URL (Anon 1965).

15 'Plan A, Annex A, History' undated, TNA HLG 156/429. Letter J.E. Brading of Occidental to H.J. Dunster HSE 26 January 1978, TNA HLG 156/784/1.

16 Letter Department of the Environment to ORL 23 November 1971, TNA HLG 156/784/1.

17 Letter J.E. Brading to H.J. Dunster 26 January 1978, TNA HLG 156/784/1.

18 Letter A. Hammer to M. Thatcher 6 September 1980, Margaret Thatcher Foundation PREM19/434 f.148.

19 File note, undated, TNA HLG 156/429.

20 Letter A.W. Benn to A. Crosland 9 December 1975, TNA HLG 156/744.

21 Inquiry report, TNA LAB 104/610.

22 Letter W. Simpson HSC to A. Booth Secretary of State for Employment 13 June 1978 –attachment to *Canvey Report*. Much of the detailed analysis was undertaken by the Safety and Reliability Directorate of the UK Atomic Energy Authority.

23 The unpublished Appendix 10 concerned 'The possibility and consequences of an unconfined explosion involving LNG'.

24 R. Ward, 'Inquiry report – revocation', Department of the Environment E1/5215/789/1, 1980, 76. The perimeter ignition system was considered at the 1982 inquiry but most experts were against the idea, see TNA AB 62/919.

25 File note 'HSE Advise – Compensation' 4 May 1979, TNA HLG 156/814/1.

26 The disaster at Seveso Italy in July 1976 entailed the release of six tonnes of toxic chemicals, including dioxin, over a large area.

27 A. de Piro, 'Inquiry report - methane terminal', Department of the Environment E1/5212/789/8, 1982, 9. Copy in TNA AB 65/1630.

28 Other British LNG import facilities planned, or under construction, at this time included South Hook and Dragon at Milford Haven and the Isle of Grain Kent.

29 An inspection of the BGC terminal in 1980 had found that alarms intended to warn if liquefied gas over-flowed were not working (Anon 1980).

BIBLIOGRAPHY

Anon 1964, 'Thousands join battle against refinery', *Daily Express*, 15 September

Anon 1965, 'ENI wins approval for Canvey Island refinery plan', *Financial Times*, 16 December

Anon 1980, 'Anxiety over gas tank alarm system', *The Times*, 21 April

Anon 2015, 'Expansion fears for Canvey hazardous chemical storage sites', *Canvey Echo*, 10 March

Barrell, A.C. 1985, 'Developments in the Control of Major Hazards', *Hazards VIII: IChemE Symposium Series No. 93*, 1–12

Bishop, R. 2010, 'Canvey Methane Inground Tanks', Canvey Community Archive, <http://www.canveyisland.org/page_id__959.aspx> (accessed October 2018)

Britain from Above 1937, photograph EPW055996, <http://www.britainfromabove.org.uk> (accessed October 2018)

Britain from Above 1954, photograph EAW053256, <http://www.britainfromabove.org.uk> (accessed October 2018)

Canvey Community Archive 2015,<www.canveyisland.org/page/who_can_tell_me_what_this_is> (accessed October 2018)

Castle Point Borough Council 2016, 'New Local Plan 2016' CP/01/004

Cave, L. 1979, *Canvey: The Reaction of a Community Exposed* (Los Angeles)

Copp, A.D.L., Hildrew, R.G. and Cooper, L.S. 1966, 'The design, commissioning and operation of the United Kingdom gas industry's methane pipeline', *Institution of Gas Engineers Journal*, May, 1–18

Copp, A.D.L. 1967, *Gas Transmission and Distribution* (London)

Cormack, J.D., Emmony, R.O. and Jones, H.S. 1968, 'Natural Gas —from coast to customer', *Institution of Gas Engineers Journal*, May, 1–21

Cracknell, B.E. 1952, 'The petroleum industry of the lower Thames and Medway', *Geography*, 37:2, 79–88

Cremer and Warner 1980, *An Analysis of the Canvey Report* (London)

Essex County Council 2001, Unlocking Essex's Past, Gasworks Canvey, Historic Environment RecordNumber 40394, <http://unlockingessex.essexcc.gov.uk/uep/custom_pages/monument_detail.asp?content_page_id=89&monument_id=1035221&content_parents=61> (accessed October 2018)

Everard, S. 1992, *The History of the Gas Light and Coke Company* (London)

Falkus, M. 1988, *Always under Pressure: A History of North Thames Gas since 1949* (Basingstoke)

Francis, A. 2010, *Stepney Gasworks* (London)

Fudge, S., Hunt, L., Jackson, T., Mulugetta, Y. and Peters, M. 2008, *The political economy of energy regulation in the UK 1945–2007: paradigms and policy* (Guildford)

Gas Council 1971, *Britain's Natural Gas* (London)

Grace's Guide 2017, Regent Oil Co, <www.gracesguide.co.uk/Regent_Oil_Co> (accessed October 2018)

Hannah, L. 1982, *Engineers, Managers and Politicians* (Basingstoke)

Hansard 1953, *House of Commons Debates (HC Debates)*, 518, cols.1791–3, 20 October

Hansard 1964, *HC Debates*, 704, cols.1011–22, 21 December

Hansard 1974, *HC Debates*, 877, cols.1429–504, 23 July

Hansard 1978, *HC Debates*, 955, cols.938–58, 3 August

Hansard 2006, *HC Debates*, 453, cols.383–8, 20 November

HSE 1978, *Canvey – An Investigation of Potential Hazards from Operations in the Canvey Island/Thurrock area* (London)

HSE 1981, *Canvey: a second report. A summary of a review of potential hazards from operations in the Canvey island/Thurrock area three years after publication of the Canvey Report* (London)

HSE 2008, *The Buncefield Incident 11 December 2005: the final report of the Major Incident Investigation Board*

HSE 2010, 'Calor Gas fined over LPG release', HSE press release HSE-E-04 7/5/10

Killajoules, 2005, 'Centrica selected as a partner in Canvey LNG project', 15 July, <http://killajoules.wikidot.com/archive:centrica-selected-as-a-partner-in-canvey-lng-project> (accessed October 2018)

Killajoules 2007, 'Planning appeal made for world's original import terminal', 13 March, <http://killajoules.wikidot.com/archive:planning-appeal-made-for-world-s-original-lng-import> (accessed October 2018)

Luckas, M.R. 1965, 'Recent developments in the United Kingdom oil industry', *Geography*, 50:2, 152–60

McCave, F. 1985, *A history of Canvey Island* (Hornchurch)

McHugh, J. 1983, 'The engineering of the national transmission system of the British Gas Corporation', *Proceeding of the Institution of Mechanical Engineers,* 197A, 179–96

McLain, L. 1975, 'Tank leaks on Canvey Island cause worries', *The Engineer*, 20 November, 11

More, C. 2009, *Black Gold: Britain and Oil in the Twentieth Century* (Hambledon)

PAM 2008, Public Enquiry Presentation by George Whatley, Opening Address

Peebles, M.W.H. 1980, *The Evolution of the Gas Industry* (Basingstoke)

Penn, J. 2010, 'Canvey Island Urban District Council', Canvey Community Archive, <http://www.canveyisland.org/page_id__1063.aspx> (accessed October 2018)

Petts, J., Withers, J. and Lees, F. 1986, 'Expert evidence at inquiries into major hazards', *Project Appraisal*, 1:1, 3–10

Petts, J. 1988, 'Major hazard control: the local community and risk decisions', Institution of Chemical Engineers, *Symposium Series No. 110*, 10–12 May, 507–23

Rookard, D. 1978, Archive Radio Programmes, Tape 24, Essex Record Office SA 19/1/24/1

Smith, D. 1990, 'Corporate power and the politics of uncertainty: conflicts surrounding major hazard plants at Canvey Island', *Industrial Crisis Quarterly*, 4, 1–26

Stone, R. and Wigley, K. 1968, *The Demand for Fuel 1948–1975* (Cambridge)

Stratton, M. and Trinder, B. 2000, *Twentieth Century Industrial Archaeology* (London)

Tiratsoo, E.N. 1972, *Natural Gas* (Beaconsfield)

Turner, N. 1975, 'Will Canvey be the next Flixborough?', *New Scientist*, 68 No.977, 27 November, 520–22

Walker, G. 2000, 'Urban planning, hazardous installations, and blight: an evaluation of responses to hazard–development conflict', *Environment and Planning C,* 18, 127–43

Walker, G., Mooney, J. and Pratts, D. 2000, 'The people and the hazard: the spatial context of major accident hazard management in Britain', *Applied Geography*, 20, 119–35

Walters, W.J. and Ward, J.A. 1965, 'Facilities for importation of liquid methane into Canvey Island', *Institution of Gas Engineers, Autumn Research Meeting 1965*, 1–22

Walters, W.J. 1971 'Development of the natural-gas supply system', *Institution of Gas Engineers Journal*, August, 548–71

Whatley, G. 2016, 'Canvey people fight and win', Canvey Community Archive, <http://www.canveyisland.org/page/the_oil_refinery_resistance_group> (accessed October 2018)

Williams, T.I. 1981, *A History of the British Gas Industry* (Oxford)

Wilson, D.S. 1969, *The Modern Gas Industry* (London)

Wilson, D.S. 1974, *North Sea Heritage* (London)

Wright, P. 1978, 'Safety changes urged for Canvey Island plants', *The Times*, 21 June, 2

Archaeological Fieldwork Summaries 2017

Edited by Paul Gilman

Following the revival of the publication of summaries in Volume 6, four organisations have provided summaries for this year's transactions. 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 Havering, Newham and Redbridge enquirers should contact the Greater London HER, Historic England London Region, 4th floor, Cannon Bridge House, 25 Dowgate Hill, London, EC4R 2YA.

Other summaries of archaeological work carried out in 2017 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

Compiled by Mark Atkinson and Charlotte Howsam

Alresford, Cockaynes Lane (TM 06331 21628)

Samara King and Kieron Heard

An archaeological evaluation of *c*.6.56ha of land south of Cockaynes Lane uncovered archaeological remains, comprising ditches, gullies, pits and post-holes, which were distributed sparsely across the site. Some residual prehistoric worked flints were recovered; however, the earliest phased feature was a ditch, located in the north-east, that contained a small amount of Deverel-Rimbury pottery dating to the Middle Bronze Age. Several pits and other later prehistoric/Early Roman ditches demonstrated light use of the area, likely for agricultural purposes. There was no evidence for land use during the medieval period. Almost half of the ditches and pits recorded were dated to the post-medieval and modern periods, again most likely indicating agricultural activity, together with backfill layers associated with quarrying activity.

Archive: C.M.
O.A.S.I.S. ref: 302767
A.S.E. project: 160785

Ardleigh, Crown Quarry, Site D, Old Ipswich Road (TM 02528 29322)

Robin Wroe-Brown

Begun in 2014 and completed in 2017, excavation was carried out across a *c*.7.26ha area within the south-west of Crown Quarry, in a field known from aerial photographic evidence to contain the cropmark of a substantial enclosure speculated to be of Iron Age date.

Prehistoric finds were limited to residual Bronze Age material in later features. Recorded remains were predominantly of mid 1st-century AD, Late Iron Age to Early Roman transition, date. The cropmark was identified as a substantial ditch, *c*.4.4m wide by 1.3m deep, defining a sub-rectangular enclosure of *c*.1ha extent with a 4m-wide entranceway at its north-east. Remains of an extensive field system, a possible working area and a smaller enclosure on the edge of the site were recorded in association. Neither enclosure provided evidence indicative of its function, being devoid of diagnostic features. This episode of land use does not appear to have persisted beyond the 1st century AD.

No further land use was evidenced until the medieval period, when low levels of agricultural activity took place, as indicated by field boundary ditches located mainly in the north-west of the site. Post-medieval boundary ditches formed a large field system across the site, several of which may have possibly dated back to the medieval period.

Archive: C.M
O.A.S.I.S. ref: 301714
A.S.E. project: 161081

Billericay, 137–139 High Street (TQ 67343 94364)

Mark Germany

An archaeological watching brief monitored groundworks for the construction of an extension to the rear of 137–139 High Street, within the historic core of the town. Other than a late 19th-/early 20th-century pit or soakaway, no archaeological finds, features or deposits were recorded.

Archive: Ch.M.
O.A.S.I.S. ref: 283076
A.S.E. project: 160974

Billericay, 137–139 High Street (TQ 67343 94364)

Christopher Curtis

Historic building recording was undertaken in connection with the redevelopment of two adjoining listed buildings, 137–139 High Street. No. 139 was built in the late 18th century, possibly as an inn from the outset. It was originally a single pile, three bay, brick building with two storeys and an attic. The building was extended to the rear during the late 19th and 20th centuries. No. 137 is also a three bay, two storey, brick building with an indeterminate date of construction. Analysis of the building's fabric and cartographic evidence pointed to a mid-19th-century date; however, this was in conflict with a date stone marked 1885. It was possible that No. 137 replaced an earlier structure of similar footprint. Together, the two buildings formerly served the town as the Horse Shoes Inn, at least in the late 19th century. Both structures were substantially extended and modified throughout the 20th century, resulting in the loss of much of their internal character and, in the case of No. 139, its original layout.

Archive: E.R.O.
O.A.S.I.S. ref: 274530
A.S.E. project: 160974

Bradwell, Bradwell Quarry Area 3, Phase 1 (TL 83036 20729)

James Alexander

Monitoring of a 39.1ha area of the quarry was undertaken during the stripping of overburden in advance of gravel extraction within the former Rivenhall Airfield. Archaeological remains were sparse and consisted solely of infilled post-medieval field boundaries and modern features and disturbance related to relatively recent historic agricultural use and World War Two airfield construction.

Archive: Ch.M.
O.A.S.I.S. ref: N/A
A.S.E. project: 170786

Bradwell, Bradwell Quarry Area 4, Phase 3 (TL 83057 21105)

Ellen Heppell

Following evaluation in 2012, an archaeological 'strip, map and sample' excavation was carried out over a 3.2ha area of arable land situated in the north-east corner of Bradwell Quarry (formerly Rivenhall Airfield). The remains of five truncated Late Iron Age/Early Roman cremation burials were recorded in a loose cluster. A sample of cremated bone from one burial has been radiocarbon dated to 20 cal BC–AD cal 125 (BETA-455775; 1950±30) and contained pottery of a consistent date (*c.*AD 10–70).

With the exception of modern airfield remains/disturbance, the only other archaeological features encountered were post-medieval field ditches that had been backfilled in the 19th century.

Archive: Bt.M.
O.A.S.I.S. ref: 284551
A.S.E. project: 160305

Bradwell, Integrated Waste Management Facility site, Former Rivenhall Airfield (TL 83205 20769)

Trevor Ennis

Archaeological monitoring and recording was carried out during groundworks ahead of the potential construction of an Integrated Waste Management Facility (IWMF) within the former Rivenhall Airfield and Bradwell Quarry. The stripping of the topsoil and subsoil across a 2.1ha area of cleared woodland exposed the truncated and disturbed remains of thirteen World War Two buildings, which formed part of a wider complex of buildings along the south-east edge of the airfield. The buildings had been demolished in the post-war period and survived mostly as shallow brick footings. No earlier remains were encountered.

Archive: Bt.M.
O.A.S.I.S. ref: 275860
A.S.E. project: 160140

Broomfield, Days Garage, Forsethlyn, and 76–98 Main Road (TL 70860 09490)

Craig Carvey

An archaeological evaluation was carried out at a 0.5ha site at Days Garage and to the rear of 76–98 Main Road. A large late 19th-/20th-century quarry pit, backfilled with china, glass and building demolition, was located in the south-west of the site. All other features represented later 20th-century activity.

Archive: Ch.M.
O.A.S.I.S. ref: 276100
A.S.E. project: 170070

Broomfield, Main Road (TL 70424 11973)

Paulo Clemente

Following geophysical survey, 128 trenches were excavated across a *c.*25.6ha site north of the village of Broomfield and west of Main Road (the Chelmsford to Great Dunmow Roman Road).

A small number of Late Bronze Age/Early Iron Age ditches, gullies and pits were recorded across the north-west and south-central parts of the site. A single Middle/Late Bronze Age ring-ditch of *c.*13m external diameter in the south-east of the site was likely the remains of a burial mound.

A high density of Late Iron Age/Early Roman to Mid/Late Roman remains, comprising ditches, pits and possible structural features, was present in the north-east of the site, defining part of a probable roadside settlement and its surrounding field systems. A large rectangular enclosure in the south-east and three cremation burials in the south-west of the site represented outlying, possibly unassociated, land use activity in the Late Iron Age/Early Roman period.

A low to moderate density of medieval remains was present along the south-west edge of the site. These were most likely related to rural settlement and agricultural activity focused upon two ditched enclosures located alongside the historic Woodhouse Lane. Remains of ditches relating to relict parts of the historic post-medieval field system were recorded across much of the site.

Archive: Ch.M.
O.A.S.I.S. ref: 303848
A.S.E. project: 170461

Burnham-on-Crouch, Pippins Road (TQ 95380 96540)

Craig Carvey and Angus Forshaw

Archaeological and geoarchaeological evaluation works were undertaken across 5.57ha of agricultural land on the eastern limit of Burnham-on-Crouch. The recorded remains comprised a low density and low complexity scatter of pits and linear ditches/gullies of definite and probable Late Bronze Age/earliest Iron Age date across the western and southern parts of the site. The geoarchaeological fieldwork recorded a basic sequence of silts and clays with some interbeds of clayey gravel and sandy gravel, but no humanly struck flints or palaeobotanically useful deposits were identified.

The excavation of two areas measuring 1,392sq m and 2,073sq m, in the east and west of the site, recorded further Late Bronze Age/earliest Iron Age ditches and scattered pits. Some pits, though very shallow, contained charcoal and

burnt bone and may have been the truncated remains of cremation burials. A Bronze Age socketed axe was recovered from the subsoil. A pit in the south-east of the site contained metalworking slag and was possibly of Roman date.

Archive: C.M.
O.A.S.I.S. ref: 294944 and 307029
A.S.E. projects: 170698 and 170962

Burnham on Crouch, Southminster Road (TQ 594290 197015)

Mark Germany

Trial-trench evaluation of a 14.6ha site on agricultural land west of Southminster Road was carried out in advance of residential development. A number of Middle Iron Age ditches, some very substantial and most located in the central part of the site, were encountered in the trenches.

Subsequent excavation of a 0.92ha area recorded the remains of a Middle Iron Age farmstead within a large-ditched enclosure. Remains of pits and smaller sub-enclosures were present inside it, as well as at least one, and possibly three, roundhouses. Remains of later date included ditches defining a Roman or later strip-field and a large spread of medieval pottery sherds, perhaps the remains of a dump or midden.

Archive: C.M.
O.A.S.I.S. ref: 307033
A.S.E. projects: 160520 and 170696

Chipping Ongar, Central House, High Street (TL 55207 03275)

Craig Carvey

Evaluation and subsequent area excavation within a 489sq m site west of the High Street uncovered a dense cluster of pits, post- and stake-holes and layers of medieval and later date. The 12th- to 14th-century structural remains are interpreted to belong to a structure on the medieval High Street frontage, a short distance outside the north gateway of the town enclosure. Contemporary pits at the rear of the site probably represent domestic refuse disposal in a 'backyard' area.

Following site clearance and levelling in the late medieval/early post-medieval periods, the presence of a number of pits, brick walls and drains, of mainly 17th- to 19th-century date, that cut the levelling deposit indicate the reoccupation of this road frontage site.

Archive: E.F.D.M.
O.A.S.I.S. refs: 275134 and 306976
A.S.E. projects: 161132 and 170455

Chipping Ongar, Fyfield Business Park (TL 55745 05100)

Kieron Heard

Following archaeological evaluation of the wider business park site in 2016, the excavation of a *c.*2,000sq m area alongside Fyfield Road uncovered remains, including ditches, gullies, pits and post-holes, spanning the Late Bronze Age to modern periods.

The site produced a small quantity of residual prehistoric worked flint; the recovery of a blade-like flake suggests transitory land use during the Mesolithic or Early Neolithic period. The earliest evidence for settlement activity was a pit containing Late Bronze Age pottery and a nearby ditch that may have been contemporary. Two adjacent intercutting ditches, perhaps part of a shifting field boundary, produced a small amount of Late Iron Age/Early Roman pottery.

A possible medieval building was represented by part of a beam slot and associated drip gully, the latter containing 14th-century pottery. A more substantial timber building incorporating brick elements, within a ditched enclosure, was recorded and interpreted to have been constructed in the late 15th to 16th century. This probably marked the beginning of sustained occupation of the site and the origins of a roadside property known, in the 19th century, as Boarded Barns Farm.

The excavation also recorded foundation trenches, drainage ditches and pits that represented the addition of farm buildings to the complex and modifications to the surrounding yards, gardens and fields during the post-medieval period. It also established that Boarded Barns Farm was comprehensively demolished at the end of the 19th century and that its site was partially occupied by new cottages. Other parts of the farm complex were landscaped and returned to cultivation.

Archive: E.F.D.M.
O.A.S.I.S. ref: 290044
A.S.E. project: 160975

Colchester, The Philip Morant School (TL 97645 24382)

Robin Wroe-Brown and Trevor Ennis

Archaeological monitoring was carried out on a *c.*1.5ha site during construction groundworks for a new two-storey teaching block, associated car parking and access routes at the school. Previous geophysical survey and trial-trenching evaluation had not located remains relating to either the Lexden Dyke that forms the southern boundary of the school site or the course of the Heath Farm Dyke projected to cross the development area, though they had recorded a low incidence of other archaeological features.

Monitoring of the excavation of service trenches, attenuation tanks and ground reduction along a new access road route, the watching brief revealed boundary ditches of certain or probable post-medieval/modern date and undated features of uncertain type. A further phase of monitoring during construction of an all-weather pitch is expected to take place in 2018.

Archive: C.M.
O.A.S.I.S. ref: 280505
A.S.E. project: 170034

Colchester, Severalls Hospital (TL 99491 28397)

Katya Harrow

A programme of historic building recording was undertaken at the former Severalls Hospital prior to its redevelopment. The site contained over 100 buildings consisting of the early 20th-century asylum buildings, some slightly later buildings added in the 1920s and 1930s, and some later hospital buildings, structures and additions. Severalls Hospital is a relatively complete example of a large, early 20th-century asylum. The buildings constitute a physical representation

of the prevailing attitudes of the time towards mental illness and its treatment, as well as a reflection of wider social conventions.

Archive: C.M.
O.A.S.I.S. ref: 259044
A.S.E. project: 160012

Corringham, Corringham Hall Farm, Church Road (TQ 71061 83265)
Michael Shapland
Historic building recording was undertaken at Corringham Hall Farm. The farm most likely originated as a manorial settlement in the Late Anglo-Saxon period, which would have related to the extant parish church of St Mary. The early 18th-century Corringham Hall was most likely the successor to this early estate centre; both the house and the adjacent farm were situated within a relict ovoid enclosure, with the church immediately outside its presumed northern entrance.

The origins of the present complex lay in the first half of the 18th century, when two of its barns were constructed, both of which still survive. The decline in arable farming in the late 19th century resulted in the farm switching to cattle husbandry; one of the existing barns was converted into a cow-house and was extended to accommodate a suspected dairy. Subsequently, the necessity for home food production during the wars of the first half of the 20th century led to a renewed emphasis on arable cultivation, and the resultant need to plough up grassland may have encouraged the construction/conversion of several of the stables on the site. Furthermore, many of the fixtures and fittings that still survive throughout the later buildings demonstrated the 19th- and 20th-century farming history of the site.

Archive: Ch.M.
O.A.S.I.S. ref: 286339
A.S.E. project: 170350

Cressing, Mill Lane (TL 78047 20354)
Sarah Ritchie
The evaluation of a *c*.1.0ha site east of Mill Lane identified archaeological remains belonging to the prehistoric, Late Iron Age/Early Romano-British and medieval periods. Dated remains, comprising ditches, gullies, pits and post-holes, appeared to be largely confined to the southern part of the site and most likely represented agricultural activity, and perhaps settlement activity, from the Romano-British and particularly medieval periods.

Archive: Bt.M.
O.A.S.I.S. ref: 302736
A.S.E. project: 170420

Earls Colne, Monks Road (TL 86051 29103)
Mark Germany and Robin Wroe-Brown
An archaeological evaluation of a 2.14ha site, east of Monks Road, revealed evidence of a single medieval drainage ditch to the north of the site and four post-medieval linear ditches to the north and east, two of which defined a field boundary.

Archive: Bt.M.
O.A.S.I.S. ref: 293133
A.S.E. project: 170071

East Mersea, Mersea Island Holiday Park, Fen Lane (TM 06380 14478)
Samara King
Following a desk-based assessment and geophysical and cropmark surveys in 2016, a trial-trenching evaluation was undertaken within a 2.97ha green field site east of Mersea Island Holiday Park, off Fen Lane. The evaluation recorded multi-phase archaeological features, comprising ditches, gullies, pits and post-holes, which were largely concentrated in the western half of the site and along the southern periphery. Evidence of Bronze Age and earlier prehistoric land use was minimal, comprising three small pits, one of which was Early Neolithic in date. Three substantial ring-ditches of ostensibly Iron Age date may in fact have been Early/Middle Bronze Age barrow remains that were subsequently re-used in the Early/Middle Iron Age.

Roman ditches found in the north-west, and possibly in the west, of the site are speculated to have indicated the presence of a rectilinear field system of apparent later Roman date. A single pit in the north-west attested to Early/Middle Saxon activity.

Medieval agricultural land use was suggested by two ditches in the west of the site; these possibly predated the remains of a field boundary mapped in 1650. A number of post-medieval ditches were present that related to agricultural land use and were also recorded on historic mapping from 1650 to the 19th and 20th centuries.

Archive: C.M.
O.A.S.I.S. ref: 281296
A.S.E. project: 170096

Fryerning, Fryerning Hall, Blackmore Road (TL 63880 00190)
Trevor Ennis
The archaeological monitoring and recording of a single-storey extension and internal alterations at Fryerning Hall, a Listed Building of 15th-century origin, identified no archaeological remains of medieval or earlier date, except two sherds of abraded medieval pottery recovered from a later context.

Internally, the survival of remains may have been affected by later 20th-century repair and alteration works, in particular the insertion of thick concrete flooring throughout the greater part of the building. The earliest recorded remains within the house consisted of a tile foundation deposit of possible 15th-century date in the Drawing Room, and a tile and brick foundation deposit of possible 16th-century date within the kitchen. Three small brick structures were recorded within the Breakfast Room; two may have been part of the original foundations for a 17th-century fireplace, the function of the

third, of similar date, was less certain. Also recorded within the Breakfast Room were three layers, two undated and one containing coal and charcoal, which were most likely associated with the adjacent post-medieval fireplace. A brick and tile-lined drain of late 17th- or 18th-century date was exposed in the Drawing Room and the Hall, the earliest part of the building.

Externally, one pit of late 15th- or 16th-century date was recorded in a soakaway to the west of the house and, in the yard to the north, a brick rubble foundation deposit was noted adjacent to a 19th-century outbuilding wall.

Archive: Ch.M.
O.A.S.I.S. ref: 277086
A.S.E. project: 8540

Great Chesterford, Brock House (TL 50909 42701)

Michael Shapland

A programme of historic building recording was carried out on Brock House, a Grade II-Listed Building (National Heritage List No. 1322522) consisting of a large L-shaped house of two storeys, originally dating to the 16th century. The front range was aligned north-west/south-east along Manor Lane, while an extended cross-wing at the north-western end extended some distance to the rear. Smaller, single-storey extensions of later 16th-century date appended the rear (south-western) sides of both the front range and cross-wing. Once the essentials of Brock House were complete, in their present form, it continued to be modified and upgraded over successive centuries, including, for example, the addition of a chimney stack and first-floor ceilings in the 17th century, and a rear wing to the south-eastern end of the house and staircases in the 18th century. The replacement of the roof and the infilling of the front range hall fireplace, for example, occurred in the 19th century and the replacement of almost all the internal doors, the changing of room-uses and the removal of early fixtures took place in the 20th century, as well as the addition of a detached outbuilding to the south-west.

Archive: E.R.O.
A.S.E. project: 170761

Great Leighs, Main Road (TL 7316 1774)

James Alexander

Twenty-four evaluation trenches were excavated across a 4.48ha site on agricultural land located east of Main Road. Single archaeological features were recorded in four trenches. A pit recorded in the north-east contained seventy sherds of unabraded Early Iron Age pottery, perhaps indicating the presence of occupation activity in its vicinity. A post-medieval ditch was recorded in two trenches in the south-west of the site and appeared to have been infilled in the modern period. It probably related to the late post-medieval to modern agricultural land use of this site.

Archive: Ch.M.
O.A.S.I.S. ref: 306051
A.S.E. project: 170423

Great Sampford, Giffords Farm, Tindon End (TL 62576 35118)

Hannah Green

A programme of historic building recording was undertaken at Giffords Farm in relation to the proposed development of the two barns and three associated outbuildings. Giffords Farm is likely to have originally formed one of the farms associated with the medieval manor of 'Stanle alias Giffardes' in Great Sampford. The earliest map to show the site was the Chapman and André map of 1777. The farmstead, which was labelled 'Giffards', was shown as three structures, two of which appeared to correspond with the barn (Building 1) and possibly the adjoining enclosed cattle shed (Building 2), and the farmhouse.

Building 1 most likely dated to the late 16th/early 17th century, while Building 2 may have originated at a similar, or slightly later, date and was later extended, probably in the early 18th century. Historic mapping illustrated the piecemeal evolution of the site during the latter history of the site. Buildings 3, 4 and 5, comprising a barn and two shelter sheds, appeared to have been constructed between 1837 and 1877. These structures demonstrated an increase in the farm's agricultural activity during the 19th century. The farmstead ceased its agricultural use during the latter half of the 20th century.

Archive: S.W.M.
O.A.S.I.S. ref: 276533
A.S.E. project: 160769

Halstead, 48 High Street (TL 81280 30592)

Katya Harrow

A programme of historic building recording was undertaken at 48 High Street in relation to the proposed extension and modification of the property. The property is an unlisted building situated within the Halstead Conservation Area and comprises four attached two-storey ranges. Within the front (south) range, on its western side, was the remnant of a two-storey medieval building, likely to be 15th-century or earlier in date. The visible medieval fabric of the structure comprised two bays of the eastern side of a crown-post roof; the western half had been truncated by the brick construction of the adjoining property to the west.

The building was extended to the east to its present width and a new taller roof structure was constructed. Based on the appearance of the windows to the front elevation, and the interior fixtures and fittings at first floor level, the modifications most likely occurred during the mid-/late 19th century. At a broadly similar date, the building was extended northwards.

The northernmost end of the building appeared of much more recent date. Its character, fixtures and fittings at first floor level, and simple softwood roof structure suggested an early/mid-20th-century date. The existing rear elevation is of early/mid-20th-century date and was altered with the provision of modern windows and doors.

Archive: E.R.O.
A.S.E. project: 170104

Halstead, Oak Road (TL 80430 29681)
Robin Wroe-Brown
An archaeological evaluation of an 11.75ha site south-west of Oak Road uncovered numerous archaeological features, including three drainage ditches, eight pits and four possible post-holes, with a modern ditch also recorded. Of these, two pits were prehistoric, containing pottery from the Late Neolithic/Early Bronze Age and the Late Bronze Age/Early Iron Age, one ditch was medieval, dated to the 13th–14th centuries, and the remainder were post-medieval or modern.

Following the evaluation, *c.*3.4ha of the site was selected for a 'strip, map and sample' excavation. Three further pits and a shallow drainage gully were recorded. One of the pits showed evidence of burning and dated to the medieval period. The remaining pits were undated and the ditch was late post-medieval or modern in date.

Archive: Bt.M.
O.A.S.I.S. ref: 289167
A.S.E. projects: 160993 and 170160

Harlow, Former Harlow Rugby Football Club, Elizabeth Way (TL 43780 10904)
Mark Germany
A 3.6ha area of former rugby pitches underwent an archaeological evaluation, which revealed three probably prehistoric pits in the south-central part of the site and a scatter of residual Mesolithic and Neolithic/Early Bronze Age struck flints across the south. It also confirmed that the northern half of the site was covered by a levelling deposit of modern made ground in excess of 1m thickness below which investigation was not undertaken.

Archive: H.M.
O.A.S.I.S. ref: 286307
A.S.E. Project: 170088

Hockley, former HM Prison Bullwood Hall, Bullwood Hall Lane (TQ 82601 91641)
Trevor Ennis
An archaeological evaluation of a 4.2ha area of land on the site of the former HM Prison Bullwood Hall revealed no archaeological remains except a single flint scraper of Mesolithic or Neolithic date retrieved from the subsoil. The evaluation showed that the site had been subject to reasonably heavy truncation caused by the late Victorian construction of Bullwood Hall (originally Bullwood House) and its outbuildings and subsequently by the former prison complex and associated general landscaping of the grounds.

Archive: Ch.M.
O.A.S.I.S. ref: 292473
A.S.E. Project: 170242

Kelvedon, Grangewood Centre, 10–12 High Street (TL 85997 18445)
Ian Hogg and Trevor Ennis
Following previous evaluation and monitoring works in 2000 and 2010, evaluation of a 0.9ha area to the rear of the Grangewood Centre uncovered remains of a possible Late Iron Age or Roman road previously postulated to run across the site (and located by trenching in 2000). It was constructed from sandy make-up deposits overlain by hard gravel surface all laid in a shallow cut. The road varied greatly in width and appeared to have subsidiary areas of metalling either side of the main road surface. No roadside ditches were recorded and no dateable finds were retrieved. No associated Roman features were found to either side. The road was cut by two features, one a probable pit and the other a ditch most likely of post-medieval date.

Subsequent mitigation works comprised a *c.*42sq m excavation area targeting the posited Roman road, which recorded a further part of it but did not recover any dating evidence.

Archive: Bt.M.
O.A.S.I.S. ref: 294589 and 299882
A.S.E. projects: 161043 and 170957

Langdon Hills, Little Malgraves Farm, Lower Dunton Road (TQ 66810 85820)
Mark Germany
Following a geophysical survey in 2014, evaluation revealed archaeological remains in four trenches located in the central-south area of the 16ha site. The remains comprised a Middle Bronze Age pit, three Middle to Late Bronze Age pits, an Early Iron Age pit, a modern pit, and an undated pit and ditch.

Archive: S.M.
O.A.S.I.S. ref: 275812
A.S.E. project: 161007

Lawford, Bromley Road (TM 09732 30692)
Angus Forshaw
The trial-trench evaluation of a 6.8ha site east of Bromley Road uncovered a low density of ditches and pits, possibly dating to the later prehistoric, Roman and medieval/post-medieval periods.

A focus of probable later prehistoric activity was identified in the south-west corner of the site, where a possible ring-ditch and two parallel north-east/south-west aligned ditches were found that yielded an assemblage of Early to Middle Iron Age pottery, burnt unworked flint and charred cereal remains. These remains possibly constituted part of a farmstead of Early to Middle Iron Age date. In addition, probable Middle Bronze Age and Early Iron Age features uncovered in the north of the site most likely indicated outlying activity associated with the possible settlement in the south-west.

Minimal evidence for Roman activity, comprising two ditches located towards the centre of the site, was encountered. Remains of medieval land use activity, denoted by ditches and pits containing artefacts of a possible occupation character, were present in the south-east of the site.

Archive: C.M.
O.A.S.I.S. ref: 302756
A.S.E. project: 170755

Little Waltham, Belsteads Farm Lane (TL 72118 10173)

Trevor Ennis

An archaeological evaluation of 10.53ha of land north, south and east of Belsteads Farm Lane uncovered a low to moderate density of ditches, gullies and pits. Across the south of the site, archaeological remains most likely defined agricultural and possible settlement land use dating to the Late Iron Age/Early Roman period (1st century AD). A low density of ditches and pits of medieval date (*c.*13th-century) was found in the west and south-west of the area. These features also likely constituted agricultural and possible settlement land use. The north and north-west of the site contained a low density of only undated remains.

Archive: Ch.M.
O.A.S.I.S. ref: 296576
A.S.E. project: 160858

Maldon, 106 High Street (TL 85219 06953)

Samara King

Archaeological evaluation of a 67.5sq m trench area within a courtyard to the rear of 106 High Street revealed several layers of post-medieval backfill/levelling deposits overlying a post-hole, multiple pits, short linear features and levelling layers of medieval date.

The earliest phase consisted of a post-hole containing an 11th-century piece of Thetford-ware pottery. Three potential ovens and three other hearth-like pits with possible related structural remains, dating to between the 13th and 14th centuries, demonstrated a fairly complex sequence of activity—perhaps of domestic food manufacture in a backyard area.

Four small post-medieval pits, a small building foundation trench and a final levelling layer provided evidence for the decline in activity during the transition between the medieval and post-medieval periods, and the eventual development of the area into back gardens for horticultural use that continued into the modern period.

Archive: C.M.
O.A.S.I.S. ref: 297429
A.S.E. project: 170679

Maldon, 110 High Street (TL 85211 06941)

Samara King

Archaeological evaluation of a 227sq m trench area within the courtyard to the rear of 110 High Street recorded several layers of post-medieval backfill/levelling deposits with a potential linear- or pit-like feature occurring between them. One piece of 16th-century pottery was recovered, which was likely to have been intrusive, along with post-medieval brick and tile, one piece of animal bone and a 20th-century flowerpot sherd. Excavation was undertaken to a depth of 1.25m and did not penetrate below the base of these post-medieval deposits.

Archive: C.M.
O.A.S.I.S. ref: 296335
A.S.E. project: 170371

Maldon, The Friary, White Horse Lane (TL 85032 06875)

Robin Wroe-Brown

An archaeological evaluation was conducted at a 0.5ha site located to the south of Friary East within the precinct of the medieval Carmelite Friary. Recorded archaeological features comprised three pits and six linear cuts. It was considered that two of the linear cuts were post-medieval in date and, based on the pottery recovered, the remainder of the features were dated to the Early Iron Age. No evidence relating to the medieval friary was found.

Archive: C.M.
O.A.S.I.S. ref: 278117
A.S.E. project: 161080

Nazeing, Leaside Nursery, Sedge Green (TL 38900 07090)

Kate Clover

Six trial trenches were investigated across the 0.8ha site, which demonstrated that the area had been subject to substantial ground disturbance and dumping in the last century, most likely relating to the site's former use as a nursery. Only one archaeological feature was exposed: an undated ditch located in the north-west of the site.

Archive: E.F.D.M.
O.A.S.I.S. ref: 278682
A.S.E. Project: 160822

Newport, Bury Water Lane (TL 51677 34463)

Trevor Ennis

Sixteen trenches were investigated across the 2.1ha area of a former plant nursery site north of Bury Water Lane. No archaeological features of prehistoric date were identified, although three flint flakes of possible Neolithic/Early Bronze Age date and a sherd of Late Bronze Age/Early Iron Age pottery were found residual in later features. A few large ditches were identified in the south-west of the site; all appeared to be parts of a field system of Early Roman date. No remains of medieval or post-medieval date were identified. The numerous modern features present were mostly associated with the former nursery or its subsequent demolition.

Archive: S.W.M.
O.A.S.I.S. ref: 287620
A.S.E. Project: 170003

North Fambridge, Fambridge Road (TQ 85341 97423)

Paulo Clemente

The evaluation of a 0.5ha site west of Fambridge Road uncovered evidence for dispersed later Bronze Age/earliest Iron Age pits and ditches. Pottery sherds from some of these pits were noted to have been affected by saltworking processes, suggesting that these features could have been associated with such activity undertaken in the nearby saltmarshes. In addition, a series of fairly substantial Roman ditches were recorded in the south-west of the site and most likely represented part of a field system, which may have been established in the 1st century AD and recut and maintained

into the mid-Roman period. The remainder of the recorded features were associated with late post-medieval agricultural land use.

Archive: C.M.
O.A.S.I.S. ref: 295636
A.S.E. project: 170691

North Fambridge, Manor Farm, Fambridge Road (TQ 85470 97125)

Paulo Clemente and Angus Forshaw

An archaeological evaluation of a 0.5ha site in the farmyard and paddock of Manor Farm uncovered a single isolated unurned cremation burial of possible Late Bronze Age date and an associated tiny fragment from a decorated gold object in the south-east of the site. No other archaeological remains were recorded within the ten trenches excavated.

Subsequent excavation of a 400sq m area centred on the location of the cremation burial recorded one further pit to its immediate north-east that contained fragments of burnt bone.

Archive: C.M.
O.A.S.I.S. ref: 294187 and 307045
A.S.E. projects: 170690 and 170987

Silver End, Boars Tye Road (TL 80743 20220)

Trevor Ennis

Following evaluation in 2016, two areas totalling 944sq m were selected for excavation within the 2.2ha site west of Boars Tye Road prior to its development. A number of Late Bronze Age features, and several undated but probably contemporary features, were identified. These included a small Late Bronze Age roundhouse comprised of eight post-holes. A probable central firepit within the roundhouse contained Late Bronze Age pottery, charcoal, baked clay and fire-cracked flint. Eight external pits were probably associated with the occupation of this building and several further probable Late Bronze Age pits were recorded elsewhere across the excavation areas.

A single, large 13th-century ditch was found in the east of the site, evidencing the division of the landscape into fields during the medieval period. Post-medieval/modern features comprised two small ditches and a trench containing a ceramic field drain.

Archive: Bt.M.
O.A.S.I.S. ref: 307025
A.S.E. project: 161071

Southend-on-Sea, Prittlebrook Industrial Estate (TQ 87651 87749)

Hannah Green and Christopher Curtis

A programme of historic building recording was undertaken at the site of the former Ekco Works. Two air-raid shelters were recorded prior to the proposed redevelopment of the site. By 1937, the Ekco Company was involved in research and development into radar and production work supplying radio sets to the military. These most recently discovered shelters (Shelters 4 and 5) form part of a wider group of shelters formerly located beneath the Ekco Works, which is now demolished. The structures are believed to have formed additional basic facilities serving the wider workforce. Shelter 4 is located beneath the southern end of the former western range, which formerly served as the radar factory, while Shelter 5 is located south of Shelter 4, towards the southern end of the site.

Archive: S.M.
O.A.S.I.S. ref: 253697
A.S.E. project: 8231

Southend-on-Sea, Prittlewell Priory (TQ 87630 87340)

Ellen Heppell

Archaeological monitoring was undertaken during the excavation of cable ducts to the east of Prittlewell Priory in Priory Park, the site of the medieval Priory of St Mary's (Scheduled Monument, National Heritage List No. 1018452). The cable duct trench was 0.3m wide and 0.4m–0.45m deep, and ran for 20m across the site linking it into existing ducting. An inspection chamber was excavated at the junction of the two, to a depth of 0.5m. The remains of a flint rubble and mortar wall were identified at the very base of the inspection chamber and left *in situ*. Based on its construction, the wall was possibly medieval in date and it may have formed part of the priory church. No other archaeological remains were identified.

Archive: S.M.
O.A.S.I.S. ref: 300205
A.S.E. project: 170549

Stanford Rivers, St Margaret's Church (TL 53422 00882)

Mark Germany

The archaeological monitoring of a 6sq m hole for a cesspool in the south-central part of the churchyard of St Margaret's Church revealed deep, steep-sided grave cuts and the remains of at least two *in situ* inhumations. The inhumations were not closely datable but were most likely interred during the mid-17th century or later. Accompanying artefacts comprised three coffin nails and part of a coffin handle, all of which were highly corroded. The bones and artefacts were re-interred in the churchyard after the monitoring had been completed.

Archive: E.F.D.M.
O.A.S.I.S. ref: 278700
A.S.E. project: 161109

Stanway, Chitts Hill Road, Chitts Hill (TL 95676 25671)

Mark Germany

Following cropmark and geophysical surveys in 2016, an evaluation of a 6.8ha site west of Chitts Hill Road revealed a low incidence of belowground archaeological remains. It demonstrated that the majority of the potential remains identified by the previous surveys were either later post-medieval or modern ditches, or else did not exist as below-ground remains. The post-medieval ditches related to the enclosure and management of the agricultural landscape.

In addition to the post-medieval remains, the evaluation corroborated the presence of a ring-ditch and its central pit, as previously indicated by the cropmarks. Although this feature

morphologically appeared to be a barrow of Early/Middle Bronze Age date, burnt bone from the central pit, possibly a grave, was radiocarbon-dated to 165 cal BC–AD cal 20 (BETA-459918; 2050 ± 30). A Middle to Late Iron Age date for a funerary monument of this type is unusual. Undiagnostic fragments of lava quernstone retrieved from the ring-ditch fill also indicated a Roman or medieval phase of deposition at this monument.

Archive: C.M.
O.A.S.I.S. ref: 280233
A.S.E. project: 160904

Stanway, Stane Park (North Area) (TL 94569 24709)
Samara King
Following evaluation in 2015, a 1,490sq m area centred upon the remains of a presumed prehistoric barrow (EHER 11939) was excavated. The investigation revealed the full extent of the *c.*26m diameter ring-ditch, its central cremation burial pit and a secondary off-centre pit both dated by pottery to the Late Neolithic/Early Bronze Age. A sample of cremated bone from the central burial has been dated to 2275–2035 cal BC (BETA-472223; 3740 ± 30). An Early to Middle Bronze Age pit containing Deverel-Rimbury pottery, and a scatter of other undated, although probably prehistoric, pits were also recorded within and to the west of the barrow remains.

Archive: C.M.
O.A.S.I.S. ref: 300372
A.S.E. project: 170265

Stanway, Warren Lane (TL 95210 23370)
Robin Wroe-Brown and Angus Forshaw
An archaeological evaluation, comprising twenty-two trenches across a 1.85ha site east of Warren Lane and west of Dyers Road, was carried out ahead of residential development. Single archaeological features were recorded in three trenches, comprising a pit, a post-hole and a SSE/NNW aligned gully with an irregular bulbous southern terminal. No artefacts were retrieved and the features were undated.

Subsequent 'strip, map and sample' excavation of two areas, measuring 900sq m and 100sq m, revealed only two further archaeological features. The stripping of the larger area, Area 1, revealed an elongated pit and a probable tree hole, and established that the previously recorded SSE/NNW gully was in fact an elongated pit. No remains, other than the pit previously recorded in the trial trenching, were found in Area 2. No artefacts were retrieved from the recorded features and so they remained undated.

Archive: C.M.
O.A.S.I.S. ref: 274419 and 279060
A.S.E. projects: 161089 and 170159

Thaxted, Mill End (TL 61361 30728)
Angus Forshaw
Evaluation of a 0.7ha site, to the rear of a range of 16th- and 19th-century Listed Buildings along the Mill End frontage, revealed buried archaeological remains in the north and south-east of the site. Medieval pits, together with a post-hole, gully and possible ditch, included bone working waste possibly deriving from manufacturing activities of the 12th- to 15th-century Thaxted cutlery industry. Tudor period pitting may have represented domestic disposal activity to the rear of frontage buildings.

The presence and extent of a post-medieval non-conformist (Quaker) burial ground in the north-east of the site was also confirmed, with graveyard walls and inhumation burials in brick-lined graves/vaults being recorded. The remains of other inserted walls and brick-built buildings were associated with the subsequent use of the northern end of the site as a Sunday School in the late 19th century and then as a sweet factory in the early 20th century.

Archive: S.W.M.
O.A.S.I.S. ref: 287289
A.S.E. project: 170392

Thorpe Le Soken, Landermere Road (TM 18594 22566)
Mark Germany
The evaluation of a 5.8ha green field site uncovered evidence of a series of ditches and gullies to the north that were tentatively interpreted as delineating enclosed areas for the purpose of holding and controlling sheep. Assemblages of medieval pottery, typically domestic in nature, suggested a broadly later 12th- to 14th-century date for this period of agricultural activity. The recovery of cultivated wheat grains and peas from several of these features also indicated small-scale domestic processing or cooking activity. In addition, two ditches located towards the south of the site may have constituted remnants of a late medieval/early post-medieval field system.

Archive: C.M.
O.A.S.I.S. ref: 304065
A.S.E. project: 170382

Thorpe Le Soken, Thorpe Maltings, Station Road (TM 17888 21356)
Angus Forshaw
Evaluation was undertaken within the 1.17ha site of the Listed 19th-century Thorpe Maltings and the King Edward VII public house built in 1901. A single Mesolithic or Early Neolithic flint flake was found in a pit in the east of the site, though it may have been residual. Other pits and gullies in the vicinity of this pit were all undated. Remains of demolished late 19th-century buildings, shown on historic OS mapping of the site, were also recorded.

Archive: C.M.
O.A.S.I.S. ref: 301282
A.S.E. project: 170836

Witham, Lodge Farm, Hatfield Road (TL 80703 13292)
James Alexander
Following evaluation in 2016, twenty-five trenches were investigated across a 38,320sq m site (Phase 1B) at Lodge Farm, north-west of Hatfield Road. Archaeological features, comprising linear ditches and pits, were recorded in six of these trenches. A single prehistoric ditch running east/west was recorded towards the north-west of the site. Two post-medieval ditches, running north-east to south-west, were also recorded in the west and south-east and probably relate to the late post-medieval and modern agricultural land use of the site.

Archive: Bt.M.
O.A.S.I.S. ref: 306081
A.S.E. project: 171161

Wix, Granary Barn, Bradfield Road (TM 16247 29100)
Rob Cullum
An archaeological evaluation was carried out on a 2,250sq m site to the north of Wix village, alongside Bradfield Road and near the parish church of St Mary, which was formerly the site of the 12th-century Wix Priory. The investigation revealed a low density of post-medieval remains. Two intercutting ditches, representing a field boundary and its replacement, were recorded. This boundary may have related to rectilinear cropmarks identified to the north of the site. No remains relating to the medieval priory were identified.

Archive: C.M.
O.A.S.I.S. ref: 285402
A.S.E. project: 170386

Woodham Mortimer, Barn adjacent to The Grange, Southend Road (TL 80436 04533)
Hannah Green
A programme of historic building recording was undertaken in connection with the proposed residential conversion of the barn adjacent to The Grange. The barn was the only surviving structure of a larger farmyard complex as indicated by late 18th- and 19th-century mapping. The general framing of the barn was characteristic of a late 18th-/early 19th-century construction date. It appeared that the barn experienced a series of later alterations, predominantly during the 20th century when the barn underwent re-roofing works, as well as minor alterations and repairs to the original structure. Despite these works, the original framing was largely intact.

The barn was originally constructed for the processing and storage of crops. Its form of five bays, with a central midstrey and waggon porch projecting from its southern elevation, appeared to be the original plan, as was indicated by the details of its frame and its length shown on historic mapping. The midstrey bay, which was used for threshing, had a full-height, double doorway on its north and south side. The southern doorway would have allowed a wagon fully laden with crops to enter the barn, and the northern opening located opposite would have created the through-draught necessary for winnowing. The bays to either side of the threshing floor would have originally been utilised for the storage of crops both prior to and after processing. Later functions of the barn included its partial use as a dovecote and the insertion of small animal enclosures.

Archive: C.M.
O.A.S.I.S. ref: 264094
A.S.E. project: 160707

COLCHESTER ARCHAEOLOGICAL TRUST
Compiled by Howard Brooks

Alresford, Blue Gates Farm, Colchester Main Road, CO7 8DG (TM 06596 22040)
Ben Holloway, Nigel Rayner, Elliott Hicks
Evaluation (seven trial-trenches) in advance of the construction of nine dwellings, intercepted (at the southern end of the site) an undated ditch which is the projected continuation of a cropmark in the field to the east.

Archive: C.M.
O.A.S.I.S ref: colchest3-296539
C.A.T. Report: 1191

Ashen, Greenhills, Ashen Road, CO10 8LG (TL 76400 44268)
Alec Wade, Harvey Furniss, Elliott Hicks
Evaluation by four trial-trenches in advance of the construction of two dwellings revealed a medieval ditch, residual 11th–12th-century pottery, and Neolithic–Bronze flints.

Archive: Bt.M.
O.A.S.I.S ref: colchest3-281231
C.A.T. Report: 1101

Barling Magna, 27 Church Road, SS3 0LS (TQ 9314 8968)
Mark Baister, Sarah Carter, Elliott Hicks
The site lies 50m west of a medieval church. Evaluation by one trench in advance of construction of a dwelling uncovered a late prehistoric (Middle Iron Age?) ditch.

Archive: S.M.
O.A.S.I.S ref: colchest3-284205
C.A.T. Report: 1157

Birdbrook, Westrope Haulage Yard, Sturmer Road, CO9 4BB (TL 70980 42788)
Ben Holloway, Laura Pooley
Excavation in advance of the construction of new light industrial units targeted an area 60m² where a Roman pit and oven were revealed by 2016 evaluation (Pooley 2016a). Three Roman features (a possible well or gravel pit, pit and ditch) and an undated pit were excavated. This cluster of Roman features is indicative of Roman-period activity in the hinterland of Wixoe, small Roman town (on the other side of the River Stour).

Archive: Bt.M.
O.A.S.I.S ref: colchest3-277775
C.A.T. Report: 1080

Boxted, Hill Farm, Boxted Cross, CO4 5RD (TM 0044 3248)
Ben Holloway, Adam Tuffey, Laura Pooley
The site is close to undated cropmarks. Evaluation in 2016 revealed prehistoric and Roman field boundary ditches, and a medieval pit (Pooley 2016b). Excavation prior to construction of residential dwellings revealed ten Roman ditches, three pits and two small pits/postholes. One ditch contained twenty-six sherds of a Dressel 20 amphora.

Archive: C.M.
O.A.S.I.S ref: colchest3-279603
C.A.T. Report: 1085

Brightlingsea, Brightlingsea Quarry, Moverons Lane (TM 0747 1797)
Ben Holloway, Mark Baister, Stephen Benfield, Adam Wightman
A large site excavated prior to mineral extraction provided evidence for occupation from the Early Neolithic to the Late Anglo-Saxon period. Features dating to the Early Neolithic included a pit containing sweepings from a fire, and a significant assemblage of worked flints. Most of the excavated features were tree-throws, probably the result of Late Neolithic deforestation. A small group of Late Neolithic to the Early Bronze Age pits included two possible Late Neolithic cremations. Also dating to this period was a cremation in a collared urn. The Bronze Age saw the creation of a field system, and a substantial Bronze Age ring-ditch. No burial was found within the ring-ditch, but it did encircle a ring of postholes. It probably contained a barrow, although this is not certain. Another field system was created in the Late Iron Age to Early Roman period, and a group of nine burials clustered around one of the entrances to the field system. A mid-Roman trackway cut across the site, heading off beyond the excavated site, presumably to local Roman settlements. From one of the ditches in this trackway came a leaded-bronze foot in the shape of a harpy. It dates from the 1st century AD and was made in Campania, southern Italy. There were also three Roman cremations on the south edge of the site, probably associated with nearby settlements. The southern half of the site was dominated by a finds-rich Anglo-Saxon settlement. Structural features included at least ten *grubenhäuser* and two post-built structures.

Archive: C.M.
O.A.S.I.S ref: colchest3-208528
C.A.T. Report: 1097

Colchester, Cambian Fairview, Boxted Road, CO4 5HF (TL 9886 2884)
Nigel Rayner, Jane Roberts, Howard Brooks
Evaluation by twelve trial-trenches south of Cambian Fairview revealed thirty archaeological features. The earliest was an Iron Age pit with a burnt base and a charcoally fill. The charcoal gave a radiocarbon date of 2218±27 BP (cal 350–203 BC). Other examples of these 'fire-pits' have been seen on previous archaeological sites in this part of Colchester, and seem to occur over an area of 1.2km east to west in the northern part of Mile End. Other archaeological features were all post-medieval and 19th-century ditches, drains and pits. Interestingly, some of the excavated features correlate closely with the boundaries and walls of plots 346–8 on the 1841 Tithe Map.

Archive: C.M.
O.A.S.I.S ref: colchest3-282320
C.A.T. Report: 1095

Colchester, Butt Road, Water tower, CO3 3DG (TL 9927 2465)
Adam Tuffey, Sarah Carter, Laura Pooley
The site is in a Roman cemetery, and in the northwestern corner of the former Garrison Artillery Barracks. Evaluation (three trial-trenches) in advance of extensions for new offices revealed a Roman pit, and post-medieval remains including the foundations of the Garrison stores and coal yard. A later watching brief recorded the disturbed remains of an Roman urned burial.

Archive: C.M.
O.A.S.I.S refs: colchest3-277371 , colchest3-284192
C.A.T. Reports: 1079, 1158

Colchester, Castle House, Castle Bailey, CO1 1TH (TL 9985 2524)
Donald Shimmin, Mark Baister, Emma Holloway, Stephen Benfield, Frank Lockwood, Emma Sanford
Castle House lies 45m south of Colchester Castle. Previous archaeological work has established that a monumental Roman arcade crossed the site from east to west. The arcade formed the impressive south front of the large rectangular precinct within which stood the Temple of Claudius. In 2014, prior to the start of construction work, two trenches were dug by C.A.T. in the northern part of the site. This area lay immediately to the north of the arcade and was previously largely unexcavated. Part of a Roman attached column, which must have fallen from the arcade, was uncovered in the more westerly trench. It lay in a thick deposit of demolition debris dating to the 11th or 12th centuries. In the other trench, quantities of pottery, animal bone and shell were recovered from a gully and associated deposits of probable 12th-century date. In the more westerly trench there was also an inhumation burial that probably dated to the 16th or 17th century. Excavation resumed in 2015 inside the building under construction. Three rectangular holes for glazed viewing panels were built into the modern concrete floor, so that the remains of the Roman arcade could be put on permanent display. A large stretch of the foundation platform for the arcade, including its well-defined northern edge, was revealed beneath the floor. The remains of three piers and four later Roman revetting walls were uncovered on top of the foundation. Although much of the 2015 excavated area had been examined previously in 1964, some undisturbed deposits survived over the remains of the arcade.

Archive: C.M.
C.A.T. Report: 1092

Colchester, Duncan's Gate, Castle Park, CO1 1UN (TL 9992 2555)

Mark Baister, Gareth Morgan

Duncan's Gate is the single-carriageway north-eastern gate through the Roman town walls. Monitoring focussed on the conservation of collapsed masonry south of the gate, which has been interpreted as the remains of the collapsed gate tower and may incorporate the edges of two window openings. Cleaning of the collapse prior to conservation (the reattachment of several tile courses) allowed a section to be recorded, providing an accurate depth of the collapsed masonry.

Archive: C.M.
O.A.S.I.S ref: colchest3-296227
C.A.T. Report: 1171

Colchester, 'Chesterwell', Northern Growth Area, off Nayland Road (TL 988 285)

Nigel Rayner, Sarah Carter, Jane Roberts

On the former Cant's Rose Fields, east of the new development known as 'Chesterwell' in Mile End, excavation of an area of 0.75ha uncovered 530kg of medieval pottery and tile fragments. The pottery includes wasters (indicating nearby kilns) which have been dumped in holes probably originally dug as clay-extraction pits. Given the absence of the usual light-bulb-shaped kilns, there are strong reasons to associate a rectangular, tile-built kiln foundation, measuring 5m × 2.7m, with the production of pottery.

Potters working here and in the adjacent parish of Great Horkesley to the north produced a very substantial proportion of the pottery in use in Colchester in the 14th to 16th centuries. This is described as Fabric 13 (early medieval sandy ware), Fabric 21 (medieval sandy orange ware), and especially Fabric 21a (Colchester-type ware). All three fabrics were produced here, and wares include cooking pots, jugs and bowls.

Archive: C.M.
O.A.S.I.S ref: colchest3-257615
C.A.T. Report: 1140

Colchester, former Arena Centre, Circular Road East, CO2 7SZ (TL 997 244)

Nigel Rayner, Laura Pooley, Stephen Benfield

The site contains part of Colchester's Roman circus, and there are Roman burials, and a kiln in the vicinity. Evaluation (eleven trial-trenches) prior to redevelopment revealed the remains of the circus in T12-T13, at 0.27–0.39m below current ground level. Trench T12 was positioned over the central barrier, and the shallow remains of a robbed-out wall foundation were identified. Trench T13 was positioned over the southern seating bank (*cavea*). The remains of the robbed-out outer *cavea* wall foundation were identified along with the robbed-out and *in situ* remains of two north-south walls/wall foundations with metalling in between them. Significantly, these walls/wall foundations represent the remains of a passageway or *vomitorium* leading to the *cavea* seating area. The remaining nine trenches were south of the circus. Twenty-one Roman features, predominantly of 2nd- to 3rd-century date, were identified: nine ditches, two ditches/gullies, five pits, four possible inhumation burials and one possible pyre site or *bustum*. Together with evidence from the stage 1a evaluation, it has been possible to identify two parallel north/south ditches running through the site which probably formed a trackway or droveway leading to another passageway/*vomitorium* identified in 2005. Other ditches on a different alignment may belong to the Late Iron Age/Early Roman landscape.

Archive: C.M.
O.A.S.I.S ref: colchest3-272946
C.A.T. Report: 1142

Colchester, Greytown House, 138–140 High Street, CO1 1YJ (TL 9955 2523)

Sarah Carter, Ben Holloway, Emma Holloway, Laura Pooley, Stephen Benfield

The site is in *Insula* 19 of the Roman town and in the core of the medieval town. Excavations in 1973–4, after the demolition of the Cups Hotel, revealed significant modern disturbance caused by cellars (Crummy 1992, 328–338). However, building remains from both the Roman and medieval remains did survive between cellars. Immediately behind Greytown House, removal of 1970s concrete exposed a short length of wall foundation and floor which may be remains of a Cups Hotel cellar. Cleaning of the exposed section on the northern site edge, standing 1.5–2m higher than the car park, revealed Roman and post-medieval/modern remains. Significantly, the Roman remains included early Roman floors, sealed by Boudiccan destruction debris, and, higher up the sequence, 2nd-century strata. Monitoring along St Runwald's Street, north of Greytown House, revealed Roman layers, an early medieval wall foundation (from an early medieval house first identified during the 1970s excavations), two medieval pits and post-medieval/modern structural remains.

Archive: C.M.
O.A.S.I.S ref: colchest3-266729
C.A.T. Report: 1203

Colchester, former Williams & Griffin store, 147–151 High Street (TL 99506 25243)

Adam Wightman, Nigel Rayner, Robin Mathieson

Investigations during the redevelopment of the old Williams & Griffin store and its conversion into the new Fenwick store mainly involved the hand-excavation of three areas down to over 3m below ground level.

The site is in the centre of the Roman legionary fortress (Period 1). The main north-south street (*via principalis*) of the fortress was identified, and the floors of a military building which fronted onto its eastern side were seen in section. Based on its location within the fortress, this building would have been the accommodation of a junior officer (a tribune) in the Roman Army's Twentieth Legion. The military building was replaced sometime after AD 49, when a colony for legionary veterans (*Colonia Victricensis*) was established (Period 2). The new building burnt to the ground soon after, during Boudicca's assault on the town in AD 61 (Period 2b). Unfortunately, only one wall of the Period 2 building coincided with the excavated site, but several small areas of the floor survived alongside it. Lying on the surface of the floor was the distinctive layer of burnt debris generated when the buildings of Colchester were destroyed by Boudicca.

Amongst the destruction debris was a variety of domestic goods indicative of a high-status Mediterranean style of living in the heart of the early colony. These finds included copper-alloy vessels, ceramic kitchen and tablewares, lamps, balls of Egyptian blue pigment and a remarkable collection of carbonised foodstuffs. Cereals, pulses, exotic culinary herbs and spices and fruits such as figs, dates and grapes were amongst the foods identified, many present in large quantities. The bulk of the finds were found on and adjacent to the charred remains of an oak shelf in what must have been a kitchen or storeroom. Dug into the floor of the same building, personal items belonging to the occupants had been placed in a bag and buried just before or during the attack on the colony. This bag contained precious metal jewellery and coins apparently belonging to both a man and a woman. The man was probably a Roman citizen who had received military awards during the conquest of Britain, and the woman owned items of fine gold jewellery that were highly fashionable in the mid-1st century AD. This hoard of military awards, jewellery and coins has already been published in *Britannia* by Nina Crummy (2016).

Further evidence of the Boudiccan revolt was uncovered towards the eastern edge of the north-south Roman street where the remains of collapsed tiled roofs covered a timber-lined roadside drain, burnt during the fire in AD 61. Spread over the roof tiles was Boudiccan destruction debris removed from the adjacent buildings during the post-revolt clearance operations (Period 3a). This debris contained fragments of human bone from people who died as Boudicca and her troops overran the town, burning the buildings as they went. Isotope analysis has revealed that a mandible recovered from the debris belonged to a man who may have grown up in eastern France or northern Germany. He was most likely to have been one of the small number of troops in the town or one of the veteran soldiers who had settled there after his discharge from the army. The same mandible, along with part of a tibia, exhibit damage which could have been caused by wounds sustained during fighting. Substantial areas of Boudiccan debris have been investigated during previous excavations in Colchester, but fragments of human bone have only been recovered from two other locations. This includes a collection of bones recovered in 1966 from the edge of the same Roman street barely 95m to the north. This indicates that some of the inhabitants of Colchester were not killed in the sacred groves, or did not take shelter in the Temple of Claudius (as recorded by the Roman historian Tacitus), but fought to the death in this central area of the town.

On the western side of the north-south Roman street, the remains of a sizeable Roman building were identified, lying mostly beyond the excavated site. However, two substantial foundations, a fragment of wall and a thick sequence of mortar floors were in the excavated site. Part of the building appears to have been constructed during the military period, before being significantly altered. Based on its location, it is possible that the remains could belong to a covered walkway along the eastern edge of a public building. A hand-excavated section through the Roman street identified five phases of street metalling. The uppermost and latest phase was cut by numerous medieval and post-medieval pits, but in between the pits it was well preserved. The remains of a 4th-century Roman water-pipe was found in the base of a trench cut into the uppermost surface of the street. The pipe would have been part of the town's water-supply system to provide fresh water to the properties fronting onto the north-south street.

The 11th and 12th centuries saw the extensive robbing of building materials from the later Roman buildings on the site. The Roman public building on the western side of the street was probably robbed during this period, as was a 2nd-century town-house constructed on the site of the Period 2 Roman building containing the hoard. Some of the robbed materials may have been used to construct an early medieval stone house which stood in Foundry Yard (behind 147/148 High Street) until it was demolished in 1886. A medieval stone wall foundation and a significant quantity of medieval building material, which included numerous medieval roof slates, were uncovered close to the High Street frontage. These suggest that a second early medieval stone building may have been located to the west of the Foundry Yard stone house. In the 12th or 13th century a kiln, used to roast marine mollusc shells to produce quicklime, was constructed on land to the north of the stone house. Slightly later, in the 13th or 14th century, a large quarry pit for sand and gravel extraction was dug into the Roman street just behind the High Street frontage. Presumably, both features are associated with construction activity in the centre of the town during the medieval period.

In the post-medieval period a significant number of pits, many of which were very large and deep, were dug across the site. These were a combination of rubbish pits, cess pits and soakaways. In the late 18th century a yard was home to a stonemason, and in 1792 the first iron foundry in Essex was established here.

Archive: C.M.
O.A.S.I.S ref: colchest3-296221
C.A.T. Report: 1150

Colchester, 91 King Harold Road, CO3 4SG (TL 9717 2393)

Nigel Rayner, Jane Roberts, Harvey Furniss, Ziya Eksen, Elliott Hicks

The site is within the Late Iron Age oppidum of Camulodunum, and Heath Farm Dyke is projected to run along its south-eastern edge. Evaluation (five trial-trenches) in advance of the construction of five bungalows uncovered four probably modern tree-throws, an undated ditch and two natural linear features. No trace of Heath Farm Dyke was found, suggesting that it may run to the south of its predicted course.

Archive: C.M.
O.A.S.I.S ref: colchest3-294143
C.A.T. Report: 1166

Colchester, Essex County Hospital, Lexden Road, CO3 3NB (TL 9892 2487)

Nigel Rayner, Jane Roberts, Adam Tuffey, Laura Pooley

The hospital site is in the Roman western cemetery where excavations in 1820–21 uncovered the Colchester Sphinx (part of an elaborate tomb). Evaluation (one trial-trench) in advance of redevelopment revealed two pits and a ditch at depths of 0.4–0.6m below current ground level. All three features contained Roman material, but their significance

is difficult to determine because of the limited size of the evaluation.

Archive: C.M.
O.A.S.I.S ref: waterman2-294507
C.A.T. Report: 1186

Colchester, Alderman Blaxill School, Paxman Avenue, CO2 9DQ (TL 9763 2324)
Nigel Rayner, Harvey Furniss, Elliott Hicks
The Gosbecks to Colchester Roman road should pass through this site. Evaluation (five trial-trenches) in advance of the demolition of the existing school and erection of a new secondary school proved that the road remains elusive. Two parallel ditches may be those defining a footway along one side of the road, but there were no ditches within 7m of either side (the width of the main carriageway).

Archive: C.M.
O.A.S.I.S ref: colchest3-293426
C.A.T. Report: 1167

Colchester, 2–3 Priory Street, CO1 2PU (TM 00012 25004)
Harvey Furniss, Elliott Hicks, Adam Tuffey, Laura Pooley
The remains of a minimum of eleven burials disturbed during groundworks were recovered during the construction of extensions. Although strictly undated, these individuals are most likely to be associated with the medieval St Botolph's Priory, whose east end lies only 30m to the south.

Archive: C.M.
O.A.S.I.S ref: colchest3-278623
C.A.T. Report: 1138

Colchester, Queen Street, former bus depot, CO1 2PG (TL 99949 25044)
Nigel Rayner, Elliott Hicks, Jane Roberts, Adam Tuffey, Laura Pooley, Stephen Benfield
The site is in the south-eastern angle of the Roman walled town, immediately north of the Roman town wall. Evaluation (five test-pits) revealed significant modern, post-medieval and Roman remains 0.45–1.65m below current ground level. Modern wall foundations were associated with the Theatre Royal and its destruction by fire in 1918. Post-medieval remains included a ditch which is probably part of the Royalist defensive position behind the town walls during the English Civil War. Roman remains included two phases of Roman street metalling, and a small section of the Roman rampart. Remains of Roman walls and drains previously intercepted by Rex Hull in 1931 were seen in test-pits 4 and 5.

Archive: C.M.
O.A.S.I.S ref: colchest3-279512
C.A.T. Report: 1106

Colchester, Abbey House, St John's Green, CO2 7EZ (TL 99706 24761)
Chris Lister, Harvey Furniss, Elliott Hicks, Gareth Morgan, Laura Pooley
The site is immediately north of the medieval St John's Abbey precinct. Excavation in advance of the construction of a new dwelling revealed four ditches and fifteen 3rd- to 4th-century pits. The ditches were probably land boundaries, and the pits mostly sand quarries later used as rubbish pits. Pottery, tile, animal bone and small finds indicate the presence of an extramural Roman domestic structure, overlooking the Roman town.

Archive: C.M.
O.A.S.I.S ref: colchest3-277358
C.A.T. Report: 1084

Colchester, 5–6 St Nicholas Street, CO1 1DW (TL 99818 25176)
Alec Wade, Gareth Morgan, Laura Pooley, Stephen Benfield
The site is in *Insula* 30 of the Roman town, and the building (formerly 'Jacks') is thought to be 17th century with later alterations. Evaluation (two test-pits in advance and watching brief during the creation of ground floor café space and residential units revealed 17th–18th century yard, and 19th- and 20th-century extensions. Strata pre-dating the 17th century building, approximately 1m below current ground level (25.56m AOD), included later medieval layers, an earlier medieval pit, possible Roman layers and a burnt Roman floor, beam slot and posthole. Excavation ceased at depths of 24.6m (TP2) and 24.82m (TP1) AOD with many of the Roman layers not fully excavated.

Archive: C.M.
O.A.S.I.S ref: colchest3-281812
C.A.T. Report: 1125

Colchester, Sheepen Road, 'Amphora Place', CO3 3WG (TL 99104 25519)
Elliott Hicks, Ben Holloway, Emma Holloway, Laura Pooley
The site lies 100m beyond the NW corner of the Roman town wall, and to the east of the Roman trading depot at Sheepen. Evaluation by (two trial-trenches) on the site of the former Sheepen Road car park, in advance of office building revealed modern layers to a depth of 2.2–2.3m below modern ground (5.14–5.15m AOD) in both trenches. Some of these layers are associated with late 19th to early 20th-century rubbish dumping on the site.

Archive: C.M.
O.A.S.I.S ref: colchest3-299710
C.A.T. Report: 1198

Cressing, Lanham Manor Farm, Lanham Farm Road, CM77 8FF (TL 79299 21798)
Elliott Hicks, Nigel Rayner, Gareth Morgan, Ziya Eksen, Harvey Furniss, Jane Roberts
Maps indicate that the surviving moat west of Lanham Manor Farm is the western side of what was a rectangular moat as late

as 1895, whose north, east and southern arms have subsequently been filled in. An evaluation (one trial-trench) in advance of erection of new build revealed the infilled northern arm of the moat. It was at least 6.5m wide, and dug to a depth of 1.4m below current ground level (but was not bottomed). The 19th- to 20th-century finds from the moat reflect its date of infilling.

Archive: Bt. M.
O.A.S.I.S ref: colchest3-294439
C.A.T. Report 1173

Elmstead Market, Blue Barn Farm, Clacton Road, CO7 7DF ((Stage 1: TM 07385 23618: Stage 2 TM 07349 23644)

Nigel Rayner, Ben Holloway, Emma Holloway, Elliott Hicks, Jane Roberts, Laura Pooley

The site is in an area of cropmarks, including a possible trackway from Elmstead Market. Two stages of evaluation in advance of housing construction revealed (Stage 1: four trial-trenches) two medieval ditches, two tree-throws containing residual medieval pottery, and eight undated or modern features, and (Stage 2: two trial-trenches) four undated or modern features. The Stage 1 ditches appear to be the field boundaries of a 12th/13th to 14th-century field-system (on a similar alignment to the trackway).

Archive: C.M.
O.A.S.I.S refs: colchest3-281110, colchest3-302434
C.A.T. Report: 1094, 1209

Goldhanger, r/o 60 Maldon Road, CM9 8BG (TL 90365 09254)

Ben Holloway, Adam Tuffey, Gareth Morgan, Elliott Hicks

Excavation to the north-west of the site (Archaeology South-East 2015) revealed sparse prehistoric and Late Iron Age/ Roman activity, and medieval enclosures possibly extending into the current site. Evaluation (five trial-trenches) in advance of housing revealed number of Bronze Age and Early Iron Age features. By contrast, there was no evidence that the medieval enclosures found by A.S.E. extended into this site.

Archive: C.M.
O.A.S.I.S ref: colchest3-282860
C.A.T. Report: 1104

Great Chesterford, land r/o Chesterfords Community Centre, Newmarket Road, CB10 1NS (TL 50677 43309)

Ben Holloway, Nigel Rayner, Elliott Hicks

The development site overlaps the eastern defences of the 1st-century fort (though the trench position are wholly outside the fort). The later 4th-century walled Roman town is 300m to the east. Evaluation (three trial-trenches) in advance of the construction of a school revealed five undated features, and a ditch which may be the boundary of the eastern cemetery of the Roman town.

Archive: S.W.M.
O.A.S.I.S ref: colchest3-299114
C.A.T. Report: 1188

Great Chesterford, land r/o The Playing fields, Newmarket Road, CB10 1NS (TL 50431 43159)

Mark Baister, Ben Holloway, Emma Holloway, Laura Pooley

The site is within the walled circuit of the Scheduled 4th-century Roman town. Previous archaeological work shows that the Roman town wall and a Roman road should cross this site (Medlycott 2011). Evaluation (five trial-trenches) as part of a pre-application assessment did not find any trace of the wall. However, metalling in two of the trenches confirms the presence of the Roman road. The absence of the wall may mean it is slightly farther north-west than currently projected, or it may have been removed by post-medieval pits and a large modern quarry pit which had destroyed all archaeological remains in the south-western corner of the site. A Roman ditch may indicate internal sub-divisions within *Insula* 4 of the town.

Archive: S.W.M.
O.A.S.I.S ref: colchest3-295791
C.A.T. Report: 1207

Great Wakering, Cottawright, Common Road, SS3 0AG (TQ 9498 8762)

Elliott Hicks, Adam Tuffey, Sarah Carter

The site is lies near to the 12th-century St Nicholas Church, which may be on the site of an Anglo-Saxon minster church. A watching brief during the construction of an outbuilding revealed two medieval or post-medieval ditches with residual Roman and Anglo-Saxon finds.

Archive: S.M.
O.A.S.I.S ref: colchest3-278852
C.A.T. Report: 1159

Hatfield Peverel, 'Swan View', The Street, CM3 2DP (TL 78987 11662)

Ben Holloway, Gareth Morgan Laura Pooley

The site is on the site of the 19th-century Hatfield Villa and on the historic route known as The Street, which follows the projected line of a Roman road from London to Colchester. Evaluation (one trial-trench) in advance of the construction of a new dwelling revealed part of Hatfield Villa (two brick wall foundations and a brick floor).

Archive: Bt.M.
O.A.S.I.S ref: colchest3-273151
C.A.T. Report: 1062

Little Oakley, 78 Harwich Road, CO12 5JA (TM 22206 29369)

Nigel Rayner, Jane Roberts, Sarah Carter, Ziya Eksen, Elliott Hicks

This site is 220m north of the Little Oakley Roman villa site. Evaluation (four trial-trenches) in advance of the construction of three new dwellings revealed a Bronze Age pit. Prehistoric, Roman and medieval pottery was found in the topsoil. The stratified finds indicate an earlier episode of activity than is evident on the villa site.

Archive: C.M.
O.A.S.I.S ref: colchest3-296582
C.A.T. Report: 1178

Stansted, 14 Cambridge Road, CM24 8DG (TL 51034 25171)
Ben Holloway, Sarah Carter, Adam Tuffey, Gareth Morgan, Elliott Hicks
Evaluation and excavation in advance of residential and commercial development revealed part of the footprint of a building set back from the Cambridge Road frontage. The building, probably of 17th-century origin, had at least four rooms, and a mixture of brick and clay floors. It is probably the structure shown on the Ordnance Survey map of 1881. A separate building at the rear of the plot dates to the 19th/20th century.

Archive: S.W.M.
O.A.S.I.S ref: colchest3-283847
C.A.T. Report: 1105

Stanway, Fiveways Fruit Farm (Phase 2), Dyers Road, CO3 0QR (TL 9531 2234)
Adam Wightman, Nigel Rayner, Sarah Carter, Ben Holloway, Harvey Furniss, Jane Roberts, Alec Wade, Laura Pooley, Stephen Benfield
The site is close to Gosbecks Archaeological Park and the nationally important Stanway elite burial site, and immediately north of two Middle Iron Age enclosures excavated at Fiveways Fruit Farm in 2015, immediately south of the land reported on here (Gilman 2017, 242–3). Pre-application evaluation (fifty-three trial-trenches) on Phase 2 land revealed a scatter of archaeological remains. Small, abraded sherds of Middle Iron Age pottery were residual in later pits and ditches. A medieval pit contained evidence of iron working in the centre of the site, and there were a few medieval ditches and pits in the southeast site corner. Three modern field boundary ditches and a large number of undated irregular features, tree-throws and pits are probably all associated with the business of the fruit farm.

Archive: C.M.
O.A.S.I.S ref: colchest3-285300
C.A.T. Report: 1082

Stock, 2 High Street, (Copt Hall), CM4 9BA (TQ 69282 99083)
Adam Tuffey, Stephen Benfield, Sarah Carter, Emma Holloway
Stock is known for its post-medieval pottery industry. A watching brief during construction of an outbuilding uncovered a pit, 5m in diameter, containing 17th-18th to early 19th-century pottery, fragments of at least two saggars (ceramic box-like containers to protect ware being fired), and a piece of kiln furniture, thus providing evidence of post-medieval potting in the vicinity.

Archive: Ch.E.M
O.A.S.I.S ref: colchest3-296787
C.A.T. Report: 1176

Weeley, St Andrew's Road, CO16 9HR (TM 14930 22120)
Nigel Rayner, Jane Roberts, Sarah Carter, Ziya Eksen, Laura Pooley, Harvey Furniss, Elliott Hicks, Gareth Morgan, Jane Roberts, Adam Tuffey
Excavation in advance of the construction of fourteen dwellings uncovered a Neolithic pit and a Late Iron Age/ Early Roman semi-circular enclosure surrounded by irregular field boundaries and pits. These were replaced in the 2nd-3rd century by a rectilinear field system. A large metalled hollow dating to the late 13th to 14th centuries was probably a watering-hole for livestock, indicating the presence of a previously unknown medieval farm.

Archive: C.M.
O.A.S.I.S ref: colchest3-281164
C.A.T. Report: 1161

White Colne, Colchester Road, CO6 2PP (TL 87332 28789)
Mark Baister, Ziya Eksen, Jane Roberts, Sarah Carter
Evaluation (five trial-trenches) in advance of housing development revealed a 13th to 14th-century boundary ditch, possibly delineating a roadside plot. All remaining features were modern or undated, but most contained residual 13th- to 14th-century sherds.

Archive: Bt.M.
O.A.S.I.S ref: colchest3-285841
C.A.T. Report: 1114

Wickham Bishops, Malone Cottage, Maypole Road, CM8 3NW (TL 8376 1209)
Ben Holloway Sarah Carter, Jane Roberts, Alec Wade, Laura Pooley
The site is within the former Tiptree Heath, an important area of pasture and open woodland until the early 19th century. Evaluation (fourteen trenches) in advance of the construction of fourteen new dwellings revealed a later prehistoric pit, a large post-medieval boundary ditch (probably associated with the enclosure of Tiptree Heath) and a post-medieval pit containing large quantities of vitrified brick.

Archive: C.M.
O.A.S.I.S ref: colchest3-272668
C.A.T. Report: 1061

Writtle, The Lordships Stud, Back Road, CM1 3PD (TL 6712 0637)
Ben Holloway, Ziya Eksen, Harvey Furniss, Gareth Morgan, Nigel Rayner, Adam Tuffey, Laura Pooley
The site is in an area of prehistoric cropmarks and Roman settlement. Evaluation (five trial-trenches) in advance of the construction of seventeen dwellings with car parking and access revealed a medieval pit and ditch, a late 17th-18th-century brick floor, and various 19th-20th-century structures.

Archive: Ch.E.M.
O.A.S.I.S ref: colchest3-290362
C.A.T. Report: 1162

MUSEUM OF LONDON ARCHAEOLOGY

Compiled by Karen Thomas

Havering

Creek Way, Rainham RM13 8UA (TQ 51183 81760)

Graham Spurr

In September, five boreholes were investigated on the site adjacent to the Rainham Creek on the wider floodplain of the River Thames. The underlying deposits consist of undulating Pleistocene floodplain gravels covered by a thick (up to 6m in places) layer of Holocene floodplain deposits consisting of a lower and upper alluvium sandwiching a thick layer of peat/organic deposits, all with high palaeoenvironmental potential. The site is sealed by 2-3m of made ground.

Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: 297200
Site Code: CEA17

Newham

Duncan House, High Street, Stratford, E15 2JB (TQ 38597 83992)

Robert Hartle

An archaeological evaluation was undertaken between November 2016 and February 2017 followed by a watching brief completed in August 2017. Evidence of human activity was recorded at considerable depth below 19th- and 20th-century made ground to the north and east of the site. Here, undisturbed and undated alluvial deposits were sealed by datable archaeological remains including evidence for woodworking, and timber structures of a possible Anglo-Saxon to medieval date, perhaps associated with deliberately dumped gravel. Evidence for rubbish disposal in the marshland of the late medieval to early post-medieval periods was also found, followed by extensive reclamation dumps, beginning in the 18th century. Construction activity in the south-west corner of the site truncated undated alluvium across the footprint of the demolished building's basement.

Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: 279744
Site Code: DCN16

Royal Albert Dock, Royal Albert Way E16 (TQ 42706 80767)

Tony Mackinder, David Sorapure, Paul McGarrit.

A watching brief continuing from last year revealed further remains of an air raid shelter recorded previously and made ground associated with the construction of the docks in the late 19th century.

An Historic England Level 3 building survey in December was carried out on the two Grade II listed buildings on the site: the Dock Master's Offices and the Central Buffet Building. Both buildings, built in 1883 and little altered since, are adjacent to each other and two storeys in height with a basement level, and the 1st floor at attic level. The buildings are noteworthy as they are the largest known surviving examples of the system of timber frame and concrete panel infill fabrication patented by William Lascelles in 1875. In addition, they are not the residential homes or cottages that Lascelles filled his catalogue with, but large institutional buildings. It is interesting to note that the Historic England Listing description, written in 1998 incorrectly assumes the buildings to have been built of brick, with stone dressings.

Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: 309080 (watching brief), 311360 (building recording)
Site Code: RAB15

19 Railway Cottages, Baker's Row, London E15 3NF (TQ 39133 83458)

Tim Spenbrooke

A watching brief in August on work preceding the building of a rear extension revealed the earliest deposits to be the former 19th-century ground level and topsoil containing a single clay tobacco pipe stem. Sealing the former ground level were a number of deposits of 19th-century made ground associated with the construction of 19 Railway Cottages. Observed within the dumped deposits were a small quantity of chalk fragments and flint nodules which may represent residual material associated with the demolition and clearance of the Scheduled Monument of Langthorne Abbey and particularly the Great Gate which was finally demolished in 1825 and lay close by to the west of the site. Above this, plant beds of black, silty garden soils were observed along part of the north western boundary, sealed beneath two 20th-century patios at the south-west end of the garden. The footings of the property's demolished, original range of outbuildings were exposed along the south-eastern boundary of the site extending 5.5m from the rear of the house.

Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: 293423
Site Code: KRW17

Chobham Farm, Leyton Road, Stratford E15 (TQ 38552: 84999)

Tony Mackinder

An evaluation in advance of redevelopment, from January to August, found the natural sand and gravels cut by extensive railway tracks and other infrastructure that formed part of the 19th-century 'Stratford Works', which began in the 1840's and continued into the 1960's.
Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: 293875
Site Code: LYT17

Redbridge

Wanstead Park Grotto E11 (TQ 41919 87496)

David Sorapure and Anna Nicola

A survey was carried out in March of masonry which had fallen from the Wanstead Park Grotto and which had been exposed due to the shallow water levels in the adjacent Ornamental Water. The Grotto was built as an ornamental feature and boat

house in *c*.1761 by John Child, 2nd Earl Tylney (1712–1784), owner of the nearby Wanstead House (demolished 1825). The two-storey structure was built with a brick core and originally elaborately decorated, being clad with reused architectural material and sculptural pieces from Italy, salvaged by Earl Tynley.

The Grotto was retained when Wanstead Park passed to the ownership of the Corporation of London in 1882, but was left as a ruin when two years later a fire destroyed much of the building. Erosion, robbing and vandalism have caused further damage and today the north wall is the most substantial remaining part. A quantity of previously submerged stone from the Grotto's north wall had been exposed, providing an opportunity to record the locations of the pieces of stone and conjecture as to their original position on the surviving façade. The majority of worked pieces were oolitic limestone, with some occasional sandstone and unworked volcanic tuff.

Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: 284233
Site Code: WDK17

Essex

Thames Enterprise Park, The Manorway, Coryton, Essex (TQ 74400 82327)

Antony Francis and Graham Spurr

Coryton Oil Refinery is situated on the north side of the Thames estuary approximately 15km from where the Thames enters the North Sea and includes former oil and gas storage tanks, pipelines, offices associated with the refinery, access roads and car-parks, mooring platforms and scrub land in the south-western part of the site. A watching brief on forty-three small trenches across the site revealed a raft of chalk up to 0.65m thick in seven of the trenches and in three of these a layer of twigs and branches of young birch, hazel, willow/poplar and alder was also identified below the chalk. A conventional radiocarbon age of 180 ± BP was obtained from a hazel branch. The deposits are likely to have been an attempt to establish a stable surface over soft alluvial deposits in the early 19th century. Railway sleepers, probably part of the 19th-century railway on site, were seen in trenches in the north-east and centre of the site.

Following this and a geoarchaeological examination of borehole logs and test pits obtained from geotechnical sources, a deposit model was constructed for the site. The underlying deposits consist of the Pleistocene floodplain gravels which constitute the Mesolithic land surface at the beginning of the Holocene. The gravel topography varies across the site with high areas to the western and eastern extremes (at a maximum of approximately –7m OD) but relatively low (at approximately -12m to -14m OD) across the bulk of the site. The floodplain gravels are covered by a 12m to 14m thick mantle of Holocene floodplain deposits (*i.e.* those that have accumulated within the last 10,000 years) which exist to a depth averaging 1.5m below ground level (although the overlying made ground extends to 4m thickness in the north). Given the site's location within the Thames estuary, potential for artefactual recovery is considered low to medium in the tidal deposits that dominate the site although palaeoenvironmental potential is medium to high. The high levels of gravels to the east and west of the site also indicate a low to medium potential for Mesolithic occupation evidence on top or within the gravels sealed by alluvium.

Archive: Currently with M.o.L.A.
O.A.S.I.S. Ref: Not yet completed
Site Code: THEP17

OXFORD ARCHAEOLOGY EAST

Compiled by Katherine Hamilton

Boreham, Bull's Lodge cable corridor (TL 74770 10050 to 75160 10400)

S. Ladd

Monitoring work was carried out during top soil stripping and subsequent stepped trenching along segments of the 750m corridor. No archaeological deposits were encountered.

Archive: Ch.E.M.
Report: O.A.E. Report 2115

Braiswick, Land off Baker's Lane (TL 975 266)

N. Cox

Twenty-one trenches were excavated across three areas. Area 1 contained a post-medieval field boundary ditch and several other post-medieval agricultural ditches possibly relating to land drainage. A single prehistoric north-south ditch and two pits with charcoal rich fills were recorded at the northern end of this area. One of the pits was radiocarbon dated to the late 9th- to 10th-century AD. The other turned out not to be suitable. The single trench in Area 2, close to the Scheduled Monument of Moat Farm Dyke, was devoid of archaeology, whilst in Area 3 a series of drainage gullies were identified alongside modern disturbance.

Archive: C.M.
Report: O.A.E. Report 2138

Colchester, Essex Hospital (TL 98923 24878)

P. Lambert

Monitoring and Recording work was carried out on eight Windowless Sampler Boreholes and three Trial Pits. Six of the Windowless Sampler Boreholes and all three of the Trial Pits contained archaeological deposits and associated artefacts such as pottery and animal bone, primarily dating to the later Roman period. Artefacts were also recovered from the topsoil across the site, ranging in date from the Roman period to post-medieval and 19th century.

Archive: C.M.
Report: O.A.E. Report 2140

Colchester, Maldon Road Roundabout Scheme (TL 9921 2489)

P. Lambert

Despite the location of the works being within an area of high archaeological interest, no archaeological features of any kind were observed during the monitoring. This is due to the high

volume of made ground deposits that had resulted from the construction of the road and roundabout.

Archive: C.M.
Report: O.A.E. Report 2165

Great Chesterford, NWTF and Graveldene Nursery (TL 506 424)

S. Ladd

Evaluation revealed features of post medieval and modern date, representing activity associated with the former nursery that had recently occupied the site.

Archive: S.W.M.
Report: O.A.E. Report 2052

Great Chesterford, Land south of Walden Road (TL 5127 4278)

Pat Moan

Excavation was undertaken, targeting features found during previous evaluation works. A pair of roadside ditches on a west-north-west to east-south-east alignment were uncovered, along with boundary ditches relating to a field system extending to the south of the site. A small cremation cemetery of seven individuals and one infant burial were located adjacent to the southern roadside ditch, dating to the Early Roman period.

The route of the road can be followed from the Roman Small Town of Great Chesterford, to the west-north-west of the site, running towards Radwinter, a Roman roadside settlement and probably continuing to Colchester.

Archive: S.W.M.
Report O.A.E. Report 2130

Harlow, Land off Gilden Way (TL 4815 1225)

N. Gilmour

Evaluation work was undertaken following on from previous trench evaluations, and field-walking and geophysical surveys on the site. This identified features of Neolithic, Early Iron Age and Roman date.

Archive: H.M.
Report: O.A.E. Report 2172

Tiptree, Grange Farm S98 Scheme (TL 8789 1771)

A. Haskins

Evaluation revealed a shallow topsoil onto a clay natural. No archaeological features were found except for a mixed ballast deposit, containing fragments of ballast, clinker and Iron railway fittings such as carriage bolts. This is the remnants of the now closed Tollesbury to Kelvedon light railway track bed.

Archive: C.M.
Report: O.A.E. Report 2046

ABBREVIATIONS

A.S.E.	Archaeology South-East
Bt.M.	Braintree Museum
C.A.T.	Colchester Archaeological Trust
C.M.	Colchester and Ipswich Museum
Ch.M.	Chelmsford and Essex Museum
E.F.D.M.	Epping Forest District Museum
E.R.O.	Essex Record Office
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

BIBLIOGRAPHY

Archaeology South-East 2015, *Land at the junction of Maldon Road and Church Street: post-excavation assessment and updated project design,* unpubl. report

Crummy, Nina, with Henig, Martin, and Ward, Courtney 2016, 'A Hoard of Military Awards, Jewellery and Coins from Colchester', *Britannia* 47, 1–28.

Crummy, P. 1992, *Excavations at Culver Street, the Gilberd School, and other sites in Colchester, 1971–85,* Colch. Archaeol. Rep. 6

Gilman, P. (ed.) 2017, 'Archaeological Fieldwork Summaries 2016'. *Essex Archaeol Hist*, 4th Ser., 7, 230–48

Medlycott, M. 2011, *The Roman Town of Great Chesterford*, East Anglian Archaeol. 137

Pooley, L. 2016a, *An archaeological evaluation at Westrope Haulage Yard, Sturmer Road, Birdbrook, Essex, CO9 4BB: October 2016,* unpubl. C.A.T. report 1030

Pooley, L. 2016b *Archaeological evaluation at Hill Farm, Boxted Cross, Boxted, Essex, CO4 5RD*, unpubl. C.A.T. report 1049

Shorter Notes

LATE UPPER PALAEOLITHIC MATERIAL FROM TWO ESSEX SITES

Hazel Martingell and David R. Bain

Introduction

This shorter note focuses on the finds of probably Late Upper Palaeolithic worked flints collected from two surface areas in Essex at Thorpe-le-Soken and Rivenhall. Some have been illustrated by Hazel Martingell after examination by leading authorities: the late Dr Roger Jacobi and Professor Nick Barton.

Thorpe-le-Soken

During thirty-five years of field-walking in the valley north and south of Holland Brook that divides the parishes of Little Clacton and Thorpe-le-Soken (NGR TM 182 225—TM 182203) some 3,000 flint artefacts have been recovered. These can be ascribed to all periods from Lower Palaeolithic upwards to recent times, with occasional gun-flints. The oldest material is linked to the course of the proto-Thames-Medway with the original Clactonian type-site nearby at Clacton-on-Sea. A previous shorter note on the Little Clacton site with illustrations of Mesolithic microliths and blades has appeared in these Transactions (Martingell1986).

Roger Jacobi's specific interest was initially aroused in 2005 by the discovery of a complete Late Upper Palaeolithic Cresswell point (Fig.1.1). This, along with subsequent pieces illustrated here, was found on steep sloping ground, up to 20m OD on the Thorpe-le-Soken side of Holland Brook. It may be significant that two tributaries, Weeley and Tendring Brook, branch off nearby. Dr Jacobi had for some time been recording evidence of the Late Glacial period in the county (Jacobi 1980 and 1996). Working under the Leverhulme Trust-sponsored Ancient Human Occupation of Britain project he was keen to locate lowland open-air Upper (mainly Late) Palaeolithic sites to complement well-known British cave deposits further north and west. Surface finds eroding from arable fields almost invariably lack the related intact bio-stratigraphy of cave sites. Reliance on flint tool typology of period-specific forms does not have quite the reliability of modern multi-proxy dating techniques. However, the Late Upper Palaeolithic is noted for its distinctive tool-kit of medium-sized blades, often steeply backed, end scrapers, tanged pieces and burins and shouldered points. Dr Jacobi requested the drawings shown as characteristic examples from the site that with likely-related cores, blades and flakes of similar flint constitute an assemblage of at least forty pieces.

Subsequent to Dr Jacobi's death in 2009, Professor Nick Barton has examined the collection including more recent finds. He has written widely on the Upper Palaeolithic period, notably arising from his work at Hengistbury Head, Dorset (Barton 1992) and specific to Essex on isolated relevant finds, from Brightlingsea (Barton 2004). Two distinctive tool-types he noted from Thorpe-le-Soken are a complete end scraper on a blade and a bruised blade or worn-edged piece. The multi-period nature of finds here does limit dating flints to those with a narrow period typology 'signature'. An overlap between the very last Upper Palaeolithic or Late Glacial period (11,600 BP) and the early emergence of Mesolithic people scarcely a millennium later in the earliest stages of the current Holocene has shown backed-blade technology's continuity in reduced form as microliths. A few microliths also occur in the very last phase of the Upper Palaeolithic but the Thorpe-le-Soken site has only three small microliths. Though shiny and 'water-worn' they are regarded as Mesolithic. Finally, there are a number of less fully worked pieces that could belong to either these or even any prehistoric period.

Rivenhall

The second area, at Rivenhall (TL 845165—TL 811138) is farmed by Simon Brice. It is situated in a small valley north-east of the River Blackwater. It is possible this was part of the Marks Tey post-glacial meltwater lakes, which by Mesolithic and later times would have been an extended marshy river. Charles Turner's seminal work on these lacustrine deposits is still the main general, though detailed, background reference (Turner 1970). This is chiefly from pollen and plant macro-fossil analysis with only fragmentary archaeology, making this collection of real interest.

Worked flints have been recovered by Simon Brice during his farming operations, with a collection of some 4,000 of all periods including a Lower Palaeolithic large flake and a Middle Palaeolithic Mousterian Biface. The majority are smaller flakes, blades and scrapers but also larger artefacts—axes, adzes, sickles and perforated hammer-stones. Upper Palaeolithic artefacts: two tanged pieces; a burin on a truncation; and a retouched long blade (Fig. 2.1), a burin and two tanged pieces (Figs. 2.3 and 4) were originally recognised by Roger Jacobi and subsequently by Nick Barton.

Conclusion

In recent years better recognition and alertness has led to more open-air sites as well as developer-funded excavations, increasing the known incidence of Later Upper Palaeolithic evidence (Pettitt and White 2012, 423—501). Rare sites with stratification and organic preservation allow controlled multi-disciplinary investigation to enhance understanding of their 'chrono-cultural position' within the Later Upper Palaeolithic (14,600—11,600 BP) and wider periods. The recently investigated Beam Washlands floodplain site at Dagenham employed pollen analysis as well as thermo-luminescence techniques on flints and radio-carbon dating of vegetative cores (Champness *et al.* 2015). That site however lacked any related bone preservation that Jacobi had used in parallel with worked Upper Palaeolithic flints to sequence cave deposits (Jacobi and Higham 2011). Relevant particularly to Thorpe-le-Soken, the Dagenham site's flint assemblages were a mix of very late Upper Palaeolithic and Early Mesolithic forms. Radiocarbon rather than thermoluminescence confirmed a Terminal Late Upper Palaeolithic ('long blade') occupation as well as later prehistoric evidence. However, both the Thorpe-le-Soken and Rivenhall worked flints from typology alone, though without any other preserved evidence, probably

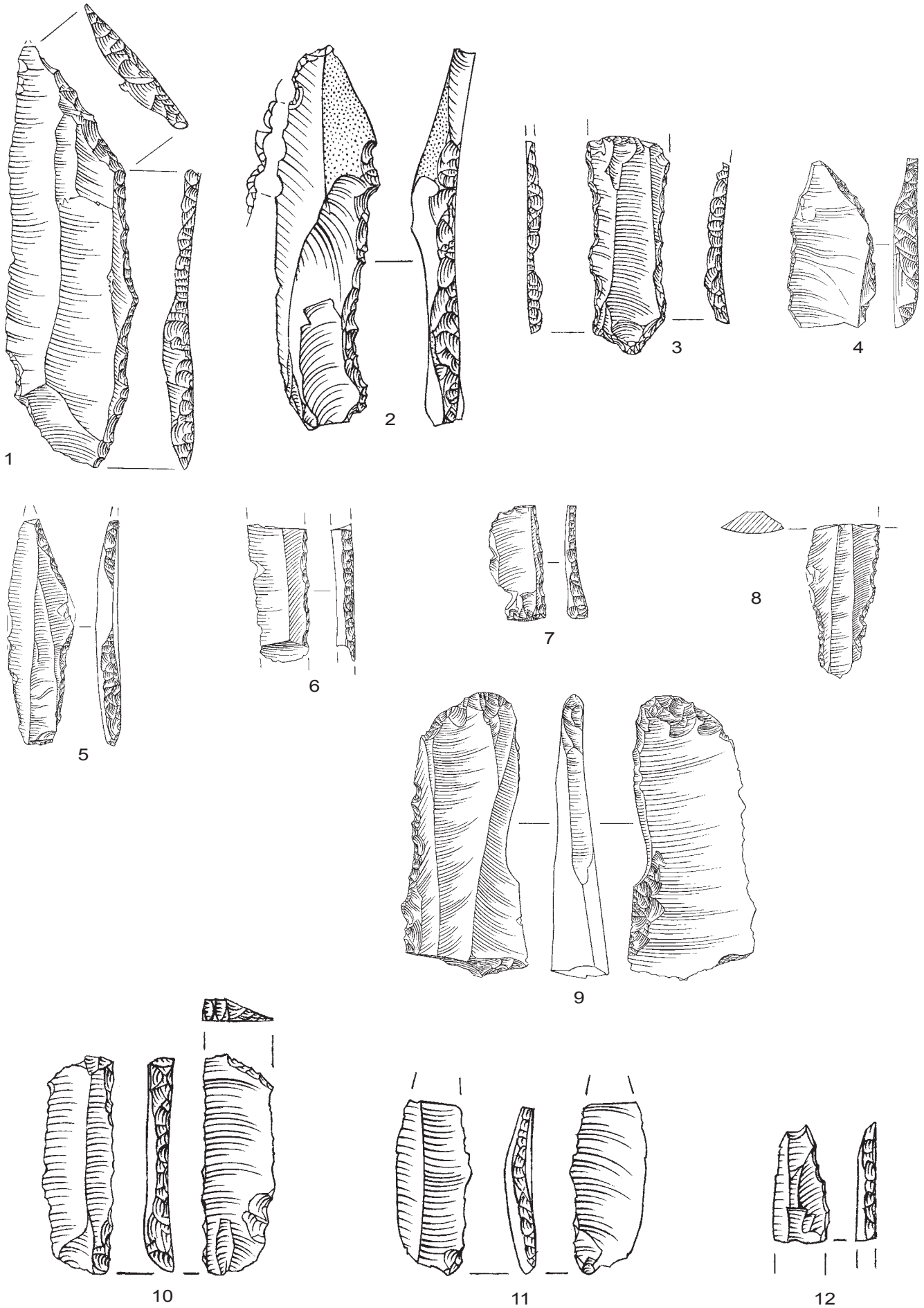


FIGURE 1: Flints from Thorpe-le-Soken

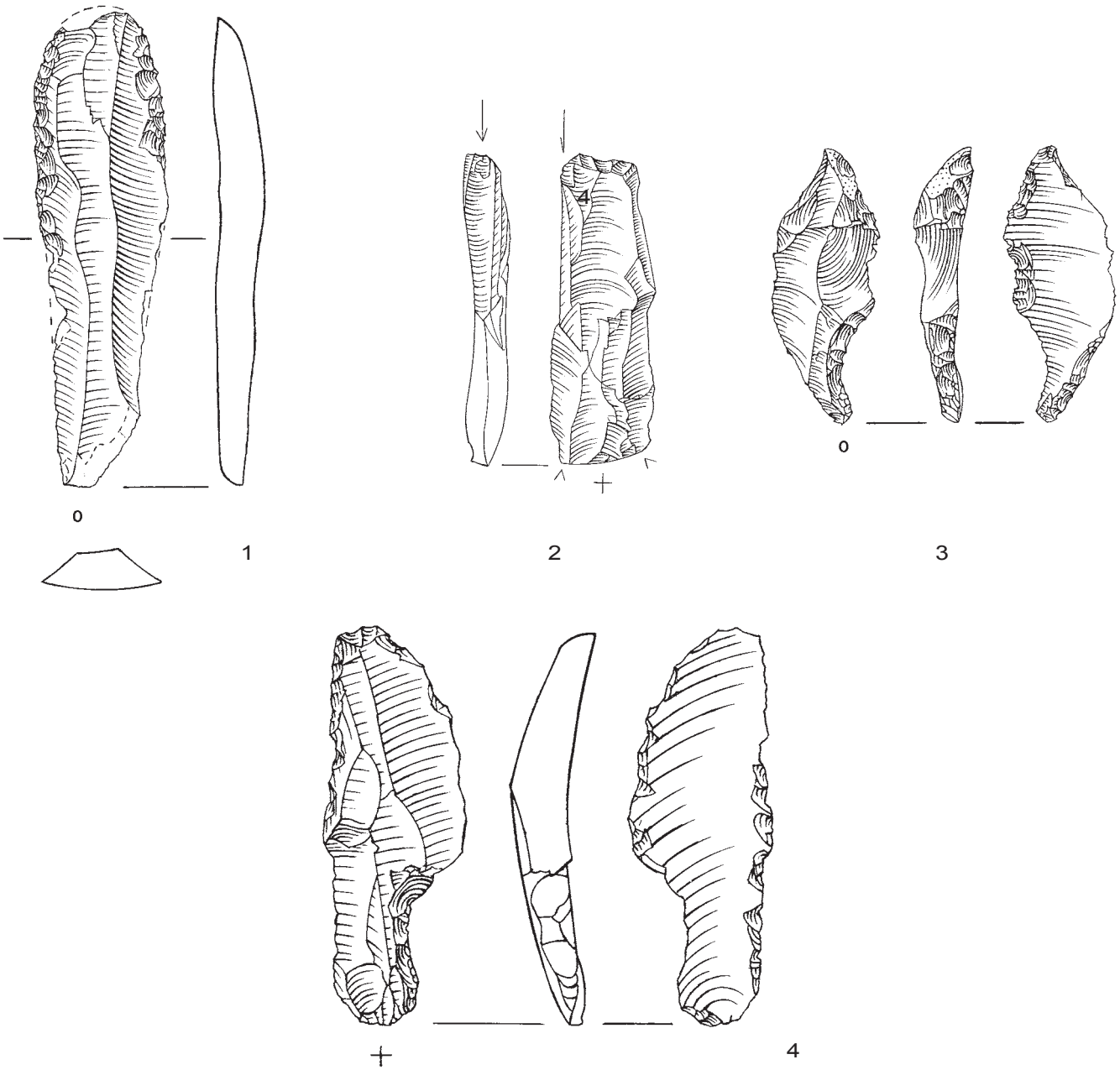


FIGURE 2: Flints from Rivenhall

indicate a more varied Upper Palaeolithic time sequence. They reveal both sites were clearly intermittently occupied on a seasonal basis over thousands of years through a varied range of climate and landscape conditions, probably in part at least relating to the migratory movements of prey animals with a transition from wild horse and reindeer to red deer.

Catalogue of illustrated flints

Thorpe-le-Soken (Fig. 1)

1. Cresswell point—backed 8cm blade, patinated white with acute truncation, on bulbar end.
2. Burin on backed blade—7.5cm, patinated blue, secondary blade with small area of cortex and strong retouch along right edge.
3. Probable broken tang—4cm, with steep retouch along both edges.
4. Tip of Cresswell point—3.25cm.
5. Shouldered point—4.5cm, brown flint, broken tip, retouch along tang edge and steep truncation.
6. 7. 8. Steeply backed blades [broken] 3cm, 2.5cm and 2cms.
9. Large burin on backed blade, distal end broken—5cm—brown flint, long burin removal with ventral retouch.
10. 11. 12. Three more backed blades—tertiary, brown flint, 4cm, 3cm & 2cm.

Rivenhall (Fig. 2)

1. Retouched long blade—10.5cm, top partially broken suggestive of an end- scraper.
2. Blade—tertiary blade, 4.5cm, retouch along truncated distal end.

3 and 4. Tanged points— complete, both 6cm and thick in section.

Bibliography

Barton, R.N.E. 1992, Hengistbury Head, Dorset: volume 2, *The Late Palaeolithic and early Mesolithic Sites*, Oxford University Committee of Archaeology Monogr. 34

Barton, R.N.E. 2004, 'Flintwork from Mill Farm, Brightlingsea, Essex', *Essex Archaeol. Hist.*, 3rd Ser., 35, 185–186

Champness, C., Donnelly, M., Ford, B.M., and Haggart, A. 2015, 'Life at the floodplain edge: Terminal Upper Palaeolithic and Early Mesolithic flint scatters and early prehistoric archaeology along the Beam River Valley, Dagenham', *Essex Archaeol. Hist.*, 4th Ser., 6, 5–45

Jacobi, R.M. 1980, 'Late-glacial Settlement in Essex', in Buckley, D.G. (ed.), *Archaeology in Essex to AD 1500*, Counc. Brit. Archaeol. Res. Rep. 34, 12–13

Jacobi, R.M. 1996, 'The Late Upper Palaeolithic and Mesolithic in Essex' in Bedwin, O. (ed.) *Archaeology of Essex Proceedings of the 1989 Writtle Conference* (Chelmsford, Essex County Council), 10–14

Jacobi, R.M. and Higham, T.F.G. 2011, 'The Late Upper Palaeolithic recolonization of Britain: new results from AMS radiocarbon dating' in Ashton, N., Lewis, S. and Stringer, C. (eds) The *Ancient Human Occupation of Britain* (Amsterdam, Elsevier), 223–247

Martingell, H.E. 1986, 'Lithic Chance Finds' in Priddy, D.A. (ed.) 'Work of the Essex County Council Archaeology Section 1983–84,' *Essex Archaeol. Hist.*, 3rd Ser., 16, 82–83

Pettitt, P. and White, M. 2012, *'The British Palaeolithic: Human Societies on the Edge of the Pleistocene World'* (Routledge)

Turner, C. 1970, 'The Middle Pleistocene Deposits at Marks Tey' *Philosophical Transactions of the Royal Society of London,* Series B 257, 373–440

TIME TEAM'S EVALUATION OF COLNE PRIORY, EARLS COLNE, NEAR COLCHESTER, ESSEX

Steve Thompson

A geophysical survey and archaeological evaluation by Channel 4's Time Team at the site of Colne Priory, Earls Colne, near Colchester, Essex investigated the site of the Benedictine priory founded in the early 12th century by the De Vere family who would later become the Earls of Oxford. The evaluation revealed the priory church had been constructed in a single phase, but had subsequently undergone major structural changes with the addition of three family chapels, and the replacement of the apsidal eastern wall of the chapter house with a squared end with buttresses. The remains of the post-Dissolution mansion on the site were also revealed.

Introduction

In May 2011, a ground penetrating radar (GPR) survey and trial trench evaluation were undertaken by Channel 4's *Time Team* at the site of the Benedictine priory at Earls Colne, near Colchester, Essex (NGR 586466 228958) (GSB Prospection 2011; Wessex Archaeology 2012) (Fig. 1). The remains of Colne Priory, and the post-Dissolution house built on its site, are a Scheduled Monument, (National Heritage List entry number: 1306123).

The priory was excavated in 1929–34 by F.H. Fairweather who was able to reconstruct its layout by combining its standing remains, stonework found during the excavations and parchmark evidence (Fairweather 1938). In 2008 the accuracy of Fairweather's plan was confirmed by a geophysical survey undertaken by the University of Essex (Dennis 2008). A principal aim of the *Time Team* evaluation, in addition to ascertaining the location, date, condition, character and extent of the archaeological remains, was to look again at the layout of the monastic complex, the tombs of the Earls of Oxford and the original mansion built by them after the Dissolution.

Colne Priory is located on the east side of the village of Earls Colne, some 13km north-west of Colchester and 5km south-east of Halstead. It lies at a height of approximately 27m OD, on the west bank of the River Colne. The underlying geology is mapped as Thames Group (clay, silt, sand and gravel), overlain by superficial River Terrace Deposits (sand and gravel) (British Geological Survey online viewer).

Historical background

The following summary is based on the *Victoria County History of Essex Volume 2* (Page and Round 1907) and Fairweather's (1938) report.

The earliest reference to Earls Colne comes from the will of Leofgifu, *c.*1045, which records an early minster, thought to be on the site of the current parish church of St Andrew, to the west of the priory. Colne Priory itself was founded in *c.*1111 as a cell to the abbey of Abingdon in Berkshire by Godfrey de Vere (the eldest son of Aubrey de Vere and Beatrice, the half-sister of William the Conqueror), with the priory church dedicated in 1148 to St Mary the Virgin and St John the Evangelist. The priory saw patronage from the De Veres until the Dissolution in 1536, when the site and most of its possessions, including the manor of Colne Priory, were granted to John de Vere, the fifteenth Earl of Oxford. This saw the conversion of the priory's domestic structures into the living quarters of a new mansion (and manor house), but a considerable portion, if not all, of the church was still standing when John de Vere died suddenly in 1539.

In 1592 the site passed to the Harlackenden family, and by the early 17th century most of the priory structures had been destroyed, with only the choir remaining. In 1672 the land passed to the Androwes family and, then in the early 18th century to a Mr Wale who set about the complete destruction of the remaining monastic structures and the remodelling of the old De Vere mansion.

Holman, writing in about 1740, said: *'The Priory House was a wooden fabric and is partly pulled down and quite altered from what it was, that it may be called a new structure'*. Morant, quoting the above, added *'John Wale cased it with brick'*. The Rev. William Cole recorded that he saw *'also many pieces of marble and alabaster cut for chimney pieces'* and added that *'Mr Wale stated that all the chimney pieces in the house were made from the ruinated tombs of the Oxfords'* (quoted in Fairweather 1938, 294). The house eventually passed to Henry Holgate Cawardine who pulled it down in *c.*1827 and built the present house, also known as The Priory, to the south.

Methods

The GPR survey was carried over 2.5ha and revealed further detail of the priory church and associated cloister and chapter house, as well as the post-Dissolution mansion (GSB Prospection 2011) (Fig. 1). Subsequently five trenches (Trenches 1–5) of varying sizes were excavated, targeting some of the geophysical anomalies in order to address specific research objectives. All substantial archaeological remains were recorded and left *in situ*.

Trench 1 lay across the full width of the presbytery at the eastern end of the church. Trench 2 was positioned at the north-west corner of the presbytery, at the junction with the crossing tower and the north transept. Trench 3 investigated a structure on the western side of the north transept, at the junction with the northern wall of the north aisle of the church. Trench 4 investigated the north-east corner of the chapter house, and Trench 5 was positioned over the western

end of the priory complex in an attempt to identify structures relating to the post-Dissolution mansion.

The remains of several graves containing inhumation burials, and substantial quantities of disarticulated human bone including several charnel deposits, were identified. Four graves were investigated to confirm their nature, but no human remains were removed from them apart from two small samples for radiocarbon dating. However, four charnel deposits were excavated, as these were within the stratigraphically latest deposits and had to be removed to aid further investigation of the earlier remains. All the human bone lifted during the investigations was reburied on site.

Excavation results by period

Pre-medieval

An assemblage of residual worked flint recovered during the evaluation included elements of both Mesolithic (8500–4000 BC) and Late Neolithic or Early Bronze Age (2850–1600 BC) date.

A single sherd of Romano-British pottery, and a number of fragments of Romano-British ceramic building material (CBM) were recovered, including a complete *bessalis* (a square tile used to form *pilae* for hypocaust systems). However, no Romano-British features or structures were found, perhaps indicating that the CBM had been reused within the fabric of the priory, a common practice in religious buildings of the 11th–12th centuries, such material being often employed as stringer (levelling) courses. Fairweather noted that the presbytery foundations had *'a small amount of mortared Roman brick in parts'* and that the presbytery walls were *'well built flint with some Roman brick and Roman brick quoins'* (1938, 280–1).

A single sherd of Saxon Ipswich Ware pottery was recovered, dating to *c.*725–850. Such pottery is a potential indicator of high status, often religious, sites. It is possible that pre-Conquest activity on the site (as suggested in the will of Leofgifu, *c.*1045) is also represented by a stratigraphically early flint wall (143), recorded in Trench 1, which had a differing orientation to the main priory structures (Fig. 2).

Medieval and post-medieval

The extent and form of the priory as revealed through the GPR survey (GSB Prospection 2011) expanded upon the previous survey (Dennis 2008), clearly defining individual components of the priory church, including the presbytery (much of which had been destroyed by a later ditch), the nave, the north and south aisles, north and south transepts and the chapter house (Fig. 1). The components of the cloister, including the cloister garth and the ambulatory, as well as the southern and western ranges around the cloister, were also clearly defined.

As revealed by the geophysics, the priory conformed to the idealised monastery layout, known as the St Gall Plan, drawn by Haito, Bishop of Basle, sometime between 819 and 826, at the request of Abbot Gozbert of St Gall (Aston 2000, 65–6; Clarke 1984, fig. 39, after Horn and Born 1979). The St Gall Plan shows a single church with a cloister to the south, and an eastern range of buildings thought to contain the chapter house, extending from the south side of the church and encompassing the cloister; the south side of the cloister is bordered by the refectory with kitchens and domestic buildings to the west and south-west.

Fairweather's original plan (1938, 287 pl. LXX) and identification of the priory structures proved to be very accurate. The wider complex of the priory, however, was not investigated, although certain aspects of the monastic landscape were inferred from those features which have survived the many alterations and landscaping events following the Dissolution.

Early 12th century

The earliest phase of construction followed immediately on from the foundation of the priory *c.*1111. As was the norm with religious houses, construction started at the east end of the church—the location of the high altar and therefore its most sacred part so allowing for services to be conducted during the building works.

In Trenches 1 (Fig. 2) and 2, two substantial east–west walls formed the northern (150) and southern (144) walls of the presbytery. They were constructed of flint and mortar on foundations of compact rammed gravel/flint nodule and mortar slurry. It was clear that the ground had been prepared in a single phase, as the northern wall shared the same foundation as the respond for the eastern arch of the crossing tower leading to the presbytery, and the eastern wall of the north transept (both these revealed in Trench 2). The northern wall of the north aisle, as seen in Trench 3, and the apsidal-ended chapter house foundation, seen in Trench 4, were constructed in the same manner and so are also likely to be contemporaneous.

Nine simple earth-cut graves were revealed on the northern side of the presbytery (in Trench 1) (Figs 1 and 2), probably for monks buried outside the church but as close as possible to the high altar. A radiocarbon date of AD cal 1040–1260 (SUERC-34962, 870±35 BP) was obtained from the skeleton in grave 169, and although this is likely to be associated with the priory, it is at least potentially earlier and therefore possibly associated with the earlier minster.

Late 13th to 16th century

In the following centuries the priory saw the alteration and addition of buildings, and underwent a number of architectural and stylistic changes, the dates of which are not always clear.

Trench 3 investigated a geophysical anomaly indicating a structure at the junction of the north aisle and north transept, and although no traces of wall abutting the aisle were revealed, a robber trench was identified indicating that the robbed wall had been less substantial than that of the north aisle, and therefore probably a later addition—and perhaps easier to dismantle than the main walls for the reuse of its stone. The function of the wall is not known although an anchorite's cell would fit its position on the northern, colder side of the church, away from the domestic activity around the cloister to the south (M. Aston, pers. comm.).

As revealed in Trench 4, the chapter house also showed evidence of alteration, with the replacement of its apsidal eastern end, represented by its foundation trench, by a square structure supported by buttresses (Fig. 1). This change in chapter house form, from apsidal to square, is common (Miller and Saxby 2007, 121), as also seen, for example, at Castle Acre Priory, Norfolk (Coppack 2006, fig. 26). However, this development was not without exception: at Merton Priory, Surrey, for example, a 12th-century square-ended chapter

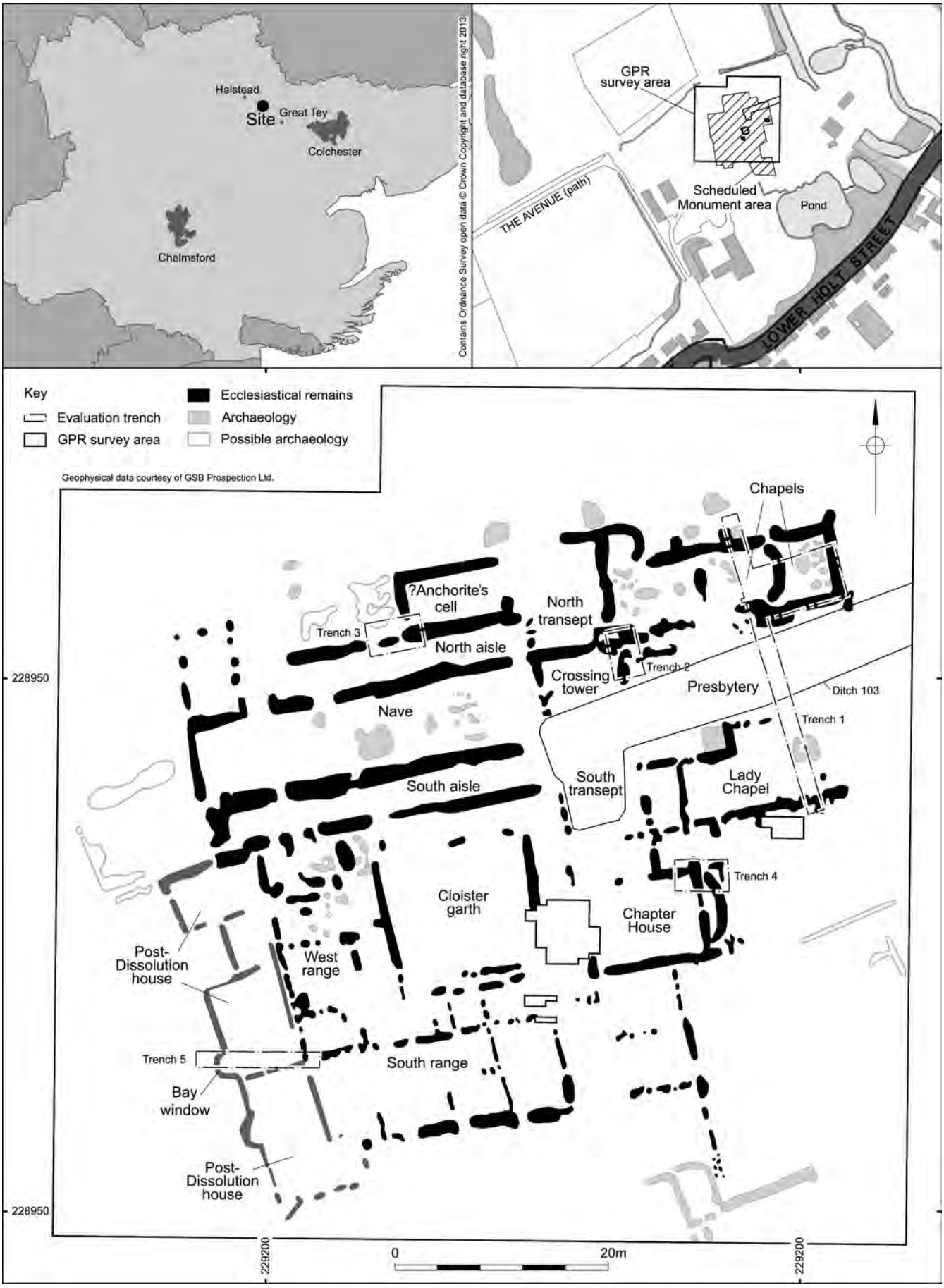


FIGURE 1: Site Location, showing the priory, post-Dissolution mansion, GPR survey area and excavation trenches

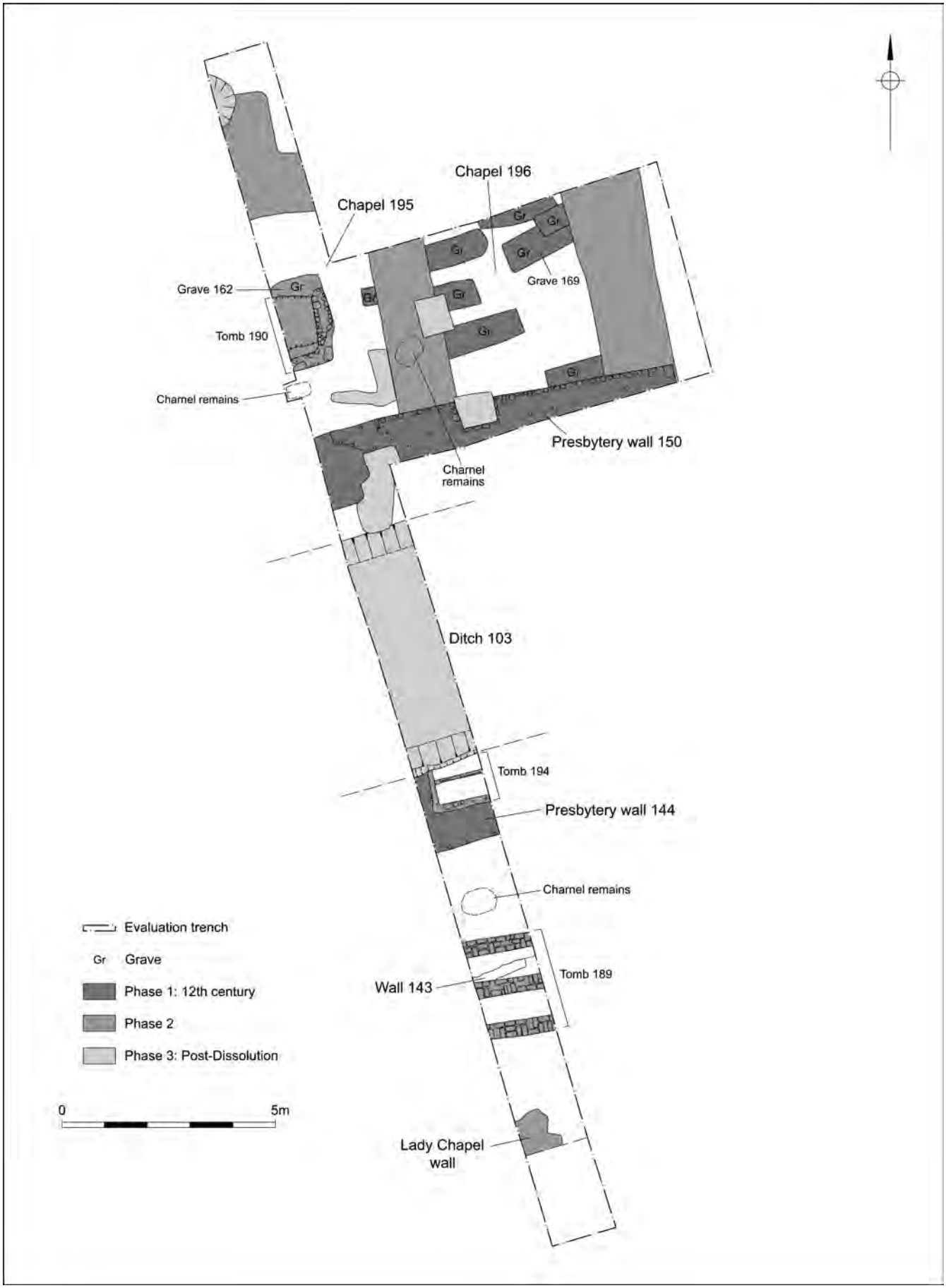


FIGURE 2: Trench 1

house was replaced in the 14th century by an apsidal addition (Miller and Saxby 2007, fig. 148).

During this period many monastic churches were also altered, in order to accommodate the increased need for burial plots for their founders and patrons. At Colne Priory this involved the addition of a number of chapels to the sides of the presbytery, some almost certainly for the tombs of the De Vere family. Elements of three chapels were identified in Trench 1, two (chapels 195 and 196) on the north side, their walls truncating six of the earlier monks' graves, and the third, the Lady Chapel, to the south (Figs 1 and 2).

Chapel 195 contained a central stone tomb (190). This was excavated to reveal the lower extremities of a skeleton, a sample of bone from which produced a radiocarbon date of AD cal 1270–1400 (SUERC-34961, 660±35 BP). This suggests a 14th-century date for the chapel, the calibrated date range covering the lives of the fourth Earl through to the tenth Earl. A second grave (162) abutting the north side of tomb 190, contained an infant/juvenile skeleton suggesting a close family link between the two burials.

The Lady Chapel on the south side of the presbytery was easily identifiable from the geophysics (Fig. 1) but all that survived of its structure in Trench 1 was its heavily truncated southern wall (139) (Fig. 2). In the centre of the chapel was a tomb (189) constructed of 15th-/16th-century bricks. The presbytery's southern wall (144) had been cut through to give access to the chapel and a second tomb (194), built with reused tiles and a mortar lining, cut into the wall's foundation. Both tombs in the Lady Chapel were built to receive two burials, most likely a husband and wife, although the remains had been removed following the Dissolution. Fairweather suggested that the addition of the Lady Chapel *'was almost certainly carried out in the fifteenth century'* (1938, 280), and no evidence was found to counter this during the evaluation. Whatever the dates of the chapels, the cutting through of the presbytery walls appears to have required the construction of supporting buttresses on the outer walls of the chapels, as indicated by the geophysical survey (Fig. 1) and Fairweather's observations (1938, 281).

Dissolution to early 17th century

At the Dissolution, although the priory's religious structures were systematically dismantled, its domestic structures were converted into the living quarters of a new mansion, as confirmed by the geophysical survey which revealed areas of increased disturbance over the western range of buildings around the cloister. The mansion was described by Weever in 1631 as timber-framed (Weever 1631, 614), although by 1740 the house had again been extensively altered (Fairweather 1938, 293). The survey revealed what appear to be two bay windows added to the western elevation (Fig. 1). One of these was investigated in Trench 5, revealing a robber trench where the brickwork of the bay window had been removed. Such bay windows can be seen in an engraving, dated 1770, by Thomas Kitchen (1719–1784) based on an oil painting (held by Earls Colne Heritage Museum). Two possible beam slots recorded in Trench 5 were also potentially part of the timber phase.

The destruction of the priory church clearly caused the disturbance of a number of graves, with the skeletal remains ending up as a series of charnel deposits, three of which were recorded in Trench 1 (Fig. 2). It is unclear whether these were from the tombs of the De Vere family or perhaps from the graves of the monks, but they appear to have derived from previously intact and *in situ* burials from which, once identified, the bones were carefully collected, and deposited soon after, most likely in small bags.

After the demolition of the church, a large east–west ditch (103, recorded in Trench 1) was dug straight through the presbytery (Fig. 1). The ditch is shown on the 1598 Amyce map (Essex Record Office D/DPr 626) surrounding an orchard and ponds, and on Ordnance Survey maps until 1993. After a visit to the site *c*.1760 Gough recorded that *'the site of the chapel was converted into an ha ha and in its banks I saw many human bones'* (quoted in Fairweather 1938, 293). It is possible that Gough witnessed the re-cutting of the feature. However, no evidence of a retaining vertical wall (a typical feature of a ha-ha) was revealed in Trench 1, nor any evidence for the removal of such a wall. Nonetheless ditch 103 probably represents a substantial garden feature.

Conclusion

The *Time Team* GPR survey and trench evaluation of the site provided significant confirmation of the result of Fairweather's 1929–34 excavations, as well as new evidence relating to the original construction of the priory, and later modifications, including the addition of chapels to the church and changes to the Chapter House. It also identified, and provided radiocarbon dating for, two phases of burial, one potentially pre-dating the foundation of the priory. Elements of the post-Dissolution timber-framed mansion were also recorded.

Acknowledgements

The fieldwork and post-excavation analysis were commissioned and funded by Videotext Communications Ltd. The geophysical survey was undertaken by John Gater, Jimmy Adcock, Emma Wood and Clare Stephens (of GSB Prospection). The excavation strategy was devised by the late Mick Aston (Bristol University). The on-site recording was co-ordinated by Steve Thompson and Simon Flaherty (Wessex Archaeology). The excavations were undertaken by *Time Team*'s retained archaeologists, Phil Harding (Wessex Archaeology), Tracey Smith, Matt Williams, Ian Powlesland, Raksha Dave and Cassie Newland, assisted by Neville Constantine, Richard Hewitt, Dave Saxby, Rob Hartle, Charlotte Mecklenburgh and Laurie Edwards-Ryer.

Initial historical research was undertaken by Jim Mower and Ellie Hunt of Videotext Communications, with specialist input from GSB Prospection Ltd (geophysics). Finds were identified by Lorraine Mepham, Matt Leivers (flint) and Jacqueline I. McKinley (human bone). The report was edited by Andrew Powell and Phillippa Bradley, and the illustrations are by Kenneth Lymer. The post-excavation project was managed on behalf of Wessex Archaeology by Lorraine Mepham.

This report benefited from discussion with Mick Aston, Phil Harding, Teresa Hall and Dave Saxby. Thanks are also due to Brian Alderman of the Earls Colne Heritage Museum for information on the Thomas Kitchen engraving.

Finally, thanks are extended to the landowner, Paul Whight, for allowing access to the site for geophysical survey and the excavation. The archive has been deposited with the Earls Colne Heritage Museum.

Bibliography

Aston, M. 2000, *Monasteries in the Landscape* (Stroud,Tempus)

British Geological Survey online viewer Available: <http://mapapps.bgs.ac.uk/geologyofbritain/home.html> (accessed 12 November 2017)

Clarke, H. 1984, *The Archaeology of Medieval England* (London, British Museum)

Coppack, G. 2006, *Abbeys and Priories* (Stroud,Tempus)

Dennis, T. 2008, *Geophysical Survey Colne Priory, Earls Colne, Essex* (University of Essex, unpubl. report)

Fairweather, F.H. 1938, 'Colne Priory, Essex, and the burials of the Earls of Oxford', *Archaeologia* 87, 275–95

GSB Prospection 2011, *Colne Priory, Earl's Colne: geophysical survey report* (unpubl. report 2011/26 for *Time Team*)

Horn, W. and Born, E. 1979, *The Plan of St Gall* (Berkeley, Univ. California Press)

Miller, P. and Saxby D. 2007, *The Augustinian Priory of St. Mary Merton, Surrey. Excavations 1976–90*, MoLAS Monogr. 34 (London)

Page, W. and Round, J.H. (eds) 1907, *A History of the County of Essex: Volume 2*, British History Available: <http://www.british-history.ac.uk/vch/essex/vol2> (accessed 12 November 2018)

Weever, J. 1631, *Ancient Funerall Monuments* (London, Thomas Harper)

Wessex Archaeology 2012, *Colne Priory, Earls Colne, Near Colchester, Essex: archaeological evaluation and assessment of results* (Salisbury, unpubl. rep. 77503). Available: < http://www.wessexarch.co.uk/sites/default/files/77503_Colne%20Priory.pdf> (accessed 7 March 2018)

LOCAL HERITAGE LISTS AND INDUSTRIAL HERITAGE IN ESSEX

Adrian Corder-Birch and Tony Crosby

This is a supplementary note to the article 'Braintree Local Heritage List—a community groups and local authority partnership' by the authors, which was published in Volume 7 of the Transactions (pps 275 to 284). It reports progress on the Braintree Local Heritage List (LHL) since that previous article, and also reports developments with the LHLs for Colchester Borough Council and Uttlesford District Council.

While the Braintree LHL continues to have a particular emphasis upon the built legacy of the Courtauld family and business, some heritage assets with no Courtauld connection are now being recommended for that List. It is Courtauld buildings which are now being added to the Colchester List. In respect of the List for Uttlesford DC, this is an entirely new List which consists of a wide variety of types of built heritage including a number of industrial heritage sites, some recommended on behalf of the Essex Industrial Archaeology Group.

Braintree District Council local list

At a meeting of Braintree District Council (BDC) Planning Committee held on 26th September 2017, the second tranche of 'Courtauld' buildings listed on page 277 of the article in Volume 7 was approved by BDC.

The third meeting of the Braintree District Local Heritage Panel took place on 27th October 2017 when the following buildings were recommended for Local Heritage Listing, but at the time of writing approval from BDC is awaited.

Courtauld buildings

LOCATION	DATE BUILT
Bocking	
The previous listing of The Lodge at Bocking Public Gardens was revised to include the whole of the gardens.	1888
91–101 Coggeshall Road (Plate 1)	1929
Pavilion, Recreation Ground, John Ray Street	1926
Braintree	
128–130 Coggeshall Road and 76 Mount Road (Plate 2)	1885
Colne Engaine	
Lower Orchard Cottage, Goldingtons Farm Road	1900
3 Knights, Knights Farm	*c.* 1950s
Gosfield	
Two pairs of houses namely 1 to 4 Halstead Road, White Ash Green	1898
East Lodge, Cut Hedge, Halstead Road	
West Lodge, Cut Hedge, Halstead Road	
Halstead	
Brick walls at former Courtauld Factory site, Factory Lane East	Various Dates
Penny Pot Lodge, Penny Pot Corner.	
The previous listing of The Public Gardens, Trinity Street was clarified to include the Adventure Playground, Tennis Courts, Second World War Memorial and the Band Stand, which was given by Charles Portway in 1901, but not the site of the Senior Citizens Centre.	1901

Other buildings recommended for LHL in the Braintree District (with no Courtauld connection)

LOCATION	DATE BUILT
Braintree and Bocking	
Bus shelter adjacent to Bocking Cemetery, Church Lane, being the last surviving bus shelter manufactured and erected by The Crittall Manufacturing Company Limited for Braintree and Bocking Urban District Council (Plate 3).	1954
142 and 144 Cressing Road, built by Braintree and Bocking Urban District Council, with an original oak street name plate attached to the wall of 142 Cressing Road recording 'Bishops Avenue'.	1923
Coggeshall	
Marigolds, Marks Hall Road—previously the Marks Hall Estate Dower House.	
Halstead	
Crossing Keepers Cottage, known as The Gate House, Parsonage Street, built by the London & North Eastern Railway.	1930

PLATE 1: 91–101 Coggeshall Road, Bocking. Built 1929 by William Julien Courtauld. (Tony Crosby)

PLATE 2: 128– 30 Coggeshall Road and 76 Mount Road, Braintree. Built 1885 by Sydney Courtauld. (Tony Crosby)

PLATE 3: Bus Shelter, Church Lane, Bocking. Built 1954 by Crittall Manufacturing Co. Ltd. (Mike Bardell)

Colchester Borough Council local list

Colchester Borough Council (CBC) launched its local list initiative in 2010 and following consultations in 2010 and 2011 it was adopted by CBC Local Plan Committee on 13th December 2011. Since 2011 buildings on the local list are protected through the planning process. In 2016 Adrian Corder-Birch on behalf of the Essex Industrial Archaeology Group asked CBC to consider adding the 'Courtauld' buildings in its area to their LHL. These buildings, which are situated in Crepping Hall Road, Wakes Colne were built during the 1930s by Dr. Richard Minton Courtauld (1878–1956). He was then living and farming at Crepping Hall and built six dwellings for his farm workers. During 2017 the Local Plans Committee considered these buildings and added two pairs of estate workers cottages to its LHL (Plate 4). It was considered that, *'The terraced workers cottages are a good example of 1930s interwar housing with a strong connection to the Courtauld family'*. Consideration of another dwelling was deferred for further investigation and a further dwelling was rejected because it was not considered to have any outstanding features of architectural or historic merit.

The CBC locally-listed buildings appear on 'C-maps', which is the system on the CBC website where all planning constraints (conservation areas, listed buildings and the like) are set out (https://www.colchester.gov.uk/maps/).

Uttlesford District Council local list

In 2017 Uttlesford District Council began the development of a Local Heritage List of structures and other assets which are considered to be locally significant to the character of the area. The purpose of the list is to identify historically and locally important structures across the district, and celebrate their significance and contribution to the local distinctiveness of Uttlesford. Heritage assets were identified as part of the conservation area appraisals, conservation management plans, and those nominated by the public up to November 2017. Each asset was assessed against a set of selection criteria in order to be included on the draft list for public consultation. The selection criteria, which are very similar to those used by BDC and based on national advice produced by Historic England, are as follows:

A – Rarity
B – Aesthetic Value
C – Group Value
D – Archaeological Value
E – Archival Interest
F – Historical Associations
G – Landmark Status
H – Social and Communal Value

To be included in the draft list the assets had to meet at least two of the criteria above; failure to do so indicated that the asset would not be considered to be of sufficient quality to warrant inclusion on the list. The public, as well as statutory

PLATE 4: Houses in Crepping Hall Road, Wakes Colne. Built during the 1930s by Dr Richard Minton Courtauld. (Adrian Corder-Birch)

PLATE 5: Engine shed and water tower at the former Thaxted Station on the Elsenham and Thaxted Light Railway, built 1913. (Tony Crosby)

PLATE 6: Former maltings, Station Road, Newport, built 1853. (Tony Crosby)

PLATE 7: Workers' cottages built by Rochford Nurseries in Stoney Common, Stansted Mountfitchet, built *c*.1900. (Tony Crosby)

consultees, were invited to provide feedback on the list, as part of a six-week public consultation which ran from May to July 2018. Just over 400 assets were included on the draft list for consultation. Following the consultation period, amendments would be made in response to the comments received, if appropriate. Councillors will be asked to approve the final version of the Local Heritage List, which will then be used in the process of determining planning applications. The Uttlesford list is a 'rolling' document and will be updated periodically as new assets are nominated, assessed and found to meet the set criteria.

Of the 400 heritage assets on the draft list, by far the vast majority are houses, chapels and village schools, public houses and shops, as would be expected considering the attractive rural village and market town architectural and aesthetic nature of an area such as Uttlesford. However, a number of assets on the list are farm buildings, directional signposts, telephone boxes, water pumps, war memorials and former industrial buildings. The latter include the railway stations at Newport, Stansted Mountfitchet and Thaxted (Plate 5); maltings at Newport (Plate 6) and Stansted Mountfitchet; the railway viaduct at Newport; and a sewerage pumping station, the station granary and workers' housing in Stansted Mountfitchet (Plate 7). Tony Crosby on behalf of the Essex Industrial Archaeology Group nominated industrial buildings in Stansted Mountfitchet and the surviving Thaxted Station buildings—the station building itself, the engine shed and water tower. The first issue of the Uttlesford District Council LHL was approved by the Council's Cabinet on 16th October 2018 and includes all the industrial buildings mentioned above.

Book Reviews

ARCHAEOLOGICAL LANDSCAPES OF EAST LONDON: SIX MULTI-PERIOD SITES EXCAVATED IN ADVANCE OF GRAVEL QUARRYING IN THE LONDON BOROUGH OF HAVERING by I. Howell, D. Swift, B. Watson, J.F. Cotton and P.A. Greenwood, Museum of London Archaeology Monograph 54, 2011, 144pp, 99 figures, 25 tables. ISBN 978-1-907586-00-2, hardback, £14

This important study addresses six sites excavated in the west of the historic county of Essex. They were all dug many years ago, and for a variety of reasons had languished unpublished. The first was the 1963 campaign at Great Arnold's Field. All the remaining five were excavations undertaken by Passmore Edwards Museum between 1977 and 1997. Twenty years ago the London Borough of Newham drastically cut its funding of the museum; what had been an effective field archaeology unit was disbanded, with no thought given to the preparation of published reports of its valiant work. It is to the credit of Museum of London Archaeology that a successful effort was made to salvage something from this deplorable state of affairs by securing finance from the Aggregates Levy Sustainability Fund to place on record some account of these backlog excavations.

Excavated material from these sites ran from residual Mesolithic flints down to medieval pottery. Sites are not described in turn on an individual basis but slotted into a chronological framework divided into sections on later prehistory, the Roman period and the Middle Ages. Every effort was made to relate excavated evidence to what else is known about the study area. At a time when archaeology is staggering under the weight of data, syntheses of this kind are particularly welcome. With this end in mind, a useful introductory chapter explains the geological and geographical background to the first human activity in the study area in the Pleistocene. And at the end a concluding chapter carries the story beyond the excavated evidence to the age of motorways, railways and gravel quarries.

This is an elegant and attractive tome in stout hard covers. There is a detailed list of contents and a good index, both of which help readers find what interests them without too much difficulty. The eminently affordable price of the book puts to shame the exorbitant price of so much other archaeological literature. Site plans and other illustrations are positioned just where one needs them, in the text to which they belong. A particularly useful detail on the site plans is an indication with arrows of the positions of round-house entrances. The colour of the plates showing excavation scenes and finds is consistently fine. Understandably in a work like this, where finds have been drawn by different hands over a lengthy gestation period, there is some variation in style.

The difficulty with the book is the extent to which excavated material has been illustrated and quantified. We have four pages of Neolithic pottery from Great Arnold's Field, being thirty-four of the 400 plus sherds recovered. That is a satisfactory level of publication, but one which is not repeated for other periods. Indeed, it is often difficult to get a sense of how much pottery by sherd count or weight was retrieved from other sites and for other periods. Bearing in mind the less than generous approach to the illustration of pottery, it is disappointing that the drawings of twenty-nine earliest to Middle Iron Age vessels that feature in the detailed interim report on Moor Hall Farm by Greenwood (1982, figs 3–4) have not been reproduced here. One should note as well that this interim report has a wealth of detail about excavated features which is not repeated in the text here. For instance, one would like to know what happened to the ten cremations of Late Bronze Age or earliest Iron Age date described on Page 187 of the interim. Likewise, the book should have made use of the six vessels of mid-first-century AD type from the same site published by Tyers, with a perceptive assessment of their affiliations (1996, fig.17.2 Nos 13–18, 143).

Despite the many references to archive material and unpublished reports on these six sites, one wonders just how exhaustively the pottery was actually scrutinised. The Iron Age is a case in point. My own view is that the pottery of Iron Age Essex can be divided into four phases, distinguishable by typology, fabric and fabrication (Sealey 2103, 40–4). This report takes a simpler view and offers us instead an earlier and a later Iron Age, of *c*.800–400 BC and *c*.400 BC–AD 43 respectively. It then confuses the issue by meandering between those categories and what it calls the traditional tripartite system of Early, Middle and Late Iron Age pottery.

At least with the Iron Age pottery from Hunts Hill Farm we are given enough information to tease something more out of the report. Pottery from some of the roundhouses is characterised as 'carinated bowls and either biconical or tripartite jars'. From the very few vessels illustrated, one can see that this includes *c*.600–350 BC Darmsden-Linton ceramics, as noted by Brudenell (2012, 31). Three radiocarbon dates on such pottery from a roundhouse gully confirm the continuance of Darmsden-Linton until the fourth century BC, but the significance of this was overlooked. If we are right about this pottery, the six roundhouses associated with it can be assigned a more precise date than in the report.

It is claimed that there was occupation at Hunts Hill Farm from the earlier Iron Age until the Roman invasion. One has reservations. It is said there were few Middle Iron Age features, and there is no reference to any roundhouses of Middle, or indeed Late Iron Age date. Middle Iron Age sites in south Essex have vessels of form Little Waltham 13 in some numbers that were made in Kent and tempered with glauconite; local copies are also present (Sealey 1996, 50). Now at Hunts Hill Farm there were only three sherds of glauconite-tempered pottery. The excavator herself remarked on the lack of form 13 bowls, and realised this was significant (Greenwood 1997, 156–7). The dearth of these bowls is a powerful hint that there may not in fact have been a Middle Iron Age at Hunts Hill Farm at all.

Writing up backlog sites is a difficult and thankless task. Memory fades with the passage of time, and documentation and finds can go astray. Inevitably, much of this work has had

to be written up by people who were not actively involved in the fieldwork. We should be grateful to Museum of London Archaeology for shouldering the task. This is an important and worthwhile report but one whose ambitions sometimes seem to have run ahead of the resources to hand. Too often the publication of finds has not been presented at a level such that one can check conclusions in the text or use them for further research. Time and again, one has to take statements about site chronology on trust. As we have seen, there is reason to think that some of the interpretations of site phasing may be wide of the mark so we should not think that this book is the last word on the sites in question. It is to be hoped that at some stage in the future at least the Iron Age pottery from Hunts Hill and Moor Hall farms can be thoroughly reassessed and published in the detail it deserves. But whatever reservations one might entertain of this work, the fact remains that it is a precious statement on Essex archaeology and history. In one splendidly illustrated tome we have the entire panorama of human history. Few counties have the wealth of excavated data that we have in Essex, and this book is a worthy addition to the corpus.

References

Brudenell, M.J. 2012, 'The prehistoric pottery', in A.L. Lyons, 'High living at Marks Warren; a north-east London landscape from the Mesolithic to modern period', *Essex Archaeol. Hist*., 4th Ser., 2, 24–31

Greenwood, P.A. 1982, 'The cropmark site at Moor Hall Farm, Rainham, Essex', *London Archaeol*. 4, 185–93

Greenwood, P.A. 1997, 'Iron Age London: some thoughts on *Current Knowledge and Problems* 20 years on', *London Archaeol*. 8 (6), 153–61

Sealey, P.R. 1996, 'The Iron Age of Essex', in Bedwin. O. (ed.), *The Archaeology of Essex: Proceedings of the Writtle Conference* (Chelmsford, Essex County Council), 46–68

Sealey, P.R. 2013, 'The Iron Age of Essex revisited', *Essex Archaeol. Hist*., 4th Ser., 3, 36–59

Tyers, P.A. 1996, 'Late Iron Age and early Roman pottery traditions of the London region', in J. Bird, M.W.C. Hassall and H.L. Sheldon (eds) *Interpreting Roman London: Papers in Memory of Hugh Chapman,* Oxbow Monogr. 58 (Oxford, Oxbow Books), 139–45

Paul R. Sealey

FIELDS OF BRITANNIA by Stephen Rippon, Chris Smart and Ben Pears, Oxford University Press, 2016, xix + 445 pages, numerous black and white illustrations, ISBN 978-0-19-964582-4

The *Fields of Britannia* is the report for the research project of the same name. The project aimed to examine the agricultural landscape of the late Roman to early medieval period. Traditionally this period has been divided by two different groups of scholars, with the Romanists studying the fate of Roman Britain and the early medievalists focussing on the Anglo-Saxon sites and artefacts that characterise the archaeological record of eastern England in the 5th to 7th centuries. A third group of scholars have concentrated on the origins and development of the later medieval landscape, and in particular when and why villages and open fields were created. It is now widely accepted that although there was Anglo-Saxon migration into eastern England in the 5th century, Saxon expansion in the west consisted of political conquest not mass folk migration, and that the landscape continued to be settled by the native British population. Even in the East of England, Anglo-Saxon immigrants and their descendants were probably in the minority. However, the native British population remains barely visible in an archaeological landscape dominated by the distinctive finds and sites of the Anglo-Saxon cultures.

The Fields of Britannia project aimed to address some of the imbalances of the archaeology of this period by focussing on the whole landscape of Roman Britain (everything south of Hadrian's Wall). There were three main areas of research: 1) Field systems: studying the extent of possible continuity or discontinuity in the physical fabric of the countryside by examining the relationship between late Romano-British landscapes and their medieval successor; 2) Land-use: an analysis of palaeoenvironmental evidence in order to determine patterns of continuity or discontinuity in land management practices; 3) Settlement patterns: to what extent there was continuity or discontinuity in settlement patterns in different regions of Britain.

To this end the authors have gathered evidence from fieldwork, many of them recent development-led excavations (the project included an extensive 'grey-literature' search) and palaeoenvironmental sampling. Nine regions are identified by the project, based on geographical differences, the extent and nature of Romanisation, the apparent impact of Anglo-Saxon cultural influences, and the long-standing differences in agricultural practices. The regions identified are the Northern Uplands, the North East Lowlands, Upland Wales, Lowland Wales, Western Lowlands, Central Zone, South West, South East and East Anglia. Essex falls into the South-East region which covers an area from Dorset to Essex. It was separated by the Gipping-Lark divide from East Anglia (which comprises North Suffolk and Norfolk), a division that was already apparent in the archaeological record by the Late Iron Age. The regions are then further sub-divided by *pays*.

The vegetational history was assessed by looking at variations in percentages of indicator species for different land-use categories, such as woodland and improved pasture. The palaeoenvironmental evidence-base is identified as good in some areas but patchy to non-existent in others. There are differences within the pollen sequences reflecting different land uses and changes over time, however the results as a whole are based on very low level numbers of samples. Animal bones were also assessed, as were alluvial sediments and snails, albeit to a lesser extent.

The evidence does show that there seems to have been little woodland regeneration in the early medieval period, although the intensity of arable agriculture had declined. Clear differences are identified within the various *pays* in both crops and animal husbandry; many of these are still present in today's agricultural landscape, and this appears to be largely a result of local geology, climatic conditions and topography in favouring particular agricultural regimes.

The authors argue, albeit in some cases more convincingly than others, that about 60% of Late Roman field systems are echoed in medieval or later field boundaries, perhaps perpetuated as hedges long after the accompanying ditches had been silted up. It is also argued that although the socio-economic changes that marked the end of the Roman period did impact upon the landscape, this was not a period of profound change, and in many regions the long 8th century saw a far greater transformation of the landscape.

In conclusion, the project tackled an important and interesting subject, and there is much useful data collected and synthesised within its pages. However, some of the evidence presented is inconclusive and in a number of cases could be considered flimsy. The task of synthesising and presenting a large amount of data is not entirely aided by a writing-style which, unlike the principal author's earlier books, sometimes reads like a PhD thesis, making it more of a book that one would consult rather than read for pleasure. This is a pity because the project has much to offer, particularly in guiding future research and excavation strategies. Field boundaries have had a tendency to be the 'poor relation' on sites, overshadowed by more glamourous buildings or burials, but when interpreting the usage and layout of landscapes they are crucial. The authors have ably demonstrated the need to clearly establish dates and inter-relationships for individual field-systems. They have also highlighted the need for better environmental sampling and scientific dating of feature types or groups that are not normally assessed by that method. The case is also made for the need to contextualize the results of excavations within the historic landscape as well as with neighboring contemporary sites.

Fields of Britannia has maps, plans and tables throughout, but the tables would have benefitted with grid-lines for ease of reading. There is an extensive 102 pages of bibliography.

Maria Medlycott and Richard Havis

ARCHAEOLOGY IN HERTFORDSHIRE: RECENT RESEARCH. A FESTSCHRIFT FOR TONY ROOK, edited by K. Lockyear, 2015, Hatfield, University of Hertfordshire Press, xviii + 356 pp, 83 figures, 21 plates, ISBN 978-1-909291-42-3, £20.00

This book had its origins in a conference held by the Welwyn Archaeological Society in 2012 to mark Tony Rook's eightieth birthday and to celebrate his contribution to Hertfordshire archaeology. It includes a brief account of his life and a select bibliography of his many publications. Twenty-two people have contributed to the fifteen papers, a mark of the regard in which the man is held.

It is often the case that papers in *festchriften* seldom have any organic linking thread. This pitfall has been avoided here because the firm and sensitive guiding hand of the editor has made sure that the papers published are connected by their interest in Hertfordshire archaeology and history.

Archaeologically, the county is best known for its rich Late Iron Age cremation graves and settlements as well as its Roman settlement archaeology. Understandably, six of the papers address topics from those periods. The Palaeolithic and Mesolithic fare less well, but the Neolithic is dealt with in the accounts of the cursus and henges in the Baldock region by Keith Fitzpatrick-Matthews. The accounts of later prehistory by Stewart Bryant and Isobel Thompson are frank about the difficulties of unravelling the later prehistoric pottery sequence for the county, none more so than for the Late Bronze Age and earliest and Early Iron Ages. The problem has been compounded by the inadequate publication of Middle Iron Age wares. Having said that, Isobel Thompson has been able to salvage what one can for the period. It is interesting to note that there are still only modest signs of Middle Iron Age activity in Hertfordshire compared to the evidence for the Late Iron Age, a situation quite the reverse of Essex. Finds of Roman coins from the county receive extensive treatment by Sam Moorhead and Dave Wythe, including a useful listing of the hoards from the county. Archaeology *per se* is rounded off by an account of the Early Anglo-Saxon cemetery at Watton-at-Stone by Peter Boyer and his colleagues. Its pottery is of no little importance because of the dearth of Early Anglo-Saxon ceramics from the county. Later periods are approached from historical and topographical perspectives: John Baker reviews the administrative geography of the medieval county; and fields and pollards are tackled by Tom Williamson and Anne Rowe respectively.

The book is given another, and welcome dimension by Kris Lockyear in his surveys of the history of archaeological investigation in Hertfordshire. The exercise could usefully be repeated for other counties. One of these accounts draws heavily on the diary kept by Tony Rook's late wife, Merle. It is gratifying to read those extracts from the diary that make it quite clear how much painstaking and persistent detective work Tony undertook to track down the discovery of the major Late Iron Age cremation grave at Welwyn Garden City, a role that was given scant acknowledgement in the published report.

It is difficult for outsiders to get a handle on Hertfordshire archaeology, as the editor concedes. Unlike Essex, where we have had the publication of not one, but three conferences on the archaeology of the county, Hertfordshire has fared poorly in comparison; and the fitful appearance of the county journal *Hertfordshire Archaeology* has not helped. So this book plugs a gap that needed filling, and does it very well. Greek has a word for intense affection and devotion to place, *topophilia*; and this book shows us *topophilia* at its best. The papers in this work are a worthy tribute to Tony Rook as well as a welcome summary statement on many aspects of the archaeology of Hertfordshire. The appreciations of Tony's work and the extensive extracts from his wife's diary give the book a warmth and humanity one would not find in a formal excavation report and help to make this an eminently rounded, worthwhile and enjoyable read.

Paul R. Sealey

COLCHESTER IN THE GREAT WAR by Andrew Phillips, Pen and Sword Military, Barnsley, 2017, 190pp, illustrated and indexed, ISBN 978 1 47386 061 2, £12.99.

As the title suggests this is a local history of how Colchester and its environs were affected by, and responded to, the challenge of the First World War. Colchester was a town that 'preferred to run itself' and it came as a shock to have central government laying down rules under the Defence of the Realm Act. As a significant county recruiting centre, the town had to provide for the throughput of large numbers of volunteers which it mostly did under canvas and in family billets. Chapters cover the town's response to the outbreak of war, including war work done by local firms, the transiting and training of large numbers of soldier recruits, the protection of civilians and their food supplies and the provision of beds and medical treatment for soldiers invalided in large numbers from the front.

The book has contemporary illustrations on almost every page and is rich in the kind of detail that, even though unreferenced, is clearly the fruit of a depth of knowledge achieved by thorough research on a firm foundation of local

knowledge. So, although it is probably intended for general interest, academic readers will not be disappointed.

An attractive element of the book is the running commentary provided by snippets of oral history provided by those who witnessed events described. Another pleasing element is the prominence given to the contribution of women, not only the middle-class wives and daughters supporting the nursing and food provision services in a variety of ways but also the working class, from the unsupported wives of soldiers on foreign service, to Paxman's munitions workers, tram conductresses, postwomen and the women (and their children) forced to queue daily for food. Phillips asserts that there is little in this story 'to excite the feminist' but most would now agree that it was the women's war work which ultimately proved their franchise rights and there is plenty of additional evidence in Colchester's sources to demonstrate this.

Phillips calculates that about half of Colchester's adult male population fought in the war and that the death rate was comparatively high. His sensitive account of the disruption caused by the war, quite apart from the post-war depression and unemployment experienced by the survivors and their families, focusses on the design of the town's extravagant war memorial which features uplifting symbols of victory rather than a contemporary soldier in warlike pose.

Jane Pearson

THE ESSEX SOCIETY FOR ARCHAEOLOGY & HISTORY
Volume 8 · 2017

A Bibliography of journal literature on Essex archaeology and history for 2017

Andrew Phillips and Paul R. Sealey

Both monographs and periodic literature are included; articles published in journals devoted exclusively to Essex history (*e.g. Essex Journal*) are not included. Items overlooked in previous bibliographies are included for comprehensive coverage.

French, H. 2017, 'Neither Godly Professors nor "dumb dogges": reconstructing conformist Protestant belief and practice in Earls Colne, Essex *c.*1570–1620', in Vallance, E. and Parry, G., *Faith, Place and People: Essays in Honour of Margaret Spufford* (Woodbridge, Boydell and Brewer)

Till, R. 2017,'"A Great Fight in the church at Thaxted"': social and religious tension in the wake of the First Civil War', *The Local Historian* 47, No.1, 46–55

Van Oyen, A. 2016, *How Things Make History. The Roman Empire and Its Terra Sigillata Pottery* (Amsterdam Archaeological Studies 23) (Amsterdam, Amsterdam Univ. Press) [Chapter 6 discusses samian and Rhenish ware production at 2nd and 3rd-century AD Colchester]

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 particularly 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	*Pottery*
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.

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.
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/Mongraphs:
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

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

Counc. Brit. Archaeol.	*Council for British Archaeology*
Colch. Archaeol. Rep.	*Colchester Archaeological Reports*
E. Anglian Archaeol.	*East Anglian Archaeology*
Essex Archaeol. Hist.	*Essex Archaeology and History*
Essex Archaeol. Trans.	*Transactions of the Essex Archaeological Society*
VCH	*Victoria History of the Counties of England*
RCHM	*Royal Commission on Historical Monuments*

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.

Essex Archaeology and History Volume 8 (Fourth series)

CONTENTS