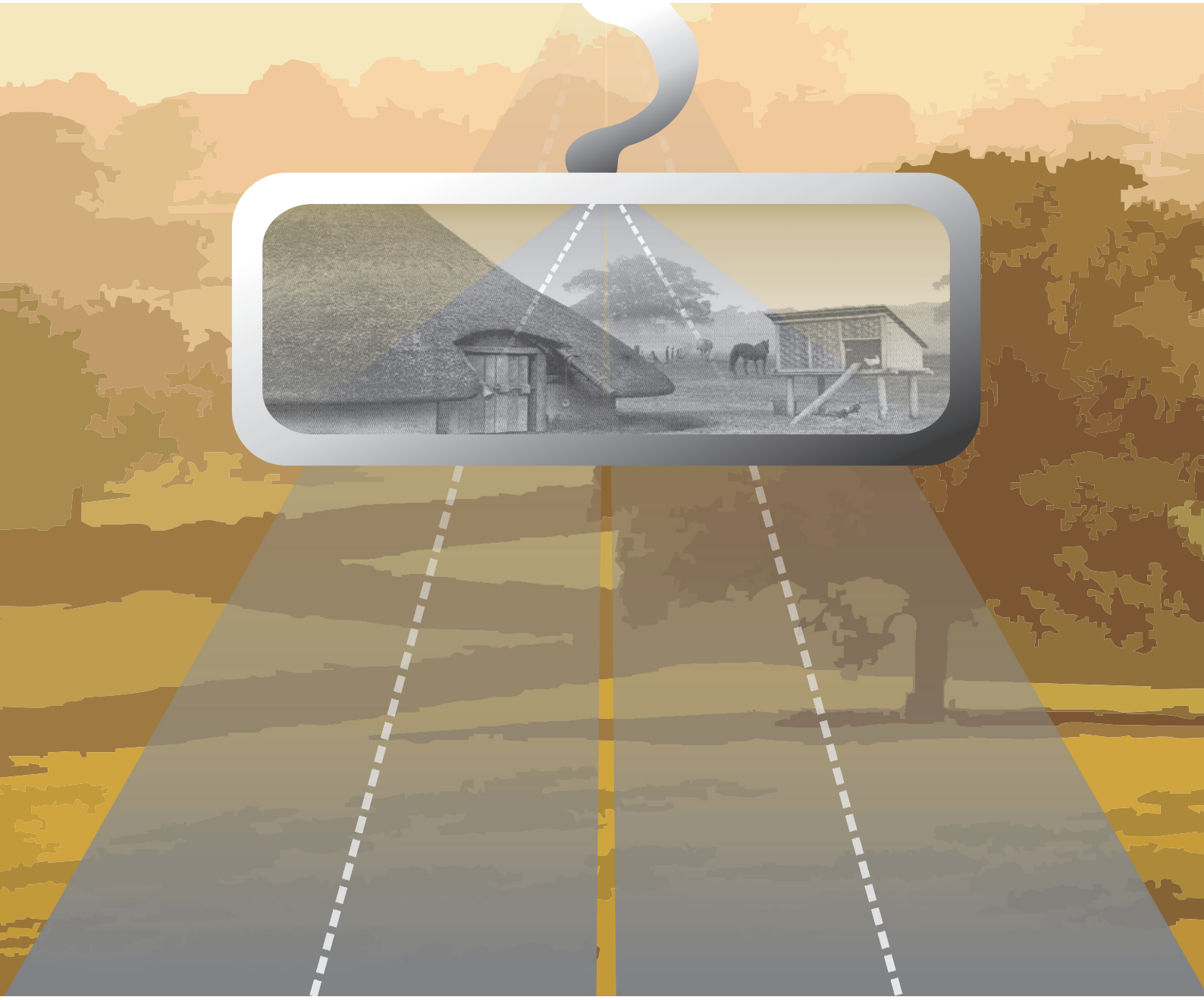
A Larger Slice of Rural Essex

Archaeological discoveries from the A120 between Stansted Airport and Braintree

by J Timby, R Brown, E Biddulph, A Hardy and A Powell



archaeology

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By Jane Timby, Richard Brown, Edward Biddulph, Alan Hardy and Andrew Powell

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Chapter 1 The CD

This volume is accompanied by a cd-rom containing the second volume of the project *which contains the detailed stratigraphic narratives and specialist reports. A digital copy of Volume one is also provided*. To use the CD-Rom insert it into your CD drive, if autoplay is enabled the A120 installer will start, otherwise browse to your CD-rom drive letter in my computer and double click on install.exe to launch the programme.

The data on the CD can be divided into *two* separate areas. *The first is the text written in* Open Office; styles were applied to the main text, links have been inserted cross-referencing tables and external links to pdf versions of the figures used in the main publication. The second set of data on the cd contains the spatial data. This has been provided as projects, which will run in Map Explorer. Data has also been as shapes, which allow the data to be imported into other GIS packages.

Philosophy

The data on the CD has been provided to allow the publication of a greater range of accessible data and the text, in pdf and .odt format to enable easily searchable access to the data. This approach for research data allows another dimension to usual flat data. It is hoped that providing the spatial data will allow for a fuller exploration of the data set collected during the project.

Guide to using Map Explorer 2.0

with A120 GIS Data

Introduction

All the A120 digital spatial data have been generated from scanned original plans drawn at a scale of 1:50,000. The data have been provided in **Shapefile** format (see Metadata for further information on what each **Shapefile** represents) using the British National Grid. In addition a free viewer has been provided, called *Map Explorer 2.0,* to enable simple queries and interrogation of the spatial data.

The CD should have automatically installed *Map Explorer 2.0* and associated A120 data**.** *Map Explorer 2.0* works with **Project** files ***(.mep files)*** which enable the spatial data to be viewed as layered **Themes** within the **Project**. Each **Theme** corresponds to a **Shapefile**, which has been presented in a certain way within that **Project**. Most of the **Projects** provided represent individual sites or part of sites. The **Themes** generally represent features belonging to particular archaeological periods (including undated features), as well as the location of interventions, evaluation trenches and the limits of excavation. However, any **Theme** from one **Project** can be opened up in any other **Project**, and the way the data has been presented can be easily modified.

OPENING AND INSTALLING MAP EXPLORER

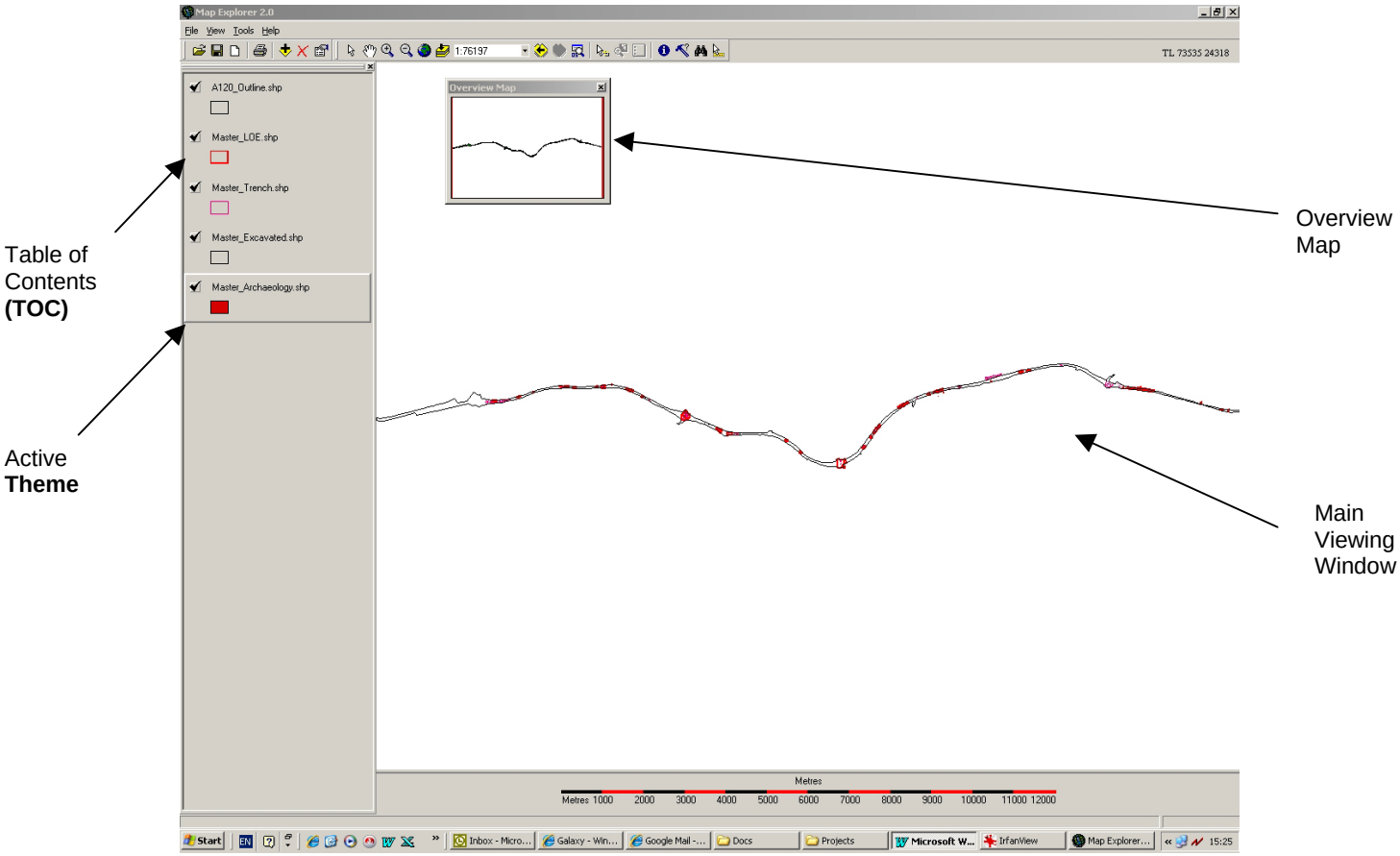
Available **Project**s:

Fieldwalking_Data.mep	A120 fieldwalking data.
Master_Map.mep	General plan of the A120 archaeological and spatial data.
Site_1.mep	Archaeological and spatial data collected from A120 Site 1.
Site_11-46.mep	Archaeological and spatial data collected from A120 Sites 11 and 46.
Site_12.mep	Archaeological and spatial data collected from A120 Site 12.
Site_13.mep	Archaeological and spatial data collected from A120 Site 13.
Site_14.mep	Archaeological and spatial data collected from A120 Site 14.
Site_15.mep	Aarchaeological and spatial data collected from A120 Site 15.
Site_16.mep	Archaeological and spatial data collected from A120 Site 16.
Site_17-17a.mep	Archaeological and spatial data collected from A120 Sites 17-17a.
Site_18.mep	Archaeological and spatial data collected from A120 Site 18.
Site_19.mep	Archaeological and spatial data collected from A120 Site 19.
Site_2.mep	Archaeological and spatial data collected from A120 Site 2.
Site_20-49.mep	Archaeological and spatial data collected from A120 SiteS 20 and 49.
Site_21.mep	Archaeological and spatial data collected from A120 Site 21.
Site_22.mep	Archaeological and spatial data collected from A120 Site 22.
Site_23.mep	Archaeological and spatial data collected from A120 Site 23.
Site_24.mep	Archaeological and spatial data collected from A120 Site 24.
Site_27-28.mep	Archaeological and spatial data collected from A120 Sites 27 and 28.
Site_29.mep	Archaeological and spatial data collected from A120 Site 29.
Site_3.mep	Archaeological and spatial data collected from A120 Site 3.
Site_30-31.mep	Archaeological and spatial data collected from A120 Sites 30 and 31.
Site_32.mep	Archaeological and spatial data collected from A120 Site 32.
Site_33-34.mep	Archaeological and spatial data collected from A120 Sites 33 and 34.
Site_37-38.mep	Archaeological and spatial data collected from A120 Sites 37 and 38.
Site_39.mep	Archaeological and spatial data collected from A120 Site 39.
Site_4.mep	Archaeological and spatial data collected from A120 Site 4.
Site_40.mep	Archaeological and spatial data collected from A120 Site 40.

Site_41.mep	Archaeological and spatial data collected from A120 Site 41.
Site_43.mep	Archaeological and spatial data collected from A120 Site 43.
Site_45.mep	Archaeological and spatial data collected from A120 Site 45.
Site_47.mep	Archaeological and spatial data collected from A120 Site 47.
Site_48.mep	Archaeological and spatial data collected from A120 Site 48.
Site_49.mep	Archaeological and spatial data collected from A120 Site 49.
Site_5.mep	Archaeological and spatial data collected from A120 Site 5.
Site_50.mep	Archaeological and spatial data collected from A120 Site 50.
Site_51.mep	Archaeological and spatial data collected from A120 Site 51.
Site_52.mep	Archaeological and spatial data collected from A120 Site 52.
Site_53.mep	Archaeological and spatial data collected from A120 Site 53.
Site_54.mep	Archaeological and spatial data collected from A120 Site 54.
Site_6.mep	Archaeological and spatial data collected from A120 Site 6.
Site_7-42.mep	Archaeological and spatial data collected from A120 Sites 7 and 42.
Site_8.mep	Archaeological and spatial data collected from A120 Site 8.
Site_9-44.mep	Archaeological and spatial data collected from A120 Sites 9 and 44.

Getting Started

1. To open a **Project** either click on the open icon or click on menu *File→Open Project*
2. You will then be presented with a navigation window. Navigate to *c:\a120\Projects\....* You will see a list of ***.mep*** files. These are the *Map Explorer* **Project** files, based on different data sets for the A120. It is recommended you start with *Master_Map.mep*. This represents the archaeology of the whole route and will be used for most of the examples on how to use *Map Explorer*.
3. Your screen should now look like this.



Elements of the User Interface

The user interface consists of Menus, Buttons, a Table of Contents (TOC), a scale, an overview window and a main viewing window.

Main Viewing window

The main viewing window displays the plan of the site. This can be panned and zoomed in or out and queried. It consists of a number of layers, called **Themes**, which appear in the **TOC**. These **Themes** have attribute data attached, such as feature identification numbers and archaeological periods, which can be queried in a number of ways, explained below.

Table of Contents (TOC)

The **TOC** contains a legend for each of the **Themes** within the **Project**. They can be switched on and off by clicking the tick box for each **Theme**. **Themes** are made active for interrogation by clicking on their legend. Active **Themes** appear as shown above.

Overview window

The overview window provides a miniature plan of the site to make navigation easier.

Scale Bar

The Scale Bar Displays a simple guide to the size of the display in real space.

Menus

1. File Menu

- Open **Project** — Allows user to open a previously saved **Project** (*.mep file).*
- Save **Project** — Save the current **Project** as an *.mep* file.
- Clear **Project** — Start a new **Project**.
- Add Theme — Add a **Shapefile** as a **Theme** in the **Project**.
- Remove active Theme — Remove the active **Theme** from the **Project**.
- Theme properties — Bring up **Theme** properties for active **Theme**.
- Print preview — Preview how map will look if printed out.
- Print map — Print Hardcopy of current view of map.
- Export map — Export current view of map as an image.
- Copy map to clipboard — Copy image of map to clipboard.
- Copy legend to clipboard — Copy image of map **TOC** to clipboard.
- Options — Brings up general options.
- Exit — Exits ***Map Explorer***.

2. View Menu

- Pointer Tool — Makes the general mouse pointer active.
- Zoom Full Extent — Clicking on the main viewing window will zoom to full

	Extent of data.
• Zoom out	Clicking on the main viewing window will increase the map area in the window.
• Zoom in	Clicking on the main viewing window will zoom in the map.
• Zoom Active **Theme**(s)	Zooms to the **Theme**s active in the **TOC**.
• Select Feature	Selects a Feature or group of Features.
• Clear Selection	Clears Selected features form selection set.
• Zoom Selection	Zooms to Selected features.

3. Tool Menu

• Identify	Identifies a Feature in the active **Theme**.
• Query Builder	Opens Query Builder.
• Find	Finds a feature on the map.
• Zoom to OS	Zooms to an OS grid co-ordinate
• Map Tips	Enables Maps Tips *(see Map Explorer online help)*
• Overview Map	Switches on/off overview map
• Show/Hide Legend	Switches on/off TOC
• Show/Hide Scale Bar	Switches on/off Scale Bar

4. Help Menu

General on-line help for using Map Explorer provided by ESRI.

Buttons

The buttons below the menus provide an alternative route to implementing commands. They mostly perform the same functions as those available in the menus.

Open Project
Save Project
Clear Project
Print the current Map Extent
Add Theme
Remove Active Theme(s)
Theme Properties
Map Pointer
Pan
Zoom in
Zoom out
Zoom Full Extent
Zoom Active Themes
Previous extent
Next Extent
Zoom to OS Reference
Select Features
Zoom Selected
Clear Selection
Identify
Query Builder
Find
Toggle map tips

General Options

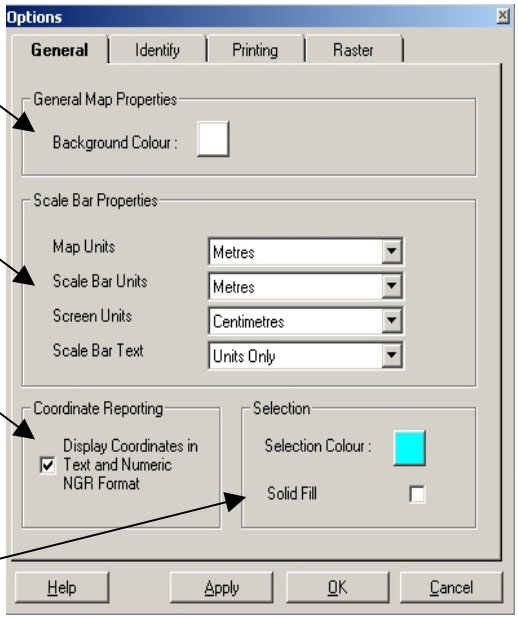
If menu *File→Options* is selected then a dialog box opens enabling a series of general options to be altered for *Map Explorer.* The **Identify** tab controls what is identified when the **Main Viewing Window** is clicked with the identify tool active. The **Raster** tab controls whether LZW Tiff format images can be viewed so will not be relevant unless you have a License code for this function. Details of relevant controls on the **General** tab and the **Printing** Tab are given below.

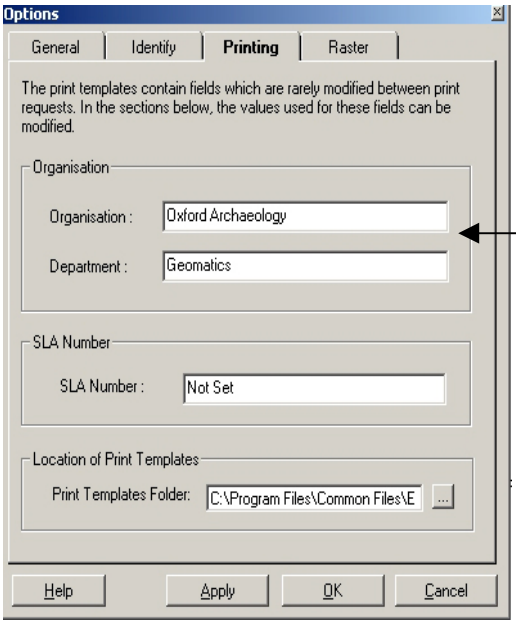
Controls background colour of map.

Controls what map units are used.

Controls format of co-ordinate display.

Controls selection colour.





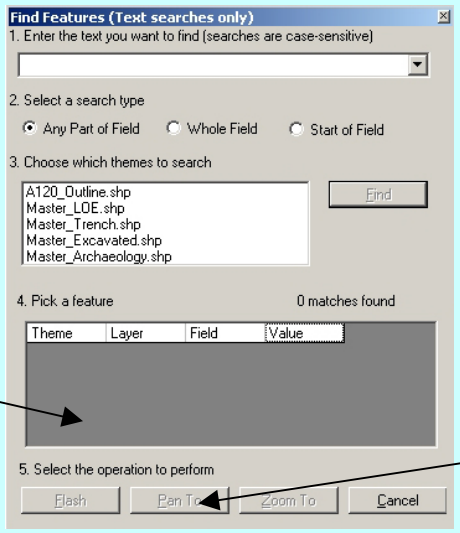
Controls text appearing on hard copies.

Querying Data

Data attached to the drawing can be queried in a number of ways.

Find

1. Either click on Menu *Tool→Find* or on the **Find** Button. The following dialog Box will appear:



Results should appear here.

Use these buttons to pan and zoom to results.

2. Enter the text you want to find as indicated and the Themes you wish to search, Click on Find, any results should appear, and are located on the map

Identify

1. Either select menu *Tools→Identify* or use the **Identify** button.
2. Click on the Feature you wish to find out information on.
3. A box will appear with the details of that feature.

Query Builder

1. Either select menu *Tools→Query Builder* or use the **Query Builder** button.
2. Enter a Query using the attributes as displayed.
3. The Results appear in the query Results box, and can be highlighted on the map.

1. Double click on the field you want to query here.

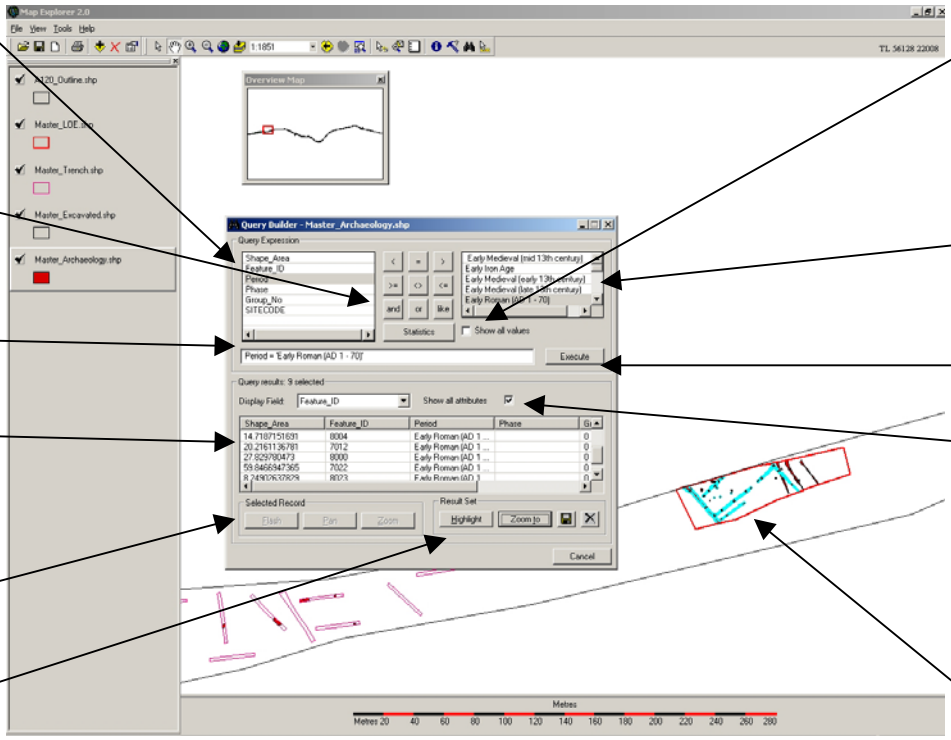
2. Click on the buttons here to put expressions you want to use in the query.

5. The query should appear here as you construct it . If you wish to clear the query, click on the box and use backspace or delete.

7. The **Query results** appear here. Click on an individual result to allow it to be highlighted.

9. Individual results, once clicked on can be zoomed to and flashed using these buttons.

10. All results can be highlighted and zoomed to using these buttons.



3. Click this tick box to ensure all the available attributes of the chosen filed are included in the selection box above..

4. Click on the attribute you want to query.

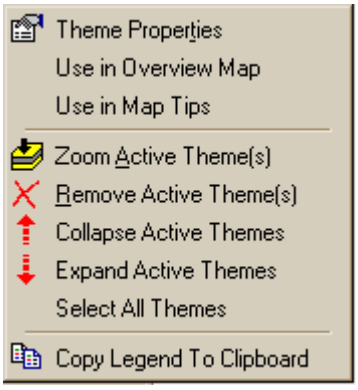
6. Once the query is complete click on **Execute**.

8. Click this tick box to display all attributes otherwise the display field in the dropdown box only will be displayed.

11. The highlighted results appear in blue here.

Theme Properties

By right clicking on a Theme Legend in the TOC you can bring up options relating to that theme:



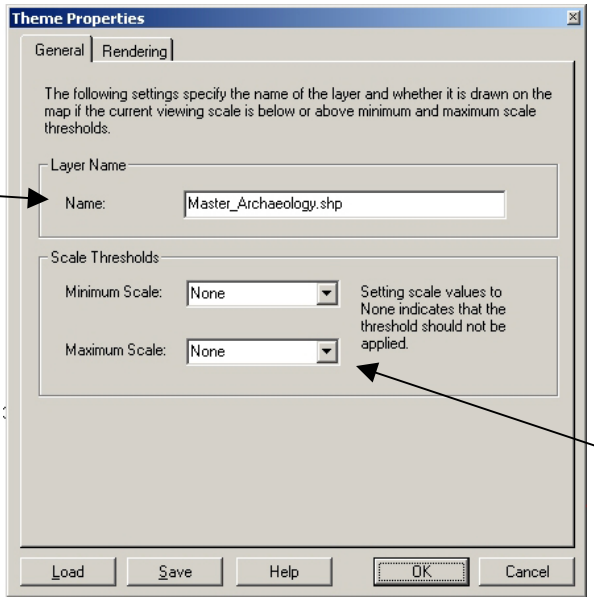
Brings up Properties Dialog box (see below).
Display Theme in Overview Map
Use Theme in Map Tips (See online Help)

Zooms to extent of active Theme
Removes Theme from project
Hides Legend in TOC
Displays Legend in TOC
Selects all the Themes in the Project
Copies Legend for placing in Document etc.

General Theme Properties

Theme Properties can also be controlled by double clicking on the Legend in the TOC for that Theme**.** This activates a **Theme Properties dialog box** which has two tabs **General** and **Rendering**.

A default Layer (or Theme) name appears in the TOC when the data is first brought into the project, as the shapefile name. This can be changed to something more descriptive here.



The Scale at which a Theme is switched on and off is controlled here.

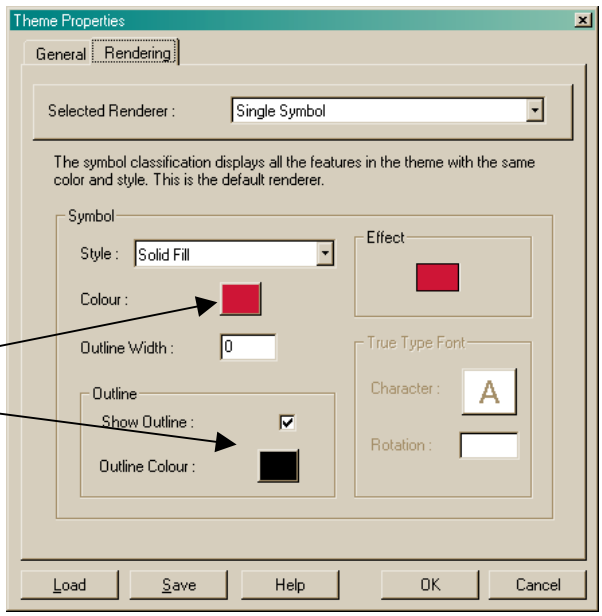
Rendering Theme Properties

A number of 'rendering' options are available, depending on the data type. This controls how the data is displayed.

Single Symbol

The Single Symbol Option displays all features in that Theme with one Symbol. An example of this is the **Master_Archaeology.shp** in the Master_Map Project.

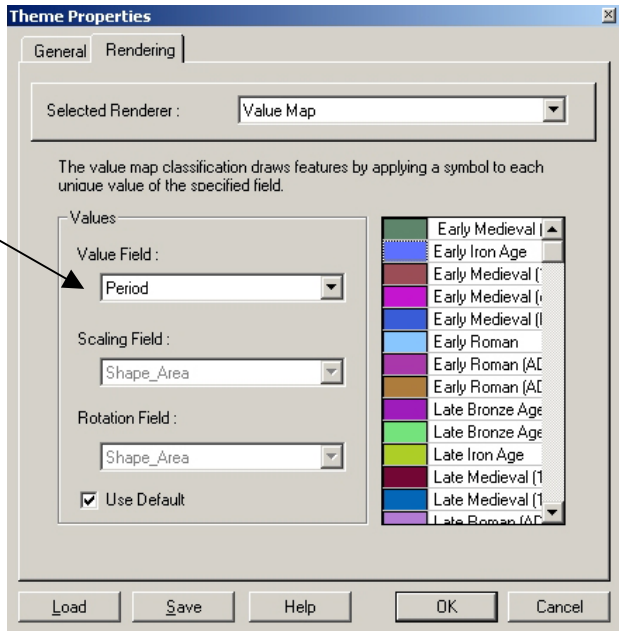
Double click on this box to change colour.



Value Map

A Value map assigns a different colour (or symbol in the case of point themes) to features based on an attribute assigned to them, in the example below a different colour is assigned to each feature in the **Master_Archaeology Theme** based on the field Period.

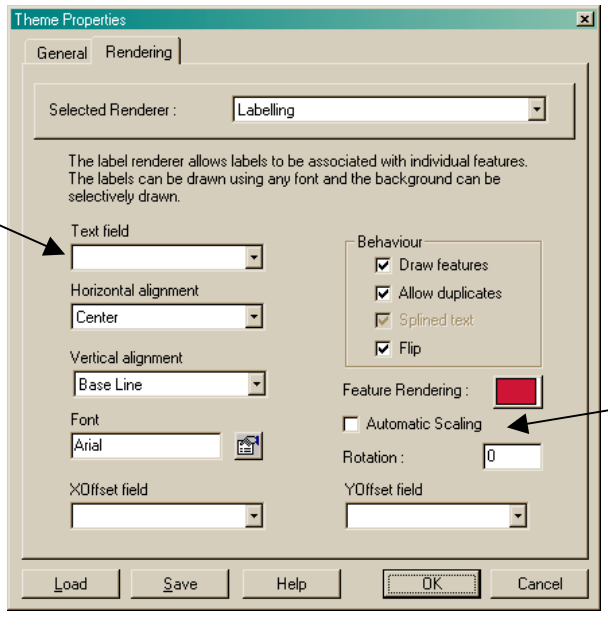
Select relevant attribute field here.



Labelling

Labelling enables features to be labelled with an attribute value in the main viewing window (such as feature identification number).

Select field to use for text here.

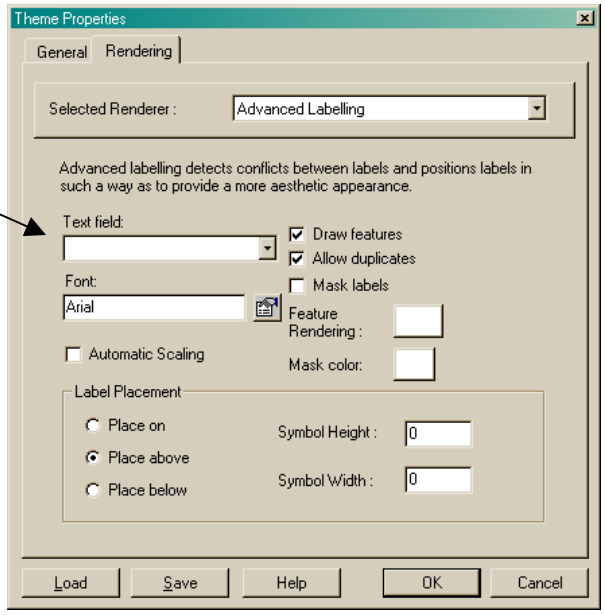


Ticking this box will scale text in the view.

Advanced Labelling

Advanced Labelling has more options for controlling the way features are labelled.

Select field to use for text here.



A120 GIS

Although Map Explorer 2.0 has been provided as a free map viewer, the underlying data has been provided in a format which enables its use, or conversion for use in most commercially available GIS software. This will enable anyone with access to such software to run more complex queries and spatial analysis than is available with the viewer.
All spatial data is provided in Shapefile format. As well as Map Explorer 2.0 these can be viewed in ESRI Arcview and ArcGIS. They can also be imported into almost all other commercially available GIS.
A list of metadata is provided in a text file (tab delimited) about what data has been provided, what it contains, and how it is organised in separate directories.

Chapter 2 The 1990 Fieldwalking Survey

by Maria Medlycott with a contribution by Peter Murphy

Introduction

The construction of the new A120 trunk road across the boulder clay plateau of north-west Essex would cause the destruction of some 190 hectares of archaeologically sensitive land. The Essex County Archaeology Unit therefore carried out a fieldwalking project along the proposed route; a summary of the results is presented here (see also Medlycott 1990; 1992; 1996; Medlycott and Germany 1994).

Over spring and autumn 1990, 85% of the route was fieldwalked in 20 m transects. The remaining 15% was unwalkable, being under permanent pasture, woodland, the present road-system, or in the case of the land within the boundaries of Stansted Airport under redeposited topsoil. Thirty-six areas of potential archaeological interest were identified by the survey, from the fieldwalking as well as from aerial photographic and metal-detecting evidence (Table 2.1).

The new A120 route links into the Braintree by-pass, which will be widened as far as Panners Roundabout to accommodate the increased traffic. The line of the Braintree by-pass was fieldwalked and one site excavated, prior to its original construction in 1987 (Smoothy 1989). Taken as a whole, a transect 22 km in length will have been archaeologically examined prior to the construction of the A120 trunk-road between Stansted and Braintree.

Archaeological objectives

Both historians and archaeologists accepted a simplistic picture of the evolution of settlement on the heavy clay lands of Britain for many years. This tended to ignore the complex variation of landscapes within the areas and chose to see the many prehistoric and Roman finds as representing either casual loss or isolated instances of settlement and stressed an intensification of clearance, cultivation and landscape management within the medieval period. However, recent studies into the settlement evolution of the Essex boulder clay plateau seriously questioned this assumption (Brown 1988b; Going 1988b; Williamson 1986) and established a basis for carrying out extensive field survey and excavation in advance of the new airport at Stansted. The results of this survey firmly support an extended history of occupation on the boulder clay starting in the Neolithic and peaking in the Roman period (Havis and Brooks 2004). Development of the A120 provided an opportunity to test the results from the concentrated study area at Stansted against those from a transect across much of the region (GIS Fieldwalking Project).

The objectives of the 1990 survey were:

- To carry out an assessment of all known archaeological

information within a corridor either side of the proposed road-line
- To supplement this with a specific fieldwalking exercise of all accessible land on the route to locate new archaeological sites
- To integrate into the fieldwalking a programme of environmental sampling in conjunction with Peter Murphy, then HBMC regional environmental specialist, to identify areas of palaeoenvironmental interest
- To evaluate the relative importance and potential of all sites to be destroyed by the road as the basis for a programme of archaeological work prior to and during its construction
- To prepare recommendations for certain sites to be further evaluated by excavation in advance of topsoil stripping for the road

Methodology

The Essex fieldwalking methodology was used for this project. This was the methodology previously used on the Stansted Airport Project and has been subsequently used on nearly all other fieldwalking projects in Essex (Medlycott 1990; 1992; Medlycott and Germany 1994).

The route was divided into kilometre lengths, then into hectares and then into 20 m squares. Each kilometre length was given a letter, from A to T (missing out O). The letters run sequentially from west to east. Each kilometre was then subdivided into hectares, numbered from 1 to 10 sequentially from west to east. Each hectare was divided into 20 m squares, labelled A to Z (missing out O). The letters start in the SW corner with A, and run northwards in strips. Thus the first strip was A to E, the second is F to J, and so on.

Transects approximately 2 m wide were walked along the western edge of each 20 m grid square, allowing a 10% coverage of the survey area. The finds were allocated to the square to the east of the transect walked. The records note the soil-type, topography, weather and lighting conditions, the nature of the field surface, as well as who walked which transect and the date on which it was walked.

The finds were then washed and marked with a code which identified which 20 m transect they came from. Thus SRR D 3 K refers to 20 m transect K of hectare 3 of kilometre D on the Stansted Rayne Road. The finds, once sorted, weighed and identified, were plotted out. Single items such as pottery sherds and flint flakes were plotted individually. Finds such as tile and burnt flint, for which a single weight is given for the entire 20 m transect, had their densities

plotted as standard deviations from the mean for that find-type (Appendix 1). Thus a 'significant' scatter or density is taken to be one that shows considerable variation from the norm for the survey area.

As with all methodologies the reality in the field differed from the ideal proposed in the office. It was discovered that the easiest means to lay out the grid was field by field, starting and stopping at the field-boundaries. The removal of many hedgerows in recent years did not help, as they were frequently the only landmarks along the route marked on the map. The plan published here show the grid as it was actually laid out, including awkward corners and some overlapping, rather than the original idealised version.

Geology

The north-west of Essex forms the highest part of the county, being between 50–120 m above sea-level. The proposed route of the A120 runs from west to east across the centre of a boulder clay plateau, and cuts across the valleys of the Pincey Brook, River Roding, River Chelmer, Stebbing Brook and River Ter. The soil type for each hectare walked was roughly identified in the field. It appears that the boulder clay makes up some 57% of the surface geology along the route, glacial sands and gravels 33%, alluvial deposits in the valleys 4% and sandy clays 4%. Patches of silty clay (2%) up to 0.3 m deep are found along the route.

Results of the fieldwalking survey

The proposed route for the A120 trunk road is described from west to east, that is, starting at Stansted Airport and finishing at Panners Roundabout, Braintree (Fig. 2.1).

A1–A8

The A120 will link on to Thremhall Avenue at Stansted Airport. On the west side of Thremhall Avenue was a multi-period site, Roundwood (RWS87), which was partially excavated as part of the Stansted Archaeological Project in 1987, revealing a medieval farmstead dating to the 12th to 14th centuries AD (Havis and Brooks 2004). In 1989 the area around Roundwood, along Thremhall Avenue, about 500,000 m2 in all, was stripped prior to landscaping, and a hurried rescue excavation took place (LBS89). Features dating from the late Bronze Age to the post-medieval period were found.

The land to the east of Thremhall Avenue, within the Airport perimeter fence, has been buried under redeposited topsoil and rubble and was unwalkable. Metal-detection in the fields just to the north of the A120 route had produced a scatter of Roman coins and other artefacts, and it is possible that the route may just clip the edge of this site.

A9–B1 (Site 1)

The route of the A120 trunk road cuts across the fields to the north of the Church of the Holy Trinity, on the outskirts of Takeley Village

(EHCR 4594–8). In 1989 these fields were returned to permanent pasture, so they were unavailable for fieldwalking during the survey. However, the area had been extensively metal-detected during the previous decade (Appendix 2), and the opportunity arose to examine one metal detectorist's collection. A scatter of Roman and medieval coins and other items were located in the field to the immediate north of the church. Though they were spread throughout the field, the densest concentration was in the eastern half (A9–BI). The earliest finds were two coins, one a gold stater dating to c 100 BC and a Roman silver coin, also of that date; a small gold nugget of unknown date was also found. Some 75 Roman coins in total were discovered, dating from the first to the fourth centuries AD. The church contains reused Roman bricks, tiles and lava querns in its structural fabric, and fragments of these materials turn up frequently when new graves are dug. Around 1868 a rich Roman burial, consisting of a large chest containing glass and bronze vessels and samian ware, was discovered in the vicinity of the church. No finds of early Saxon date were recovered, but there is one late Saxon coin of King Canute. The Church of the Holy Trinity is of medieval construction; its nave is thought to be of 12th-century date. It has been suggested that the siting of the church on its own, rather than in the centre of the present village, indicates that the focus of occupation in Takeley has shifted over the centuries and that the church is all that remains to mark the site of the original village. This hypothesis is supported by the metal-detecting finds, for though the objects dating to the medieval period were recovered from all the fields around the church, their densest concentration was along the eastern side of Church Lane. Here a large quantity of iron nails and other ferrous material was also found by the metal detectorists, but not kept. The Stansted Archaeological Project fieldwalked the field to the SW of the church, finding a widespread scatter of medieval pottery, which was densest nearest to Church Lane and the old A120.

B1–B6

The fields from Takeley Church to Old House Farm are also under pasture. Metal-detection had produced a thin scatter of medieval coins from the field immediately to the south of the farm-buildings, but this collection was not available for study. A small medieval feature, 0.5 m deep and 0.75 m wide, was sectioned by the digging of trial pit 306 (B3). Its function is unknown but it did indicate there was medieval activity in the vicinity, possibly part of the denser occupation anticipated closer to the church. A large quantity of Roman metalwork, again not available for study, came from the field to the south of the proposed route and patches of burnt soil and oyster shell were also visible in the plough soil.

B6–C6

From Old House Farm to Warish Hall Farm the A120 route follows that of the public footpath that

traditionally is said to follow the old 'coffin road' to the Church of the Holy Trinity, that is the route that funerals took from the hamlet of Bamber's Green to the graveyard. There is a small scatter of prehistoric finds at B10 and one of Roman finds at Cl. However informal walking of the field at Cl suggests that the Roman site from which the finds come is actually to the north of the proposed route. Warish Hall, comprising a house within a moated enclosure, is post-medieval in origin, but is thought to occupy the site of St Valery's Priory (EHCR 4570–3), founded c 1066. The route of the A120 ran approximately 200 m to the north of the house, and was not expected to affect any archaeology directly associated with it.

C6–D9 (Sites 2–5)

The proposed route of the A120 then runs from Warish Hall to Frogs Hall. There are Roman, medieval and post-medieval finds from C7–8 (Site 2), and further medieval finds from C10 (Site 3), suggesting a multi-period site in the vicinity. However, it is possible that the medieval and post-medieval finds could be associated with the priory site on the other side of the road, either indicating the remains of ancillary buildings, or simply the remnants of manuring practices. There also appears to be a small Roman site at D5 (Site 4) on the W-facing slope up to Frogs Hall, and a medieval site at D7 (Site 5) directly behind the Hall and probably associated with it.

D9–F3 (Sites 6–8)

The route then runs down from Frogs Hall to the River Roding Valley. A small concentration of burnt daub with some post-medieval tile and pottery was located in E3 on the east bank of the River Roding, and there was a scatter of medieval pottery and tile in E4 (Site 6). These sites may be linked to Little Canfield Hall (EHCR 4592–3), which is 14th to 19th century in date. From E6–10 there is a thin scatter of prehistoric finds, mainly flint flakes and burnt flint, with concentrations at E7 and E9 (Sites 7 and 8). Topsoil stripping for a gas pipeline running N-S through E6 revealed no features, but conditions were not conducive to archaeology, as not all of the topsoil had been removed. A Roman site, with a large quantity of tile and pottery, was found c 250 m to the north of E6 (pers. comm. M. Smoothy, British Gas); this may account for the small quantity of Roman finds in E6. This area has also suffered some disturbance due to levelling for a Second World War Airfield behind Stone Hall.

F4–G3 (Sites 9 and 10)

There was a small concentration of post-medieval pottery and clay pipes in F8. This was probably linked to a much wider spread of post-medieval material to the south of the fieldwalking grid down by the old A120, where there appears to have been a house of that date. At F9 (Site 9) a concentration of Roman pottery and some Roman tile formed a rectangular scatter 100 m by 60 m, which the route would cut diagonally. At G2 (Site 10) the new route crosses the old

A120, which follows the line of Roman Stane Street.

G4–H8 (Sites 11–13)

The road curves down from High Wood in a south-easterly direction to Olives or Shingle Hall. G7–8 (Site 11) contained a quantity of post-medieval finds, as well as some medieval pottery and burnt flint. G10 (Site 12) had a small scatter of medieval pottery, whilst Hl–2 (Site 13) had a concentration of daub, with some post-medieval pottery and tile. There was also a large scatter of Roman finds at H1, but it appears that these were introduced to the site with a truck-load of topsoil from the old police station in Great Dunmow (Mr Tamlinn, landowner, pers. comm.). Of interest on this farm is the system of parallel linear divisions, creating long narrow fields, which are visible in aerial photographs of the area. One of these was sectioned by trial pit 334, showing it to be a post-medieval field ditch, approximately 1 m in depth. In H3, trial pit 336 sectioned a shallow feature, c 0.15 m deep, containing fired clay, burnt flint and small charcoal fragments. Neither its date nor function is clear.

The two fields to the north of H7–9 had been extensively metal-detected (information from A J Davey) and numerous late Iron Age and Roman coins and other artefacts found. These included two silver late Iron Age coins from just the other side of the fence from H7. Aerial photography of this field shows what appears to be a Roman farm or villa complex. Its siting may be linked to the presence of springs at the bottom of the field in the wood. The field is made up of gravel to the east and clay to the west, and the extent of the visible cropmarks reflects the underlying geology rather than necessarily giving an accurate image of the extent of the site. Some marks of possible roundhouses are faintly visible in the SW quadrant of the field. Fieldwalking of H7–9, though it produced some medieval and post-medieval pottery, did not turn up anything of Roman or prehistoric date. It is therefore possible that the site did not extend up the opposite slope of the valley.

H9–K1 (Sites 14–16)

From H9 to I5 there was a thin constant scatter of post-medieval tile, probably the result of manuring. I5 to I7 is under permanent pasture and hence unwalkable. In I8 (Site 14) there appears to be a small Roman site, indicated by a concentration of Roman tile, by Hoblongs Brook. There was also a concentration of post-medieval pottery in this hectare. From 19 to JI0, where the route followed the line of Hoblongs Brook down to the A130, little was recovered apart from a thin, evenly-spread scatter of post-medieval pottery. At JI0 (Site 15), the A130 from Chelmsford to Dunmow is crossed by the proposed route. The A130 is thought to follow the line of a Roman road and it is possible that the remains of this road may be found here. At JI0 (Site 16), on the alluvial silts beside the River Chelmer, a small concentration of medieval pottery was found.

K2–M2 (Sites 17–20)

The route then heads in a NE direction, from K2 in the river valley to M2 on the high ground by the road to Little Dunmow. The field between the River Chelmer and the dismantled railway revealed the usual scatter of post-medieval tile and the odd post-medieval sherd. At K6–7 (Site 17) there was an interesting group of cropmarks, comprising three linear ditches and a windmill with the marks of the cross-beam clearly visible. The fieldwalking picked up very little in this field; the windmill, however, was not recorded on any of the maps for the area, and is hence presumed to be either medieval or post-medieval in date. Further upslope, in KI0–Ll (Site 18), a large spread of finds occurs. There is a small concentration of Roman pottery and tile in KI0 and a larger one of tile in Ll. From KI0 also came a concentration of flint flakes and burnt flint. Ll contained prehistoric, medieval and post-medieval finds, suggesting the presence of a multi-period site in the vicinity. However, the post-medieval tile may have derived from the nearby Clobbs Cottage, or even from The Grange Farm, which owns this land.

In L2 (Site 19) there was a small concentration of burnt flint. Trial pit 359, in L8, sectioned a clay loam layer which produced some medieval sherds and charcoal flecks. At L9 (Site 20) there was a small concentration of post-medieval sherds and tile.

M2–N9 (Sites 21–24)

The next length of the new A120 runs from the Little Dunmow Road down to the Stebbing Brook. The excavation of trial pit 363, beside the Little Dunmow Road south of M2, revealed a post-medieval ditch which has been interpreted as a field ditch with adjacent hedgerow. In M3–4 (Site 21) there is a concentration of post-medieval tile and pottery. At M7 (Site 22) a concentration of medieval tile was found, as well as daub and some medieval sherds. Aerial photos showed a small circular cropmark in M7 also. Cropmarks in the next field are the boundaries to a small cluster of post-medieval cottages, known as Bramble End, the last of which was demolished in the 1960s. At N2 (Site 23) there was a concentration of post-medieval pottery, and to the south of this grid-square a spread of building-rubble and tile.

In the next field N3–N6 there is a scatter of medieval pottery, with a concentration in N5 (Site 24). To the south of N6 is a small wooded enclosure containing the remnants of a medieval moated site, which is probably the source of the medieval sherds.

N9–P5 (Sites 25–26)

The proposed route ran to the south of and parallel to the present A120, from N9 at the Stebbing Brook to R4 at the B1417 by Gransmore Green. Roman Stane Street (EHCR 1322) crosses the Stebbing Brook about 10 m upstream from the present bridge, the remains of the agger and cobbling were revealed during the construction of this bridge (C

Going, pers. comm.) The bottom of the Stebbing Brook valley contains deep organic deposits of palaeoenvironmental interest (TP 372).

On the crest of the sand and gravel slope up from the Stebbing Brook was a complex of cropmarks, 100 m by 70 m in area. These lay almost entirely under the path of the proposed road, overlapping across grid-squares P1 and 2 (Site 25). These comprised enclosure ditches, field boundaries and a N-S trackway. The excavation of trial pit 374 in P2 revealed a 0.2 m-deep medieval feature containing charcoal flecks and carbonised grains.

Eighty metres to the east of the cropmarks at Site 25 was what appeared to be a single ill-defined cropmark of a large penannular ditch, 120 m in diameter. The site is situated in a strategic position on the summit of the gravel ridge, overlooking the Stebbing Valley. There was a thin scatter of flint flakes across the presumed enclosure, and also a little Roman and post-medieval pottery. An evaluation trench was cut in 1992 across the cropmark of the N-S trackway (Site 25), revealing that this was medieval in date, whilst the finds indicated that a settlement site existed in its immediate proximity. A second trench was cut across the south side of the putative penannular enclosure. Subsequent excavation of the area established that this was a geological feature.

In 1993 full-scale excavation of the area of Sites 25 and 26 took place (Stebbingford) (Medlycott 1996), revealing a mid-12th to mid-14th-century farm, including the dwelling-house, animal byres and field-system.

P6–R4 (Sites 27–29)

From P6 to P9 was under permanent pasture and unwalkable. The next site was a collection of medieval and post-medieval finds from P10 (Site 27), immediately to the north of Greenfields House (EHCR 1272–4), which is of 15th-century construction. A scatter of prehistoric finds including pottery sherds was found at Q2 (Site 28). There was quite a concentration of medieval material, both tile and pottery, in QIO (Site 29).

R5–S9 (Sites 30–32)

The proposed route continues roughly parallel to the old A120 from R5 at the B1417, to S9 at the River Ter. The route went through the Braintree car-racing track at R7–9 and surface examination suggested that the archaeology, if any, will have been much disturbed or destroyed. A concentration of burnt flint and flint flakes occurs at S2 (Site 30) and S3 (Site 31), and a smaller one at S5 (Site 32). At S8 a large sherd from a Roman storage jar was found, but that hectare could not be formally walked as it was under pheasant cover. Trial pit 402 on the east bank of the River Ter cut across a channel-like feature, which could be artificial in origin, containing an organic deposit.

S10–T5 (Sites 33–34)

At S10–Tl, a dense concentration of Roman pottery and tile was found. In 1987 a Roman site, Rayne 7122, was excavated at the junction of the Braintree by-pass with the old A120 (Smoothy 1989, 1–29). This site was interpreted as forming part of a Roman settlement, occupied from the late 1st to the early 4th centuries AD. Ditches, postholes, pits and rubble spreads were excavated. In 1990 the construction of a roundabout at the junction revealed yet more of the site; this section is recorded as Rayne Roundabout 90 (Table 2.2). An area of about 45 m by 5 m was available for inspection. Six features in all were discovered, five of which were ditches or gullies, all parallel to each other on a NE/SW axis. The remaining feature was a large pit with an extremely black fill. The pottery recovered from the pit dated to the late 3rd to 4th centuries AD. The Roman pottery and tile found by fieldwalking is concentrated to the SW of the roundabout, and it appears that the site is larger than was originally thought in 1987, and that it lies on a SW/NE axis. The presence of whole tegulae and box flue tiles indicated a substantial Roman building in the vicinity. A smaller concentration of Roman finds in T4 (Site 34) was probably also connected to this site. There is a concentration of post-medieval finds in T3 and the linear crop-marks which can be seen in this field are probably also of this date, as they link into the modern field-system.

BARB, 600–350 (Sites 35–36)

In 1984–86 the route of the Braintree and Rayne by-pass (BARB) was fieldwalked under the supervision of C P Clarke (Smoothy 1989). A 100 m wide strip was laid out and transects were walked across it at 20 m intervals. These transects were numbered from E to W, from 0 to 600. At 533–534 (Site 35) there was found a small concentration of flint, and there was another at 499–502 (Site 36). Examination of the stripped areas during the construction of the Braintree by-pass was unfortunately limited in extent, and nothing of any archaeological significance was recorded.

Assessment of the environmental evidence from the borehole logs and trial pits

by Peter Murphy

Introduction

The new A120 trunk road crosses the valleys of the Pincey Brook, Roding, Hoblongs Brook, Chelmer, Stebbing Brook and Ter and interfluve areas on the chalky boulder clay plateau. As part of the fieldwalking and assessment work undertaken by Maria Medlycott (see above), records were made of sections exposed in contractors' test pits (Fig. 2.1) and small soil samples were collected for assessment purposes. Further data was available from the contractors' bore-logs. In this report the information available from these two sources is summarised. These were as follows:

a) To assess soil conditions on the interfluve areas with a view to establishing the likely preservation conditions for biological remains at sites on dry soils
b) To establish the depth, extent and types of alluvial deposits in the river valleys and to determine the potential of these deposits for detailed analysis of pollen and macrofossils
c) To recommend, in outline, sampling strategies for dry sites on the interfluves and alluvial sediments in river valleys

Interfluve areas

These plateau areas between the main river valleys are on chalky boulder clay, on which are developed soils of the Hanslope Association (Hodge et al. 1984, 209). Chalky boulder clay was seen in a more or less unweathered state at the bases of many of the trial pits. It showed some variation in lithology and colour depending upon the chalk content and whether iron in the clay matrix was oxidised or reduced. Matrix colour varied from dark grey to light yellowish-brown. Typically, however, there was a very firm brown to greyish-brown clay loam matrix, mottled yellowish-brown, containing abundant rounded to sub-rounded chalk fragments. Surface horizons commonly had a brown clay loam matrix, which was partly or wholly decalcified. Most trial pits in the number range 303–18, 323–39, 355–69, 375–398 and 403–4 were cut into the chalky boulder clay. There were some exceptions to this generalisation, notably the deep brownish-yellow silt loam in 304 and some pits on valley slopes where apparently colluvial 'head' deposits derived from the chalky boulder clay were sectioned.

It is therefore clear that most archaeological sites on the interfluves will provide preservation conditions comparable to those encountered during excavations at Stansted Airport (eg Murphy 1987a), which were also on the chalky boulder clay with some decalcified surface deposits. It can be anticipated that mollusc shells, avian eggshell and bone will be well preserved in most archaeological deposits. Carbonised plant material will be present, but permanently waterlogged, structured organic deposits are unlikely to be found.

Previous experience at Stansted shows that problems of disaggregation are likely to be encountered which may limit the scale of bulk sampling. In summary, the sites are likely to yield useful data on farming economies (from bone and charred cereals etc) and on local palaeoenvironments (from land molluscs). However, to place sites in a wider context it will be necessary to examine organic alluvial deposits in valley floors and to obtain samples for macro and microfossil analysis from them.

River valleys

Information on the extent and depths of alluvial sediments was provided by the contractors' borehole logs, whilst the trial pit sections and samples taken from them provide much more detailed information on the particular types of sediments present.

Pincey Brook
Borehole logs 6 and 508–12 with trial pit 303

The samples from the trial pit indicate the presence of weathered decalcified almost stoneless till over unweathered till; brown/yellowish-brown clay loam mottled greyish-brown at top (1)–(2); very firm dark greyish-brown clay loam at base (4). In the light of these samples it appears that the superficial clayey deposits recorded in the boreholes are all either weathered till or head, derived from the till, except perhaps in borehole 6, where 'vegetative matter' is recorded in a stiff grey clay at 2.5–2.7 m depth. This might be alluvial sediment. In borehole 510, probable Glacial Lake Deposits are recorded between 3.20 and 10.80 m.

River Roding
Borehole logs 525–6, with trial pit 319

From pit 319 samples of the following deposits were examined (Fig. 2.2c):
1. Brown silt loam; fine porous structure; almost stoneless but with rare subangular flints up to 25 mm; some fine fibrous roots.
2. Greyish-brown clay loam; yellowish and reddish-brown mottles, moderately stony with subrounded to subangular flints up to 35 mm.
3. Light brownish-yellow coarse sand; rounded to subangular flints up to 15 mm.

These evidently represent a thin mineral alluvium up to about 1 m thick over Pleistocene gravels. Similar 'brown clay' over gravel is recorded in borehole 526.

Hoblongs Brook
Borehole logs 46–9 and 535–6

No samples were available but the borehole logs seem to indicate thin clayey deposits over London Clay and London Clay head. None of the deposits can be confidently interpreted as alluvial sediments.

River Chelmer
Borehole logs 541–8 with trial pits 352–3

Samples from the trial pits were examined. In 353 brown clay loam on dark brown sandy clay loam overlay sands and gravels. In 352

there was, however, a deep sequence of alluvial sediments, as follows (Fig. 2.2d):

1. Brown clay loam; moderately firm; slightly moist; very slightly stony with occasional flint and quartzite rounded pebbles up to 20 mm; shells of freshwater molluscs (Armiger crista, Pisidium spp.) and terrestial taxa (Pomatias elegans, Carychium spp, Vallonia spp, Vertigo pygmaea, Discus rotundatus, Trichia hispida); calcified ?charophyte remains; carbonised wheat grain.

2. Dark greyish-brown silty clay; soft; waterlogged; virtually stoneless; slightly organic with twigs, buds, acorn cupule fragments and fruit/seeds including Ranunculus sceleratus, R. subg. Batrachium, Cirsium sp and Alismataceae.

3. Dark greyish-brown silty clay; soft; waterlogged; virtually stoneless; highly organic with abundant leaf fragments, leaf galls, twigs, thorns, buds, mosses, acorn cupules, hazel nuts and fruit/seeds of R. subg Batrachium, Filipendula ulmaria, Carex spp. etc; beetles; shells of freshwater molluscs including Armiger crista, Anisus vortex, Hippeutis complanatus, Bithynia tentaculata: Pisidium spp.

4. Brown clay loam; very stony with rounded and subangular flints up to 40 mm; some twigs, leaf fragments, buds, acorn cupule fragments; poorly preserved fruits and seeds; beetles; mollusc shell fragments.

5. Dark greyish-brown clay loam; firm; waterlogged; rare wood and twig fragments.

These deposits, c 2 m thick, relate to the valley of Martel's Brook, a tributary of the Chelmer. Some of the borehole logs also apparently record organic alluvial sediments (Table 2.3).

The remaining logs record either mineral alluvium less than 1.5 m thick on gravel or terrace gravel or head directly beneath the topsoil.

Stebbing Brook
Borehole logs 557–8; trial pits 372/372A

Trial pit 372A provided a long E-W section, whilst 372 showed slightly deeper deposits. Samples from both pits were examined. These were as follows (Fig. 2.2a–b):

1. Brown clay loam; faint yellowish-brown mottles; slightly moist; firm; stoneless; mollusc shells including Lymnaea trunculata, planorbid frags; Pisidium spp; Vertigo Pygmaea, Vallonia spp, limacids and Trichia hispida gp.

1A (372A). Thin highly calcareous band within 1; abundant calcified charophyte remains; shells of Succinea sp, Vallonia excentrica, V. sp., Aegopinella, Nesovitrea hammonis, Trichia hispida gp.

2. Very dark greyish-brown organic clay loam; slightly moist; slightly firm; stoneless; fairly well humified but with twigs, small wood fragments, fruits and seeds of Alisma plantago, Lycopus europaeus, Berula erecta aquatica and Carex spp; beetle remains.

3. Greyish-brown silty clay; wet; soft; stoneless; some plant detritus, fruit/seeds of Ranunculus acris/repens/bulbosus, Eleocharis sp, Gramineae; beetle remains.

4A/4B. Black highly organic silty clay; wet; soft; well humified but including some twigs, degraded monocot stem fragments and occasional fruit/seed of Ajuga reptans, Urtica dioica and Sambucus nigra. Large piece of wood (500 x 80 mm) in 4 (372A) is a radially split segment of oak.

5. (372A) Grey clay; wet; plastic; stoneless; very slightly organic with some fine plant detritus.

Borehole 557 just records topsoil on gravels but 558 and 558A show remarkably deep organic 'alluvial' deposits. Down to 9 m highly organic silts with plant remains and gastropods are recorded and alluvial-type sediments, predominantly mineral but with shell fragments continue to a depth of 18 m. Apparently this borehole intercepted a Pleistocene channel, into which the Holocene river valley is incised.

River Ter
Borehole logs 86–7 and 571–2; trial pit 402

Samples from alluvial sediments in pit 402 were as follows (Fig. 2.2e):

1. Greyish-brown clay loam; slightly firm; slightly moist; yellowish-brown mottles, virtually stoneless.

2. Dark greyish-brown silty clay loam; moist; slightly stony with rounded to subangular flints and quartzites up to 30 mm; organic, with twigs, fine plant detritus; rare fruits and seeds including Apium and Carex spp; rare fishbones.

3. Brown coarse sandy clay loam; small yellowish-brown mottles; moist; very stony with rounded to subangular flints and quartzites up to 50 mm.

4. Grey clay loam; yellowish-brown mottles; very firm; moist, abundant small rounded to subrounded chalk pebbles and rare very small flint pebbles.

The somewhat organic deposit (2) filled a small channel-like feature, which could perhaps be artificial. The borehole logs record mineral sediments, some of which may be alluvial.

Conclusions

In general terms the trial pits and borehole logs from the river valleys show silty and clayey mineral alluvium usually no more than 1.5 m thick over gravels. At some locations deeper alluvial deposits including organic sediments were intercepted and these seem to be channel fills, of Holocene date, though occasionally deep Pleistocene organic sediments are recorded. It was obviously just a matter of chance as to whether the pits and boreholes penetrated sub-alluvial channels. A provisional interpretation of tile sequence in Trial Pits 372/372A in the valley of the Stebbing Brook is as follows:

i) A channel was incised, presumably into sub-alluvial gravels (though these were not seen), or into earlier alluvial sediments.

ii) A basal clay channel fill (5) was formed in a tranquil sedimentary environment, apparently isolated from the main river. The sediment is too fine textured to indicate stream flow.

iii) Channel infilling continued with deposition of a twiggy detritus mud (4). Humification implies periodic desiccation. The absence of macrofossils from freshwater organisms suggests continued isolation from the main channel.

iv) An alluvial clay (3) was deposited by over-bank flooding over the infilled channel. Macrofossils present imply a wet grassland environment.

v) Conditions in the valley floor became wetter and an organic clay loam (2) developed.

vi) There was renewed deposition of mineral alluvium by over-bank flooding. Mollusca indicate a fairly open, probably grassland environment, intermittently flooded, allowing formation of thin tufaceous deposits.

Trial pit 352 at the valley of Martel's Brook, a tributary of the Chelmer, seems to show a broadly similar sequence. The base of the section seems to be through a channel fill including some stony lag deposits (4) indicating continued stream flow. The upper presumed channel fills (2, 3) are highly organic woody detritus muds, which may have formed in a 1ocally-wooded catchment. The upper mineral alluvium (1) is similar in lithology, and contains a broadly comparable range of molluscs and charophyte remains, to that in Trial Pit 372.

The date(s) of these channel fills are at present conjectural, though clearly complex sequences such as that in Pit 372 must represent a considerable time-span. Radiocarbon dates have however been obtained from organic sediments elsewhere in Essex river valleys (Table 2.4). Those from the Chelmer valley and Sandon Brook are definitely channel fills overlain by mineral alluvium; the Stansted Brook sections were small but the sediments are likely to have been channel fills also. The limited data available seem to suggest a phase of increased alluviation between about 3800–3200 BP, perhaps related to Bronze Age woodland clearances and agriculture with consequent increased run-off and soil erosion. Some of the channel fills are, however, much later in date. Obviously further dated deposits would help to establish whether the changes in valley sedimentation observed are related to widespread penecontemporaneous changes in land use or whether each catchment had its own distinctive land-use history.

Preservation of biota in these deposits was generally good: all of them included plant macrofossils and pollen was well-preserved, except, in the Chelmer Bridge detritus mud, which showed evidence of periodic desiccation. In

general, however, valley sediments in this area will yield good palaeoenvironmental data relating to vegetational change.

Cultural layers in trial pits

Samples from contexts containing artefacts were examined.

Trial pit 306, Layer 1:
In this pit, north of Takeley, a small medieval feature was sectioned. It was cut into chalky boulder clay and its fill was of reworked till. The fill included a few fragments of charcoal with shell fragments of Trichia sp. but there was no indication of the feature's function.

Trial pit 336, Layer 1
This pit was on high ground, on the boulder clay south-west of Great Dunmow. A thin layer of fired clay (1) was noted beneath the topsoil. A sample contained fired clay fragments, burnt flint and small charcoal flecks with shells of Candidula and Vallonia spp. but these provide no information on the function of the feature.

Trial pit 359, Layer 1
The pit, to the east of Dunmow showed a thin decalcified clay loam (1) over chalky till. It produced medieval sherds and charcoal flecks but nothing more.

Trial pit 363, Layer 1
This layer was the clayey fill of a post-medieval ditch, cut into apparently decalcified clay, just to the SE of 359. It produced a well-preserved mollusc fauna in which 'shade' taxa (Discus, Clausilia, Zonitids) predominate. Interpretation as a field ditch with adjacent hedgerow seems probable.

Trial pit 374, Layer 1
This pit was located on the slope at the eastern edge of the valley of the Stebbing Brook. Beneath the topsoil a 0.2 m thick layer of ? sandy clay loam, with medieval pottery, (1), overlay gravel on loose sand deposits. It included abundant charcoal with carbonised grains and rachis nodes of bread wheat (Triticum aestivum s.l.), a barley rachis node (Hordeum sp.) and some arable weed seeds including Silene sp. Fired clay fragments were present. From the small sample available it is only possible to say that some form of cereal processing in the vicinity is indicated.

In summary, these layers in the trial pits are not particularly informative, but do serve to confirm that good preservation of mollusca and, hence, bone can be expected at most sites.

Discussion

Introduction

The fieldwalking survey, taken in conjunction with the information gleaned from aerial photography and metal-detectorists, sheds new light on the archaeological settlement of the boulder clay plateau in NW Essex. It must of course be remembered that at best the information gained from fieldwalking is always of a 'probable' or 'possible' nature, rather than 'definite'. On the 190

hectares examined during the course of this survey some 36 possible sites of archaeological interest were identified. This means that there was anticipated to be a density of one site for every 5.75 hectares of land walked, an unexpectedly high density for what had previously been considered to be an archaeologically sparsely occupied area until the later medieval period. The A120 provided an opportunity to compare the fieldwalking results with those revealed during the excavation and topsoil stripping phase of construction, and hence to assess its usefulness as an evaluation tool (see Chapter 8 for further discussion).

Survey limitations

A difficulty encountered with this survey was determining what was actually a site and what was just a small finds scatter. It was decided that the use of standard deviations in the calculating of finds densities should eliminate the 'background noise' and allow concentrations of tile, daub or burnt flint to show up (Appendix 1). This method was not used with the pottery sherds or flint flakes due to the small numbers involved.

A problem arises when attempting to make comparisons with the results of other surveys (Davison 1990; Hayfield 1980; Richards 1978; Williamson 1986) because of the wide range of fieldwalking methods used, as well as the different interpretations of what actually constitutes a site. However, regardless of the methods or criteria chosen, or even of the actual area walked, a few consistent factors emerge from all the surveys. The finding of prehistoric sites is largely dependent on the presence of burnt stone and worked flint; pottery (apart from late Iron Age ceramics) is much rarer. Roman sites are characterised by tile, brick and pottery, all of which have a reasonable survival rate, though the quantities required to identify a 'site' vary widely from survey to survey. Early and middle Saxon material is extremely rare, even in those areas where they are known to have been present on excavations. This dearth of material cannot be attributed to a nationwide blindness on the parts of the field walkers; it is probable that again the pottery has proved too fragile for survival in any quantity. In Suffolk, however, liaison with metal-detector users has revealed many Saxon metalwork finds, and hence greatly increased the number of known Saxon sites. Late Saxon and medieval material includes pottery, tile and building stone. These have a reasonable survival rate, with the amounts increasing in the late medieval and post-medieval periods. Many fieldwalking surveys do not collect post-medieval pottery and tile, although this material was gathered during the A120 survey. This is partly because this period does have an interest in its own right, but also because the distribution of post-medieval material has been found to accurately reflect the areas of cultivation during that period, or more importantly for north-west Essex, the areas that were uncultivated. Moreover experience

has shown that if post-medieval tile was not picked up, that there was a very high likelihood that the walkers would also fail to recover much Roman tile either.

Prehistory

Nine sites had evidence of prehistoric activity, which was a density of one site for every twenty-one hectares surveyed. The majority of finds were either flint flakes or spreads of burnt flint. Prehistoric pottery was much more rare, probably because of its fragile nature (at least one sherd disintegrated to dust when placed in a fieldwalking bag). The pottery was tentatively assigned to the Bronze and Iron Ages. The flint flakes are all of an undiagnostic nature and could not be assigned to any particular period (author's opinion). The burnt flint was also not assignable to any specific period, although recent studies have shown that the vast majority of burnt stone mounds or spreads date to the second millennium BC (Buckley 1990). The evidence from the excavated sites in the area was that the Bronze and Iron Ages are the periods chiefly represented in the archaeological record. The evidence permitted only limited interpretation as to the nature of each site, but the presence of flint flakes and burnt flint did suggest settlement rather than burials.

Roman period

Ten sites had evidence of Roman activity in the vicinity, a density of one site to every 19 hectares surveyed. Roman activity was indicated by the presence of Roman tile, and more rarely brick, as well as pottery, and occasionally fragments of lava or puddingstone quern. Bishop's Stortford, Great Dunmow and Braintree all had their origins as Roman small towns and it is accepted that the present A120 broadly follows the line of Roman Stane Street. It is therefore, not surprising that the route of the proposed new road crossing the hinterland to these towns showed a Roman presence, but the scale of this was much greater than had previously been expected. The combination of information from previous excavations, fieldwalking and metal detection shows that there were quite substantial settlement sites at Sites 1 and 33–34, as well as to the north of H7–8, and the possibility of smaller settlements at Sites 2, 4, 9, 14, and 18. The proposed route also crosses known Roman roads at Sites 10 and 15. There was also the possibility of a Roman burial ground at Site 1.

Saxon period

Few late Roman or early medieval finds were made, the exception being a coin of King Canute (1016–35 AD) from the vicinity of Takeley Church, Site 1. It was not clear whether this is simply a reflection of the limitations of the surveying method used. However, as discussed above, this absence of Saxon activity is common to other fieldwalking surveys, and probably reflects the fragility of the pottery type or a largely aceramic society. There is sparse evidence of Saxon occupation in this area of NW Essex, including a large pit with pottery of 450–700 AD on the

Social Club Site, Stansted Airport, and some grass-tempered pottery from both Great Dunmow and Braintree. Some churches may also have late Saxon origins. As Stane Street was in use during both the Roman period and the medieval period, it is reasonable to assume that it also formed part of the NW Essex landscape during the Saxon period. The accumulated evidence, including that from the Domesday Book and place-name studies (Rackham 1980, 103–7), is that a developed agricultural landscape existed in the area during the late Saxon period.

Medieval period

There were fourteen medieval sites on the proposed route, and many of the standing buildings by-passed by the road are also medieval in origin or construction. There was one medieval site to every 13.5 hectares of surveyed land. Bishop's Stortford, Great Dunmow and Braintree were all medieval towns, and Stane Street remained a major route-way across NW Essex. Ecclesiastical sites included Thremhall Priory, Takeley Church, St Valery's Priory at Warish Hall, Great Dunmow Church, the Priory at Little Dunmow, the church at Rayne and the church at Braintree, all of which have early medieval origins. It is thought that Site 1 at Takeley Church is the location of a deserted medieval village. Many of the other sites, such as Sites 2, 5, 6, 24 and 27, are associated with buildings which are medieval in origin, and these finds could either represent discarded rubbish by their occupants, earlier occupation and/or ancillary structures. Some of the other finds scatters, Sites 3, 5, 11, 12, 16, 18, 22 and 29, could represent small settlement sites, possibly similar to those found at Molehill Green during the Stansted Project (Havis and Brooks 2004), or they may simply be the result of manuring spreads. Site 17 was the cropmark of a windmill, which could be either medieval or post-medieval in date.

Post-medieval period

There were twelve post-medieval sites on the proposed route, and it bypasses many more standing post-medieval buildings. There was one post-medieval site to every 15.8 hectares of surveyed land. The post-medieval landscape in this area of NW Essex was an established rural one, with a patchwork of smallish fields bordered by hedgerows, with the familiar modern network of roads and villages already in place. Some of the sites found, such as Sites 2, 23 and 27, were associated with still standing structures, whilst the remainder may have been either small settlement sites or manuring scatters.

Modern period

Though the basic framework of the modern landscape has developed over the past two millennia, starting with the construction of Stane Street by the Romans as a major east-west routeway across the boulder clay plateau, substantial changes have occurred in the last fifty years. The building of Second World War airfields at Stansted, Easton Lodge and Stebbing levelled large tracts of

land, a move that the conversion of Stansted Airport to an international airport has continued. Road-building schemes included the building of the M11 motorway running north-south along the Essex-Hertfordshire border, as well as by-passes around Braintree and Great Dunmow. The most widespread change of all is the addition of modern housing estates to the outskirts of the villages and market towns, and the removal of many of the hedges and ditches to create huge prairie fields. This trend seems set to continue, with the construction of housing and an infrastructure to serve Stansted Airport.

Siting preferences

Of interest in this survey is the relationship between the archaeological sites and their surrounding landscape. The NW of Essex is characterised by the great boulder clay plateau, which is cut through by river valleys, exposing deposits of glacial sands and gravels.

It appears that the prehistoric sites are by preference sited on sand and gravel (56%), with only 44% on clay. In the Roman period the siting emphasis switched, with 70% on clay and only 30% of the sites on sand and gravel. This move away from the sands and gravels continues in the medieval period with 21% on sand and gravel, 65% on clay, 7% on sandy clay and 7% on alluvium. In the post-medieval period 67% of the sites are on clay, 25% on sand and gravel and 8% on sandy clay.

Conclusions

The fieldwalking survey of the proposed route of the A120 trunk-road produced 36 sites of archaeological interest. The significance of this survey was that it provided a perfect opportunity to examine a transect of land that had previously been assumed to have been first intensively occupied in the medieval period, so as to make a more accurate assessment of the origins, nature and density of its settlement. The results of the fieldwalking survey suggest a far greater density of occupation, commencing earlier than had previously been thought, echoing and adding to the information gained during the Stansted Archaeological Project. These initial conclusions were confirmed during the excavation and watching-brief phases of the archaeological fieldwork along the route. Moreover, the construction of the road allowed an opportunity to assess the effectiveness of fieldwalking as a survey tool (see the main discussion text).

Appendix 1: Finds weights and standard deviations

Burnt flint

No. of Data = 1920	< Mean = 0–3 g
Sum of Data = 7555	> Mean = 4–21 g
Average Mean = 3.93	> 1 S.D = 22–39 g
Standard Deviation = 17.59	> 2 S.D = 40+ g

Roman tile

No. of Data = 1920	< Mean = 0–3 g
Sum of Data = 6035	> Mean = 4–26 g
Average Mean = 3.14	> 1 S.D = 27–49 g
Standard Deviation = 23.07	> 2 S. D = 50 + g

Roman brick

No. of Data = 1920	< Mean = 0 g
Sum of Data = 340	> Mean = 1–4 g
Average Mean = 0.17	> 1 S.D = 5–9 g
Standard Deviation = 4.72	> 2 S. D = 10+ g

Daub

No. of Data = 1920	< Mean = 0 g
Sum of Data = 1567	> Mean = 1–8 g
Average Mean = 0.81	> 1 S.D = 9–16 g
Standard Deviation = 8.35	> 2 S.D = 17+ g

Medieval tile

No. of Data = 1920	< Mean = 0–2 g
Sum of Data = 5661	> Mean = 3–18 g
Average Mean = 2.92	> 1 S.D = 19–33 g
Standard Deviation = 15.43	> 2 S.D = 34+ g

Post-medieval tile

No. of Data = 1920	< Mean = 0–69 g
Sum of Data = 133896	> Mean = 70–161 g
Average Mean = 69.66	> 1 S.D = 162–252 g
Standard Deviation = 91.52	> 2 S.D = 253+ g

Appendix 2: Metal-detector finds from the vicinity of Takeley Church

List of the better finds from the collection of A Davey. This collection forms about a quarter to a third of the metal objects found by metal-detecting the vicinity of Takeley Church. A large quantity of iron objects were also located, but were not kept.

Coins:
Iron Age: A gold stater, British 'L' type, Whaddon Chase, Catuvellauni (100 BC). A Roman Republican coin dating to c l00 BC.
Roman: 75 coins in all, 35 of which are too worn for identification, the remaining 40 coins date from the 1st to 4th centuries AD.
Saxon: A Canute penny (found by someone else)
Medieval: 30–40 coins, consisting mainly of silver hammered coins, dating from the late 1100s to the 16th century AD.

Brooches:
Small 'Colchester B' type brooch. Complete. 37 mm long. Cu alloy.
Hod Hill Aucissa type, no pin or spring, body and catch-plate complete. Silver-gilt terminals? Length 57 mm. Cu alloy.
Medieval lead brooch of a knight, with mail coat, helm, visor and crest, legs broken at the knee. Height 41 mm.

Ornaments:
Bronze strap-tag, folded with two parallel holes. Incised and punched decoration. Probably Iron Age/Roman. Length 45 mm.
Pendant with loop at the top. Hole 3/4 of the way down its length. Cu alloy. Inverted 'fleur de lis' shape. Length 43 mm, width 25 mm.

Thimbles:
Large (11 g) thimble. Length 22 mm, top diam. 15 mm, bottom diam. 20 mm. Cu alloy, high lead content.
Small (3 g) thimble. Length 12 mm, top diam. 7 mm, bottom diam. 12 mm, for a child.

Crotal bells:
All have square-topped loops, and date to the 12th to 14th centuries AD.
41 mm high, 30 mm diam.
37 mm high, 34 mm diam., has no clapper and side-hole is damaged.
40 mm high, 32 mm diam.
38 mm high, 28 mm diam., has a design on the bottom half, 'A.G.'.

Seals:
Lead seal, 12th to 14th centuries AD. Length 34 mm, width 25 mm.
Intaglio, of glass. Carved with the motto 'Life let us Cherish' and a branched candlestick. Rectangular, 12 mm x 10 mm.

Clasps:
All medieval or post-medieval, 16th to 17th centuries AD.
35 mm long, Cu alloy.
24 mm long, Cu alloy.
24 mm long, Cu alloy.

Keys:
34 mm long, Cu alloy.
35 mm long, Cu alloy.

Whistle:
Small pewter whistle, possibly for hawking, 46 mm long, 13 mm diam.

Arrowhead:
Iron arrowhead, long narrow triangular point, with two barbs at socket-point. Probably medieval, for use with longbow.

Buckles:
Georgian shoe-buckle. Cu alloy. 58 mm long and 35 mm wide.
Cu alloy buckle and tongue, figure-of-eight

shape. 33 mm long, 22 mm wide.
Cu alloy buckle and tongue, figure-of-eight shape. 31 mm long, 18 mm wide.
Cu alloy buckle and tongue, oval shape, stud opposite the
tongue, 35 mm long, 23 mm wide.
Medieval D-shaped buckle, no tongue. 18 mm long, 22 mm wide.
18th-century rectangular Cu alloy buckle, central bar missing. 32 mm long, 23 mm wide.
Shoe buckle, decorated at the centre of each side by three raised lines. 17th/18th century. Cu alloy, 40 mm long, 35 mm wide.
Shoe buckle, double-D shape, 17th/18th century. Cu alloy, 40 mm long, 35 mm wide.
Small rectangular spur buckle, 13th/14th century.

Lid:

Small brass lid with loop at one end, circular cover in centre and small triangular lip/tag at opposite end. Probably 17th century or later, could be an inkpot or seal-pot lid.

Token:

Lead token, 6 'bladed' leaf design. 17 g, 22 mm diam. 16th century or later.
Lead token, 'Lover's Knot' design. 8 g, 22 mm diam. 16th century or later.
Copper token, 'Nuremberg' trade token/jetton of mid 16th to 17th century.

Button made from a 'base-penny', "Edward VI.D.G.REX.F…."

Chapter 3 Stratigraphic Description

by Edward Biddulph, Alan Hardy, Grace Perpetua Jones, Andrew Powell, Dan Stansbie and Jane Timby

Introduction

In the following section stratigraphic descriptions are provided for all the sites investigated along the line of the A120 (Fig. 3.1). The site descriptions are arranged geographically proceeding along the line of the road from west to east. Site numbers 1–36 relate to the sites first designated from the fieldwalking and follow the line of the road in logical sequence. Most of these sites were subsequently targeted for archaeological investigation by evaluation. If the results merited further work the same sites were subjected to area excavation. Site 25 had already been excavated and published by Essex County Council (Medlycott 1996). Sites 37–54 relate to the sites identified during the watching brief phase of the work and these infill in between the first block of sites. Some are essentially extensions of already investigated archaeological sites and the site numbers are conflated for the purposes of description.

A single chronological scheme has been applied to the entire length of the road (see Table 3.1). Within this phases have been developed, particularly for the Roman and medieval periods, based on chronological refinement through the use of pottery or stratigraphy. For each site the information is presented chronologically. Table 3.2 summarises the sites in the order discussed with the main periods represented at each.

Takeley Church (SITE 1; Fig. 3.2)

This site, at 95 m OD, is located at NGR TL 5540 2200, in a low area of arable land immediately north-west of Pincey Brook. To the north the land gently rises towards Stansted Airport. The underlying geology of the site comprises glacial sands and coarse flint gravels overlain by pale orange-brown silty clay subsoil, with pale blue alluvial deposits near Pincey Brook. The total size of the site was c 6620 m2.

Although the area was not fieldwalked, extensive metal detecting has uncovered finds dating from the Roman and later periods. Many of these cluster near the church, which shows the use of Roman building materials in its wall construction. A Roman burial was discovered close to the church in the 19th century. There would thus appear to be good evidence of Roman settlement nearby. The area around the church has also produced large amounts of medieval material suggesting a focus of settlement beyond the present nucleated village.

A small 10 m by 10 m area together with two 10 m trial trenches were investigated as part of the 1991/1992 evaluation (Medlycott 1992, 5; CD/Chapter 2). An isolated and undated clay-lined pit was excavated.

In 2000, thirty-three trenches were excavated across an area 600 m by 60 m revealing two tree throw holes, a post-built building (Structure 1094) and a number of undated ditches. All archaeological features were sealed by dark grey silty loam topsoil, varying in depth from 0.2–0.4 m. A number of post-medieval and modern finds, including fragments of tile, were

noted during the mechanical stripping of this layer. The archaeological features were cut through the subsoil (1001), pale orange-brown clay silt, varying from 0.4–0.8 m in depth. There was some variation in the colour and consistency of this deposit, probably due to the formation processes involved, including glacial deposition and colluviation. In 2001 an archaeological strip and record exercise was carried out over the area previously trenched.

Period 14: Saxon

Structure 1094 was partially exposed during the evaluation trenching in 2000. A small open area was stripped, revealing an arrangement of 31 postholes, 7 of which were sample-excavated. When the site was reopened in 2001, only 25 postholes were identified. It appears that the south-west end of the structure in particular must have suffered truncation and/or disturbance during either the backfilling of the evaluation or the subsequent restripping prior to the excavation. While the correlation of the evaluation and excavation plans is not without some discrepancy, a 'best-fit' composite posthole arrangement has been plotted.

The revealed postholes define an roughly rectangular structure measuring approximately 12 m long by 5.9 m wide, oriented NE-SW (Fig. 3.3 **pete recon**). No clear evidence was found of an entrance along either long side. Two postholes situated close together along the south-west end—both seen in the evaluation but missing in the excavation—may represent one side of a doorway. The postholes outside both long sides could suggest bracing posts, assuming all postholes are contemporary. However, it should be noted than none of the postholes that held possible 'bracing posts' displayed a raking angle in profile, nor were there any comments to such effect in the excavators' notes. It is perhaps more likely that these postholes supported a lean-to extension to the roof, or 'cat-slide'. Table 3.3 summarises the posthole dimensions.

The variation in posthole depth was much greater than that in the posthole width/diameter. The only posthole of exceptional dimensions was 1006, and the excavator noted apparent root or animal disturbance in the base and sides of this feature, so its apparently unusual size may be deceptive.
None of the postholes contained packing stones, and all except those disturbed by root or animal action showed a similar profile, with vertical sides and a rounded base. Apart from single fragment of residual Romano-British tile in the fill of posthole 1014, no artefactual dating material was recovered from any of the postholes, or within the vicinity of the building footprint. A single (very abraded and undiagnostic) pottery sherd was recovered from the surface of the fill of evaluation posthole 1803 (excavation number 1004), but this is likely to be intrusive post-medieval material. A radiocarbon date of cal AD 670–880 (NZA-19589: 1245 □ 35 BP) was obtained from the charcoal in fill 1079 of posthole 1078.

Undated

A number of other features were encountered across the site. Trenches 1–7 were excavated in the western part of Field 1 within the floodplain of the Pincey Brook.

These trenches produced two tree throw holes and a ditch.
Tree throw hole 1106 near the Pincey Brook, recorded in evaluation Trench 5, contained four undiagnostic worked flints (three flakes and one blade) and two pieces of burnt flint. Although this indicates prehistoric activity in the vicinity, the flints displayed considerable post-depositional damage suggesting that there may have been no functional association between the finds and the tree throw hole. A second nearby tree throw hole (1159), in evaluation Trench 9, contained charred plant remains (including buckthorn and alder/hazel charcoal). Both features were sealed by up to 0.5 m of alluvium. Seven other flints of comparable date were recovered from other features on the site.

Ditch 1156: an undated ditch was located in Trench 7, which cut through the alluvium and also the relict ploughsoil (1152). The alluvium marks the boundary of the Pincey Brook floodplain and although the deposits are not dated they are likely to have accumulated from the late Iron Age, possibly into the medieval period. As the ditch cut both the alluvium and ploughsoil it is presumed to be of relatively recent date.
Trenches 8–18 and 31–33 were located in the eastern part of Field 1 on land rising away from the Pincey Brook. In this area several ditches and gullies were encountered in the area of the post-built building described above. Most of the ditches were laid out along or perpendicular to an approximate SW to NE alignment, very similar to the current field boundaries. There was however, some variation suggesting that they were not all contemporary. All the ditches apart from 1380 (Trench 16) were sealed by the relict ploughsoil; ditch 1380 cut it and must thus be of much later date. The ploughsoil was itself also undated but seals alluvium adjacent to the stream and is likely to be of later medieval or post-medieval date.

Ditches 1203, 1205, 1260/1262/1264. These ditches formed the clearest group crossing Trenches 8, 9, 10 and 14. They averaged between 0.6 m and 0.7 m wide and 0.25 m to 0.4 m deep. The fills of ditches 1262 and 1260 contained small amounts of undated pottery probably redeposited. The ditches form a rectilinear system that is probably quite extensive. The form and layout of the ditches is suggestive of medieval systems recorded in the Bassingbourne site at Stansted Airport to the north (Framework Archaeology 2000). Other ditches were recorded on a similar but not quite consistent alignment such as 1230 in Trench 11 and 1313 in Trench 13.

Ditches 1181 and 1306/08/10. A second group of ditches were laid out along an east-west alignment in the central part of the zone, in Trenches 8 (1181) and 13 (1306/08/10). Again none were dated and no stratigraphic relationships with the SW-NE group were recorded. While the ditches were of generally similar dimensions to those above, ditch 1181 was much more massive at 3.3 m wide and 0.85 m deep. Ditch 1181 also contained waterlogged deposits preserving weed seed, insect remains and wood fragments.
Trenches 19–30 were located across fields 2 and 3. Scattered, isolated, but undated archaeological features were located in seven trenches. These consisted of ditches; a possible dewpond or quarry and tree throw holes. Trenches 20–1,

25, 29–30 were devoid of archaeological features.
Ditches 1454 and 1579. These two ditches in Trenches 19 and 25 were aligned very closely to the SW-NE system identified above. Ditch 1579 was sealed by the relict ploughsoil but 1454 was clearly cut through it and thus of more recent date.

Dewpond 1629/1627. Interpreted as a possible dewpond or quarry this feature was up to 0.9 m deep and contained gleyed fills in its base indicating waterlogging at some point. No finds were recovered.

Related reports: Finds: flint, metalwork (CD/Chapter 4); Animal bone (CD/Chapter 6).

Parsonage Lane (SITE 37; Fig. 3.4)

An excavation of a 0.28 ha area (c 115 m by 20–30 m) was undertaken to the east of Parsonage Lane, from NGR TL 555954 222094 in the west to TL 556060 222127 in the east. The site was level and lay at c 96 m OD. The natural geology was characterised by mid yellowish-brown silty clay (boulder clay) with gravel and calcareous components in patches in places.

Several ditches forming a series of rectilinear enclosures and associated droveways were exposed. A small number of large quarry pits and a ring ditch predate the rectilinear pattern of ditches indicating at least two phases of activity on the site. A few postholes were recorded, but were not components of discernible structures. A single undated cremation burial (7005) was recorded c 160 m to the south of the main excavation area at TL 555969 221923, during the machine stripping of a new slip road onto the present Parsonage Road.
Two phases of immediately post-conquest Romano-British activity can be identified. The earlier phase represents settlement and the digging of clay pits (possibly for pottery or structural ceramics production), with the later phase characterised by ditches for stock management including stockade enclosures and droveway ditches. The nearby cremation burial is probably Romano-British but could be later prehistoric in date.

Period 11: Late 1st to early 2nd centuries AD

A rectilinear field system occupied the central and western part of the site. This was defined on the east by ditch (8023), which ran NW-SE. Running off ditch 8023 at a right angle was a second linear ditch (8004), which ended in a terminal 19 m to the south-west. After a gap of approximately 5 m the line of ditch 8004 was continued by ditch (8000), which ran in a south-westerly direction for 34.3 m until it terminated in a second NW-SE orientated boundary ditch (7022). Running parallel to ditch 8000, some 4 m to the south for a distance of 23 m, and possibly forming some kind of stock pen with ditch 8000, was ditch 8003. Lying in the north-eastern corner of the enclosure created by these ditches was another linear ditch (7012) which was orientated NE-SW and ran beyond the limit of excavation to the north. Ditch 7012 cut a large amorphous pit (7143/7146) to its south and two smaller subcircular pits (7020 and 7023) lay between it and ditch 8000. Ditch 8023 cut a large amorphous pit, 7117, containing a substantial assemblage of early Roman pottery that may have predated the laying out of the

field system. The final fills of ditches 8000 and 8004 were cut by recuts of ditches 7022 and 8023 respectively, indicating that the NE-SW ditches had silted up earlier than the NW-SE ditches creating a larger enclosure which, however, did not continue in use beyond the early 1st century AD.

Ditches

Ditch 8023 was linear in plan and orientated north-west/south-east (Fig. 3.5) (Fig. 3.6). It was 32 m in length by 1 m in width and 0.29 m in depth on average. In profile the ditch was generally U-shaped, having steeply sloping sides and a rounded base but was more irregular in places. In places there was a primary silting deposit (7081, 7088) 0.03 m thick and consisting of an orange silty-clay with occasional inclusions of charcoal flecks and fragments of chalk. Overlying the primary silts was a secondary fill (7082, 7114, 7089) occupying the upper 0.30 m of the ditch. This comprised silty brown clay with occasional inclusions of charcoal, flint and chalk. Forty-seven sherds of late 1st- to early 2nd-century AD pottery were recovered from the ditch fills, along with some animal bone.

Ditch 8004 was linear in plan and orientated NE-SW. With a terminal at its south-western end it was cut by a recut of ditch 8023 at its north-eastern end. It was 19 m in length by 0.9 m in width and 0.33 m in depth on average. In profile it was generally flat based, with straight gently sloping sides, which became steeper towards the north-eastern end of the ditch. The primary fill (7078, 7092, 7084) was 0.2 m in depth on average and comprised an orange-brown silty-clay, with moderate inclusions of flint, occasional chalk fragments, occasional charcoal flecks and occasional manganese flecks. This was cut in the central part of the ditch by a shallow U-shaped ditch measuring 0.73 m in width by 0.1 m in depth, that was in turn filled by a grey-brown sandy-clayey-silt (7091) with moderate inclusions of flint. At the north-eastern end of the ditch the primary fill was overlain by a lens of dark grey silty-clay (7085) 0.1 m thick, with frequent charcoal flecks. Above this and filling the upper 0.37 m of the ditch was a light grey silty-clay (7086) with occasional inclusions of flint and occasional charcoal flecks. Fifty-nine sherds of late 1st century to early 2nd-century AD pottery were recovered from the ditch fills, along with some flint and some burnt stone.

Ditch 8000 was a linear ditch orientated NE-SW (Fig. 3.7). With a terminal at its north-eastern end, it was cut by the first recut of ditch 7022 at its south-western end. It was 34.3 m in length by 0.81 m in width and 0.28 m in depth on average. The ditch profile was U-shaped having steeply sloping sides and a flat base. No evidence for recuts was seen at the south-western end of the ditch, but interventions 8025 and 8033 revealed a single recut which may well have been localised. The south-western end of the ditch contained a single fill comprising mid yellowish brown silty clay, with occasional inclusions of chalk and flint. However, interventions 8025 and 8033 revealed a more complex sequence of fills. The primary fill of intervention 8025 (8026) occupied the southern corner of the ditch and displayed a steep inclination down from the southern edge; it comprised a light brown silty-clay with occasional chalk flecks and was

0.08 m thick. Overlying this to the north and lying horizontally was a mid brown silty-clay (8027), with occasional chalk flecks 0.05 m in depth. Infilling above these deposits was a mid-brown silt (8028), with occasional chalk flecks 0.15 m in depth. A shallow U-shaped ditch measuring 0.8 m in width by 0.11 m in depth cut fill 8028. This was filled by a single fill of dark grey-brown silt (8029), with chalk flecks, occasional fragments of flint and flecks of burnt clay. The primary fill of intervention 8033 comprised a mid brown silty-clay (8002) with manganese flecks, chalk flecks and occasional inclusions of flint. It was 0.22 m thick. Fill 8002 was cut by a shallow U-shaped ditch measuring 0.69 m in width by 0.12 m in depth that may well have been the same ditch seen in intervention 8025. This was filled by dark greyish brown silty clay (8001), with occasional inclusions of flint, manganese flecks and chalk flecks. Thirteen sherds of late 1st- to early 2nd-century AD pottery were recovered from the ditch fills, along with some animal bone.

Ditch 7022 was a linear ditch orientated NW-SE. It was 32.5 m in length by 1.8 m in width and 0.62 in depth on average. The ditch was U-shaped in profile, having steeply sloping sides, which were stepped in places and a rounded base. Three interventions (7068, 7076 and 7140) indicated that the ditch had been recut (probably along its entire length) at least once. Intervention 7076 demonstrated a second recut that may have been localised. The primary fill (7069, 7070, 7047, 7152), which occupied the lower 0.13 m of the ditch on average, comprised a yellow to orange brown silty-clay with occasional inclusions of chalk, flint and charcoal. Lying above this, the primary fill of the first recut (7071, 7043, 7151) comprised grey-brown silty clay with occasional inclusions of flint and chalk and localised patches of frequent charcoal flecks. It was 0.32 m thick on average. Lying above these deposits and infilling the remaining 0.17 m of the ditch was a varied sequence of layers (7072, 7042, 7041, 7150, 7149, 7148). These comprised up to three layers of silty clay with occasional inclusions of chalk, flint and charcoal flecks. There were 115 sherds of late 1st to early 2nd -century AD pottery recovered from the ditch fills, along with some ceramic building material and some animal bone.

Ditch 8003 was linear in plan and orientated NE-SW. It was 23 m in length by 0.52 m in width and 0.09 m in depth on average. The ditch was concave in profile, having gently sloping sides and a rounded base. In places there was a 0.03 m thick primary silting deposit (7039), comprising silty clay with moderate inclusions of chalk and flint. Overlying this was a secondary fill (7049, 7040, 8020) 0.08 m thick on average and consisting of a brown silty clay with inclusions of flint and chalk. Thirty-four sherds of late 1st- to early 2nd-century AD pottery were recovered from the fill, along with some animal bone.

Ditch 7012 was a linear ditch orientated NE-SW (Fig. 3.8). It measured 23 m in length by 0.91 m in width and 0.42 m in depth on average. In profile the ditch was varied, being U-shaped at its north-eastern end and narrowing to form a V-shape towards its south-western end. A primary silting deposit (7045, 7053, 7057) occupying the lower 0.11 m of the ditch was visible in some

interventions; this comprised brownish-orange silty clay with occasional chalk fragments, charcoal flecks and manganese flecks. Overlying this and filling the upper 0.31 m of the ditch was a mid brownish grey silty-clay (7046, 7054, 7144, 7056, 7067) with occasional fragments of flint, occasional charcoal flecks and occasional fragments of chalk. Fifty-three sherds of early Roman pottery were recovered from the ditch fills, along with some animal bone and some worked flint.

Pits

Pit 7143/7146 was irregular in plan and U-shaped in profile, having a flat base and straight steeply sloping sides. It measured 2 m in length by 1 m in width. The lower 0.15 m of the pit was filled with a yellowish brown silty-clay (7142), with occasional inclusions of flint and occasional fragments of calcareous material. Overlying this was a mid orangey brown silty-clay (7141), 0.22 m thick, with occasional fragments of flint. Twenty-four sherds of early shell-tempered ware were recovered from the upper fill, along with some animal bone and some worked flint.

Pit 7020 was subcircular in plan, with a flat base and straight steeply sloping sides (Fig. 3.9). It was 0.7 m in diameter and 0.15 m in depth. The pit was filled by a mid brown silty-clay (7050) with frequent inclusions of burnt flint. Fifty-five sherds of grog-tempered pottery dating to the 1st century AD were recovered from the fill.

Pit 7023 was subcircular in plan and U-shaped in profile, having a flat base and steeply sloping sides. It measured 0.47 m in diameter by 0.14 m in depth. The pit was filled by a mid brown clayey-silt (7037), with occasional inclusions of flint and occasional charcoal flecks. Twenty-eight sherds of early Roman pottery were recovered from the fill, along with some animal bone, some worked flint and a La Tène III type Nauheim derivative brooch.

Pit 7117 was irregular in plan and profile, measuring 2.6 m in diameter by 0.9 m in depth. The primary fill (7130), occupying the lowermost 0.12 m of the pit comprised a yellowish brown silty-clay, with occasional inclusions of small chalk fragments. Lying above this was 0.42 m of brownish yellow clay with frequent chalk fragments and occasional pieces of flint. The upper 0.36 m of the pit was occupied by mid brown clay with moderate inclusions of chalk pieces and occasional fragments of flint. Sixty-four fragments of early Roman pottery were recovered from the upper fills of the pit.

Periods 11–12: 2nd century AD

During the late 1st or early 2nd century AD the earlier Period 11 field system had silted up and gone out of use. The easternmost of the Period 11 ditches was now cut by a linear boundary ditch (7121), the westernmost of three linear boundary/drainage ditches (7121, 7093, 7124) which ran across the site from north-west to south-east at the eastern end of the excavation. These ditches probably delineated enclosures to their east and west. Although only the middle ditch (7093) contained any dating evidence, it seems likely that these features were broadly contemporary as they share a similar alignment. They may have defined a trackway, which shifted over time; alternatively they may have represented successive boundaries again shifting over time.

Ditches

Ditch 7121 was linear and orientated NW-SE (Fig. 3.6). It was 21.5 m in length by 1.17 m in width and 0.45 m in depth on average. The ditch profile was U-shaped, having a rounded base and concave sides which became shallower and more gentle towards the south. The single fill (7116/7137) comprised a yellow-brown silty clay with occasional inclusions of flint, chalk and charcoal flecks. There were no finds.

Ditch 7093 was linear and orientated NW-SE. It was 23 m in length by 1 m in width and 0.37 m in depth on average. The ditch profile was varied, having steeply sloping irregular sides and a rounded base to the north and a flatter base with more regular sides to the south. The profile may however, be described as U-shaped in both interventions. The primary fill (7108, 7097) comprised a yellow brown silty-clay with occasional to moderate inclusions of flint and chalk and occupied the lower 0.10–0.15 m of the ditch. The secondary fill (7096) was 0.15 m thick and consisted of a light yellowish brown silty-clay with moderate inclusions of chalk and occasional inclusions of flint. Cutting the secondary fill was a recut with a concave profile, measuring 1.18 m in width by 0.38 m in depth. The fill of the recut (7095) comprised a mid yellow-brown clay silt with occasional inclusions of flint and chalk. A single sherd of late Iron Age or early Roman grog-tempered ware, along with some animal bone and some flint came from the primary fill. The fill of the recut (7095) contained 19 sherds of early Roman pottery along with some flint.

Ditch 7124 was linear and orientated NW-SE. It was 23.5 m in length by 0.55 in width and 0.2 m in depth on average. The ditch profile was U-shaped having steeply sloping sides and a flat base. The single fill (7098/7100) comprised a mid-brown silty-clay, with occasional inclusions of flint gravel, occasional manganese flecks and occasional fragments of calcareous material. No finds were recovered from the fill.

Periods 12–13: 3rd to late 4th century AD

After the silting up of the Period 11 field system in the late 1st to early 2nd century there appears to have been a cessation of activity in the western part of the site until at least the early third century. At some point after the beginning of the 3rd century but before the end of the 4th century an oval enclosure with a south-west facing entrance (7011) was cut through ditch 7012. At some point during the late Roman period an oval pit or tree throw hole (7015) blocked the enclosure entrance. However, as the enclosure continued beyond the northern limit of the excavation it may be that there was an alternative entrance to the north. Some 10 m to the south-west of the enclosure was a small subcircular pit (7021).

Ditches

Enclosure ditch 7011 was curvilinear in plan with an entrance 2 m wide to the south-west which was defined by two termini (Fig. 3.8). It was 8.7 m in length by 0.61 m in width and 0.18 m in depth. The ditch was generally U-shaped in profile, having a rounded base and steeply sloping sides but became shallow and saucer-shaped in places. The single fill (7034, 7059, 7079) comprised a mid brown silty-clay, with occasional inclusions of flint and chalk, occasional manganese

flecks and occasional charcoal flecks. Ten sherds of late Roman pottery were recovered from the ditch fill along with some animal bone.

Pits

Pit 7015 was oval in plan and irregular in profile, having shallow irregular sides sloping gently to an irregular base (Fig. 3.10). It measured 1.75 m in length by 1.4 m in width and 0.3 m in depth. The primary fill (7032) occupied the lower 0.13 m of the pit and comprised a mid orangey brown clay-silt with occasional inclusions of flint and occasional charcoal flecks. Overlying this was 0.16 m of mid greyish brown sandy-silt (7031) with frequent inclusions of flint and charcoal. The upper fill contained a single sherd of Hadham oxidised ware along with some animal bone.
Pit 7021 was subcircular in plan and saucer-shaped in profile, having shallow concave sides and a flat base. It measured 0.5 m in length by 0.45 m in width and 0.1 m in depth. The pit fill (7050) consisted of a light brown silty-clay, with occasional inclusions of flint. Three sherds of Hadham oxidised ware were recovered from the fill.

Undated

A number of pits of various shapes and sizes were scattered over the site from east to west. Most of these did not contain any dating evidence and have therefore not been assigned to a phase. Pit 7117 did contain a substantial assemblage of late 1st- to early 2nd-century pottery and it could be argued that it should belong to Period 11. However, as pit 7117 was cut by ditch 7121 this would push the Period 10 ditches forward into Period 11, making the whole site belong to the same ceramic, if not the same stratigraphic phase. It is considered more plausible given the amount of intercutting in the area of pit 7117 that the pottery was intrusive.

Pits

Pit 7024 was subcircular in plan and irregular in profile, having gently sloping sides descending to a narrow bowl-shaped central sump. It measured 1.6 m in diameter by 0.35 m in depth. The primary fill (7060), which occupied the lower 0.1 m of the pit, comprised a brownish orange silty-clay with occasional charcoal flecks. Overlying this and occupying the upper 0.25 m of the pit was a brownish grey silty-clay (7061) with occasional inclusions of chalk fragments. There were no finds from the pit fills.
Pit 7102 was subcircular in plan and irregular in profile, having steep undercutting edges and an uneven base. It was 1.55 m in length by 1.1 m in width and 1.2 m in depth. The primary fill (7103) occupied the bottom western corner of the pit and displayed a steep inclination down from the western edge; it comprised a yellowish brown silty-clay with frequent inclusions of flint and chalk and was 0.83 m thick at its thickest. Overlying this was a mid brown silty-clay (7104) with occasional inclusions of flint and chalk which was 1 m thick at its thickest. A U-shaped recut measuring 1.42 m in width by 0.52 m in depth cut this secondary fill. The primary fill of the recut (7105) comprised an orange brown silty-clay 0.48 m thick at its thickest, with moderate inclusions of chalk and flint. Overlying this was 0.18 m of grey brown silty-clay, with occasional inclusions of subrounded natural flint. Some animal bone and

some worked flint were recovered from the secondary fill (7104).

Pit 7109 was circular in plan and U-shaped in profile, having steeply sloping concave sides and a rounded base. It measured 1.1 m in diameter by 0.45 m in depth. The primary fill (7110) was 0.08 m thick and comprised an orangey brown silty-clay with frequent inclusions of chalk flecks and occasional flint fragments. A U-shaped recut measuring 1.05 m in width by 0.37 m in depth cut the primary fill. The primary fill of the recut (7111) was 0.19 m thick and comprised a brown silty-clay with occasional inclusions of chalk and flint. Overlying this and occupying the upper 0.18 m of the recut was a grey brown silty-clay, with moderate inclusions of flint. There were no finds from any of the fills.
Pit 7118 was not seen in plan and was only partially visible in section, but was probably U-shaped in profile, displaying one moderately steep edge and a flattish base. It was 0.65 m in width by 0.4 m in depth. The single fill (7119) comprised an orangey brown silty-clay. There were no finds.

Pit 7120 was circular in plan and U-shaped in profile, having steeply sloping sides and a rounded base. It measured 3 m in diameter by 1.04 m in depth. The pit was filled by numerous layers of silty-clay and clay which were fairly disparate in character. The primary fill (7135/7131) was 0.15 m thick and comprised a yellowish brown silty-clay with occasional inclusions of chalk. Above this was a 0.17 m thick layer of grey silty-clay (7134) with occasional inclusions of chalk and flint. Lying above the silty clay was a 0.22 m thick layer of yellow-brown clay (7133) with frequent inclusions of chalk and flint. Lying above this and occupying the upper 0.5 m of the pit were two layers of brown silty clay (7132, 7131), with frequent inclusions of chalk.

Pit 8005 was a subcircular pit with a V-shaped profile, having gently sloping sides descending to a narrow rounded base. It measured 0.83 m in length by 0.78 m in width by 0.2 m in depth. The single fill (8008) comprised a dark brown/black silty clay with a frequent inclusions of medium to large burnt flints and frequent charcoal flecks. The fill did not contain any finds.

Pit 8024 was suboval in plan and irregular in profile. It measured 1.17 m in length by 0.85 m in width and 0.22 m in depth. The single fill (8030) comprised a mid-brown silty-clay with frequent inclusions of chalk flecks. No finds were recovered from the pit fill.
Cremation burial 7005 of uncertain date, but probably early Roman, was excavated under salvage conditions 160 m due south of the limits of excavation. Analysis of the cremated bone suggested that it was probably of an adult female less than 45 years old. The cremated bone had been placed in a subcircular pit with a U-shaped profile, having steeply sloping concave sides and a rounded base. The pit measured 0.41 m in length by 0.35 m in width and 0.15 m in depth. The primary fill (7008) occupied the lower 0.9 m of the pit and was over lain by two layers (7007 and 7008) each 0.03 m thick, the upper of which contained the cremated bone. There were no other finds.

Related reports: Finds: Flint, Roman pottery, metalwork, glass (CD/Chapter 4); Human bone

(CD/Chapter 5); Animal bone (CD/Chapter 6).

East of Parsonage Lane (SITE 38; Fig. 3.11)

This site (at NGR TL 556373 222221) lay on flat ground at c 96 m OD. The underlying geology was boulder clay with patches of more calcareous material, especially at the north and north-east of the site. A small amount of residual post-Deverel-Rimbury pottery was recovered from the middle Iron Age features, indicating some level of earlier activity on the site.

Period 8: Middle Iron Age

The site contained a single roundhouse (structure 8206) marked by a circular foundation trench and a less substantial external drainage gully. The entrance was on the south-east side, the doorway being represented by two large internal postholes. Together these features represent the most complete evidence for the structure of the Iron Age roundhouses found at other sites along the route of the A120. The features contained a moderate assemblage middle Iron Age pottery, fired clay, burnt stone and animal bone. An approximately square arrangement of postholes immediately to the east of the roundhouse may represent a granary structure (8265).

Roundhouse 8206. The internal dimensions of the building, as measured by the inner edge of the foundation trench (8105), were approximately 10 m in diameter. The external dimensions, as measured by the outer edge of the eaves-gully (8106), were c 13.4 m in diameter. The entrance was marked by a 3.6 m gap in the foundation trench, a corresponding 2.2 m gap in the eaves-gully and 1.5 m spacing between the two internal postholes (8108 and 8109).

The foundation trench was a moderate-steep sided cut with a slightly concave flat base (Fig. 3.12). Its width varied from 0.4 m to over 1 m, and it was up to 0.5 m deep, but was generally wider and deeper on the southern side, having been subject to greater truncation to the north. This truncation may have been responsible for the apparent very narrow break in the trench in section 8278, although the ends of the trench had the appearance of deliberate terminals. There was no evidence of any postholes or stakeholes in the base of the trench.
Around most of its circuit, the trench had two fills—a primary fill consisting of redeposited natural and containing few finds, and an upper fill containing significant quantities of pottery, fired clay, animal bone and other artefacts. At a number of locations around its circuit there was a distinct layer of charcoal up to 0.08 m thick between the upper and lower fills.

The trench was divided into 15 sections, all but section 8286 (which was truncated by field boundary ditch 8267 at the north-west) being excavated. The finds were unevenly distributed around the gully, most coming from the front half of the building. The four sections west of the entrance produced 77% of the pottery, with the two sections north of the entrance producing a further 20%. The same lengths of the gully produced, respectively, 70% and 10% of the flint, 30% and 51% of the worked flint, and 20% and 75% of the animal bone. All the burnt

and worked stone came from the three sections west of the entrance.
The outer eaves-gully was a shallow U-shaped cut running concentrically within the foundation trench, with a gap between them of up to 0.8 m. It varied between 0.4 and 0.66 m wide and was up to 0.2 m deep (Fig. 3.12). At both terminals it curved inward towards the entrance, on the eastern side overlapping the terminal of the foundation trench. Five sections of the gully were excavated, the fills consisting of generally light-mid grey/brown silty clays with some charcoal flecking. Because only one section to the rear of the building was excavated (8283) it is not possible to compare the distribution of finds around its circuit, although the two terminals (8212 on the south side and 8202 on the north side) did produce (by weight) 82% of the pottery, 71% of the animal bone and all the worked flint, fired clay and burnt stone.

The two subcircular postholes (8108 to the south and 8109 to the north), each over 1 m in diameter and 0.45 m deep, were positioned 0.6-1.0 m inside the foundation trench flanking the entrance. Each had distinct grey/brown silty clay fills indicating both the packing around the post and the positions of the post-pipes on their inner sides. Posthole 8109 produced small quantities of pottery, fired clay and worked and burnt flint.
Three small features were recorded inside the roundhouse and are probably associated with it. A small oval feature (8112), 0.13 m in diameter and 0.04 m deep, was positioned c 0.4 m behind entrance posthole 8108, and two small posthole (8113 and 8115), both c 0.26 m in diameter and at least 0.15 m deep, were recorded in comparable positions in the western and northern parts of the interior.

A fourth posthole (8277) inside the roundhouse was recorded in the base of Romano-British droveway ditch (8117), which cut across the roundhouse. It contained small fragments of wood at the base suggesting it is recent in date. In addition to Romano-British pottery, the ditch also produced a number of residual middle Iron Age sherds from the section excavated within the roundhouse.
Square structure 8265. Immediately east of the roundhouse, and level with its entrance, was an approximately square arrangement of four postholes (8100, 8101, 8102 and 8107), measuring c 3 m by 2.2 m, the longer north-west/south-east axis matching that of the roundhouse. The postholes had variable profiles, and were 0.36–0.52 m wide and 0.16–0.32 m deep. Although three of the postholes had two fills—a lower orange-brown fill and an upper mid brown fill—only one (8101) had a post-pipe visible in section.

Pit 8103. This subcircular pit was located between postholes 8102 and 8107 on the western side of square structure 8265, and may have been associated with it. It measured 0.56 m by 0.62 m and was 0.2 m deep, with steep sides and a concave base. It had a 0.04 m thick primary silting layer (8238), with an upper fill containing charcoal and large quantities of burnt stone (14 pieces, 2889 g) and burnt flint (9 pieces, 581 g), as well as two sherds of middle Iron Age pottery.

Feature 8104. This small oval feature, located immediately outside the roundhouse eaves-gully east of the entrance, measured 0.5 m by 0.82 m and was 0.09 m deep with

moderately sloping sides and a flat base. Its single fill (8288) produced 14 sherds of middle Iron Age pottery.

Periods 10–13: Roman period

Middle Iron Age roundhouse 8206 was cut by two parallel ditches demarcating a droveway running south-west to north-east. The southernmost ditch (8117) ran for about 26 m before petering out and measured 0.6–0.8 m wide. To the north was ditch 8118 which survived for around 10 m and was set at a distance of 2 m from 8117. Some undiagnostic Roman pottery was recovered from the surface.

Related reports: Finds: flint; prehistoric pottery (CD/Chapter 4); Animal bone (CD/Chapter 6).

Warish Hall(SITE 2; Fig. 3.13)

This site (at NGR NL 5570 2223) was located at 98 m OD within a cultivated field that was mostly flat but sloped down very gradually towards the east and north-east. The underlying geology is boulder clay, containing variable amounts of coarse flint and more generalised chalky nodules. All the archaeological features were cut from this level and were overlain by up to 0.5 m of orange-brown subsoil and the present topsoil.
Fourteen evaluation trenches were excavated in spring 2001 followed by a targeted excavation of two areas to the east and west of the site in late summer 2001. The evaluation revealed two systems of field ditches aligned approximately ENE-WSW and a number of undated features that may have been pits, postholes or natural depressions. Evidence of later prehistoric, Roman and later activity was identified.

Periods 5–6: Middle and late Bronze Age

Warish Hall was the most westerly site producing evidence of late Bronze Age activity, comprising a loose grouping of small, roughly circular pits that contained material that is probably domestic in character. The site also produced a small number of residual middle Bronze Age sherds. The absence of any sandy wares in the ceramic assemblage suggests a late Bronze Age date for the post-Deverel-Rimbury pottery.

Pit 29. This subcircular pit was 0.7 m in diameter and 0.13 m deep with gently sloping concave sides. On the base of the pit was a 0.6 m thick layer of silty clay and burnt stone (31) containing six sherds of post-Deverel-Rimbury pottery, and a small quantity of charcoal. The upper fill (30) contained further burnt stone, seven sherds of residual middle Bronze Age pottery and a fragment of a fired clay object, possibly a loomweight or spindlewhorl. It also contained wood charcoal (prunus roundwood, Maloideae and oak).

Pit 79. This subcircular pit, 1.5 m west of pit 29, measured 0.6 m by 0.7 m and was 0.22 m deep, with gently sloping sides and a flat base. Its single fill (81), which contained one very large stone, produced eleven very small sherds (including a rim sherd) of post-Deverel-Rimbury pottery, three edge-damaged flint flakes and charcoal (Maloideae).

Pit 94. This suboval pit was 1.1 m wide and 0.3 m deep with steep sides and a flat base. The primary fill (93) contained two unworked pebbles with smoothed surfaces

probably used as rubbers. This was overlain by a similar layer (101) containing burnt stones and pebbles apparently lying around five sherds of post-Deverel-Rimbury pottery, with a further layer (102) above. Layer 101 also contained an intrusive piece of post-medieval roof tile.

Pits 20311 and 20304. Circular pit 20311 was 0.65 m in diameter and 0.7 m deep, with sloping sides and a flat base. Its single fill (20312) contained three sherds of post-Deverel-Rimbury pottery and a fragment of fired clay. It was located at the west end of evaluation Trench 0203, with a similar feature (20304) at the east end.

Period 10: Late Iron Age/early Romano-British

Two sherds of late Iron Age/early Romano-British pottery were recovered from the series of parallel, probably post-medieval ditches aligned ENE/WSW across the site, with a further three deriving from an unassociated context (116).

Period 15-17: Medieval or post-medieval

Pit 92: A single small pit was excavated within the extreme NW corner of the site. The feature measured 1 m across and 0.3 m deep and appears to have been used as a rubbish pit. Finds include burnt stone and medieval or post-medieval roof tile but no other finds.

Related reports: Finds: flint, prehistoric pottery, Roman pottery, fired clay, worked stone (CD/Chapter 4); Animal bone (CD/Chapter 6).

Fanns wood (SITE 3; Fig. 3.14)

Site 3 lay immediately south of Fanns Wood (NGR: TL 5738 2234) at around 96 m OD. The natural geology is boulder clay and the site is cultivated land sloping gradually towards the north and east. Features and deposits have clearly been heavily truncated by early, possibly medieval, ploughing. A scatter of medieval pottery was found during initial fieldwalking.

Five evaluation trenches were excavated within an area of approximately 80 m x 60 m. Several undated isolated features were found including a field boundary ditch. Finds were limited to one worked flint and one fragment of ceramic building material, possibly of Romano-British origin.

Undated

Pit 30205. An isolated shallow pit with concave sides an a flat base measuring 0.7 m diameter by 0.1 m deep was found in Trench 2. No finds were recovered.

Pit 30306. A similar pit was located in Trench 3 adjacent to ditch 30304. Measuring 0.8 m diameter by 0.2 m deep the pit was similarly devoid of finds.

Ditch 30304. Running approximately E-W through Trench 3 the ditch has concave sides and a flat base. The ditch terminated 9 m to the east and measured 0.8 m wide by 0.28 m deep. It had a single fill containing charcoal and a single tertiary flake of flint. The ditch and associated pit (30306) may thus date to the prehistoric period.

Ditch 30506. A large field boundary ditch with concave sides and a rounded base measuring 1.84 m wide by 0.86 m deep extended 20 m N-S through Trench 5. The ditch contained four fills (30507–10). The primary fill related to ditch wall erosion while the secondary and tertiary fills sloped steeply from the west and may be the result of the ploughing out, or slighting, of a bank to the west of the ditch. A single fragment of ceramic tile was found in the uppermost fill, possibly of Romano-British date.

Related reports: Finds: flint (CD/Chapter 4).

Frogs Hall West (SITE 4; Fig. 3.15)

An evaluation was carried out on land west of Frogs Hall (NGR: TL 57910 22345) based upon evidence for a Romano-British scatter recovered during fieldwalking. The underlying geology is chalky boulder clay with small patches or bands of coarse flint gravel and coarse sand. The site lay at around 93 m OD.
Two trenches were located on a west-facing slope leading up to Frogs Hall within the proposed road corridor. The land had been under arable cultivation. No features or deposits of archaeological significance were observed.

Frogs Hall East (SITE 5; Fig. 3.16)

The site at Frogs Hall East (NGR: TL 58080 22365) was located in a field directly behind Frogs Hall Farm. The ground lay at c 93 m OD and had been under cultivation. The underlying geology is mixed chalky boulder clay with patches or bands of coarse flint gravel and sand.
A fieldwalking project undertaken on the site in 1990 (Medlycott 1990) identified a scatter of medieval artefacts possibly associated with Frogs Hall. In June 2001 five evaluation trenches were excavated in the same area. The evaluation unearthed a series of linear features orientated N-S and E-W. In order to clarify the nature and extent of the archaeology a strip and record exercise was undertaken across the evaluation area in October 2001 exposing an area of approximately 2450 square metres. The ditches are interpreted as part of a medieval field system subsequently cut by later medieval field ditches forming a rectangular plot. A small quantity of middle and late Bronze Age pottery was also recovered from the site.

Periods 5–8: Middle Bronze Age to middle Iron Age

Two sherds of middle Bronze Age pottery, three of late Bronze Age date and one of middle Iron Age date were recovered from the medieval ditches.

Periods 15–16: Medieval period

Probably dating to the medieval period, a series of shallow linears (1026, 1009, 1011 and 1031) running NE-SW were identified at the western end of the excavated area. These are likely to have been contemporary with a second set of linears (1024, 1015, 1032, 1013 and 1033) orientated east-west, at the eastern end of the excavated area. There was no direct dating evidence apart from a residual abraded sherd of fine Roman grey ware. It therefore seems likely that these features represent a single fairly short-lived phase of activity.

Linear 1026 (Fig. 3.17) was orientated NE-SW. It was 19 m in length and 0.7 m in width by 0.14

m in depth on average. The profile was concave, having gently sloping sides and a rounded base. The single fill (1027) comprised a dark orange-brown silty-clay, with occasional inclusions of flint and charcoal flecks. There were no finds.

Linear 1009 was orientated NE-SW. It was 5.85 m in length and 0.77 m in width by 0.23 m in depth on average. In profile the cut was U-shaped, having a rounded base and steeply sloping sides. The single fill (1010) was a dark orange brown silty-clay, with occasional inclusions of subrounded and subangular stones and occasional manganese flecking. No finds were recovered from the excavated fill.

Linear 1011 (Fig. 3.18) was orientated NE-SW. It was 19 m in length and 0.52 m in width by 0.07 m in depth on average. In profile the cut was saucer-shaped, having a flat base and shallow but steeply sloping sides. The single fill (1012) comprised a dark orange-brown silty-clay, with occasional inclusions of rounded stones and angular flints. There were no finds.

Linear 1031 was orientated NE-SW. It was 25 m in length by 0.65 m in width on average. The cut was not excavated.

Linear 1024 was orientated E-W. It measured 22 m in length by 0.63 m in width and 0.11 m in depth on average. In profile the cut was saucer-shaped, having a flat base and shallow but steeply sloping sides. The ditch fill (1025) comprised a mid orange-brown silty clay, with occasional inclusions of small angular and subangular stones, moderate inclusions of subangular chalk and flint and frequent clasts of chalky orange-brown clay. No finds were recovered from the fill.

Linear 1015 (Fig. 3.19) was orientated E-W. It measured 15.5 m in length and 0.85 m in width by 0.32 m in depth on average. In profile the cut was U-shaped, having steeply sloping concave sides and a rounded base. The single fill (1016) comprised a mid greyish brown silty clay, with inclusions of occasional yellowish brown chalky clay, chalk fragments, stones and charcoal flecks. No finds were recovered from the fill.

Linear 1032 was orientated E-W. It measured 13 m in length and 0.70 m in width on average. Not excavated.

Linear 1013 was orientated E-W. It was 14 m in length and 0.67 m in width by 0.21 m in depth on average. The profile was concave, having gently sloping sides and a rounded base. The fill (1014) comprised a mid greyish brown silty-clay, with occasional inclusions of small subangular stones and fragments of charcoal. A single abraded sherd of fine grey ware was recovered from the fill.

Linear 1033 was orientated E-W. It measured 14.5 m in length and 0.65 m in width. Not excavated.

At some point during the medieval period linear boundary ditches (1028, 1029, 1030) defining a square enclosure were laid out, cutting the earlier field system. Of these only one (1030) was excavated and this was carried out during the evaluation phase of the work. In consequence no certain information on profile, recuts or fills could be recovered.

Ditch 1028 was linear in plan and orientated NW-SE. It measured 32 m in length by 2.2 m in width. Not excavated.

Ditch 1029 was linear in plan and orientated SW-NE. It was 22.5 m in length by 2.4 m in width. Not excavated.

Ditch 1030 was linear in plan and orientated NW-SE. It measured 35 m in length and 0.47 m in width by 0.28 m in depth. The ditch profile was U-shaped, having a rounded base and steeply sloping concave sides. The single fill (1004) comprised light grey brown clay, with occasional inclusions of chalk and flint fragments. No finds were recovered.

Undated

There were a number of features, which could not be phased, either because they had no stratigraphic relationships, or because they contained no finds. Among these features were several short stretches of ditch (1007, 1019/1021) which were not obviously part of the medieval ditch system. There were also a number of miscellaneous pits and ditches recorded during the watching brief and a ditch which ran NW-SE across the eastern part of the excavated area (1005).

Ditch 1007 was linear in plan and orientated NW-SE. It was 4 m in length and 0.75 m in width by 0.18 m in depth. In profile the ditch was saucer-shaped, having a flat base and shallow but steeply sloping sides. The single fill (1008) comprised dark brown silty clay, with inclusions of occasional subrounded stones, occasional chalk pebbles and occasional charcoal flecks. There were no finds.

Ditch 1019/1021 was curvilinear in plan and orientated broadly east/west. In profile the ditch was varied, being saucer-shaped at its south-eastern end but narrowing to form a V-shape towards its north-western end. The ditch fill (1020/1022) comprised orange-brown silty clay, with occasional inclusions of small stones, chalk and flint. There were no finds.

Ditch 1005 was linear in plan and orientated NW-SE. It measured 35 m in length and 0.37 m in width by 0.27 m in depth. In profile the ditch was U-shaped, having a rounded base and steeply sloping concave sides. The single fill (1006) comprised a light grey-brown clay, with occasional inclusions of chalk and flint fragments. No finds were recovered.

Ditch 50303 was linear in plan and orientated NE-SW. The ditch was exposed for a length of 2 m and was 0.76 m in width by 0.24 m in depth. In profile the ditch was concave, having gently sloping sides and a rounded base. The ditch fill (50304) comprised a grey brown silty-clay, with occasional inclusions of subangular flint and occasional charcoal flecks. No finds were recovered.

Ditch 50504 was linear in plan and orientated E-W. The ditch was exposed for a length of 5.5 m and was 0.75 m in width by 0.19 m in depth. In profile the ditch was concave, having gently sloping sides and a rounded base. The ditch fill (50505) comprised mid yellowish-brown clay. There were no finds.

Ditch 50506 was linear in plan and orientated N-S. The ditch was exposed for a length of 1.5 m and was 0.91 m in width by 0.17 m in

depth. In profile the ditch was concave, having gently sloping sides and a rounded base. The single fill (50507) comprised greyish brown clay. There were no finds.

Pit 50504 was circular in plan and bowl-shaped in profile, having a rounded base and steeply sloping sides. It measured 0.7 m in diameter by 0.26 m in depth. The primary fill (50514) occupied the northern corner of the pit and displayed a steep inclination down from the northern edge; it comprised yellow clay and was 0.12 m thick. Overlying this was a 0.26 m thick layer of dark yellow silty-clay (50402), with occasional inclusions of gravel. There were no finds from either of these fills.

Ditch 50406 was linear in plan and orientated E-W. It was exposed for a length of 2 m and was 0.64 m in width by 0.24 m in depth. In profile the ditch was U-shaped, having steeply sloping sides and a rounded base. The single fill (50407) comprised dark yellow clay with inclusions of occasional charcoal flecks. No finds were recovered from the fill.

Pit 50408 was oval in plan and saucer-shaped in profile, having a flattish base and shallow but steeply sloping sides. It measured 0.8 m in width by 0.2 m in depth. The pit fill (50409) comprised mid yellowish brown clay, with occasional pieces of gravel. No finds were recovered from the fill.

Ditch 50410 was linear in plan and orientated E-W. It measured 0.67 m in width by 0.2 m in depth. In profile the ditch was U-shaped, having steeply sloping sides and a rounded base. The ditch fill (50411) comprised dark yellow clay with occasional charcoal flecks. No finds were recovered from the fill.

Ditch 50412 was linear in plan. It measured 0.65 m in width by 0.13 m in depth. In profile the ditch was irregular, having irregular sloping sides and an irregular base. The ditch fill (50413) comprised a dark brown clay-loam, with occasional fragments of gravel. There were no finds.

Related reports: Finds: flint, Roman pottery (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6).

North of Frogs Hall stables (SITE 39; Fig. 3.20)

This site was split into two areas, the eastern area at NGR TL 557960 222365 and the western area at TL 558278 222407. It lay at c 93 m OD, although rising gently to 95 m OD at the northern edge of the western area. The underlying geology was mixed chalky boulder clay with patches or bands of coarse flint gravel and sand.

Period 5: Middle Bronze Age

Middle Bronze Age activity occurred in the western area in the form of a ditch (12035) and a pit (12024).

Ditch 12035. This ditch was recorded for c 30 m running approximately NE-SW, and continuing beyond the excavation area. It was 0.8–1.73 m wide and 0.3–0.6 m deep, its profile varying from V-shaped to U-shaped. Twenty-five sherds of middle Bronze Age pottery were recovered from the upper fill (12032) in section 12034, the fills being generally variable grey/brown silty clays, many containing some charcoal.

Pit 12024. This subcircular pit was 1.75 m in diameter and 0.28 m deep, with moderately steep sides and a flat base. Its single fill (12023) was mid brownish grey silty clay, with rare pieces of chalk and charcoal. It contained eight sherds of middle Bronze Age pottery, 43 pieces of animal bone, six worked flints and two featureless pieces of fired clay.

Late Bronze Age pits 12004 and 12006, along with ditch 12010/12011 cut an earlier ditch 12008/12013 running NE-SW in the eastern area. Although no datable finds were recovered stratigraphically this must predate these features. As it shares a similar alignment to the neighbouring middle Bronze Age ditch 12035 it may also be of middle Bronze Age date.

Period 6: Late Bronze Age

Evidence for late Bronze Age activity was recorded in the eastern area of the site in the form of ditch 12010/12011 and adjacent pits 12004 and 12006.

Ditch 12010/12011. This ditch was recorded for c 5 m running ESE-WNW and continuing beyond the excavation area. It was excavated in two sections and its excavated dimensions varied between 0.75 m wide and 0.28 m deep at the west, and 0.38 m wide and 0.39 m deep at the east. It appeared wider in the unexcavated lengths. It had a flat base but the sides varied, being in places rounded, stepped or steep and straight. It had a single fill, which in the eastern section (12012) contained six middle Bronze Age sherds and one post-Deverel-Rimbury sherd with a further six post-Deverel-Rimbury sherds in the western section (12009).

Pit 12004. This subcircular pit was 1.5 m in diameter and 0.27 m deep with moderately steep sides and a flat base. Its single fill (12003) contained 25 middle Bronze Age and six post-Deverel-Rimbury sherds, and one flint flake.

Pit 12006. This subrectangular pit measured 0.98 m by 0.7 m and was 0.33 m deep, with near vertical sides and a flat base. Its single fill (12005) contained three middle Bronze Age and 13 post-Deverel-Rimbury sherds, 27 pieces of animal bone and a piece of burnt sandstone, as well as some charcoal.

Related reports: Finds: flint, prehistoric pottery (CD/Chapter 4); Animal bone (CD/Chapter 6).

West of River Roding (SITE 40; Fig. 3.21)

In May 2002 excavation was carried out c 120 m to the west of the River Roding and east of Bamber's Green Road, centred on NGR: TL 558469 222338. The site comprised a 63 m2 area (9 m by 7 m) lying at the southern edge of the carriageway, set on relatively level ground at c 88.5 m OD. The site had been under arable cultivation prior to the commencement of construction works. The natural geology at this point of the route consisted of mid yellowish-brown fine to medium sand (12100) overlain by topsoil (12144). All features were cut into 12100.

Two medieval pottery kilns (12104, 12105) and two associated pits (12120, 12154) were identified and excavated. Some residual

prehistoric worked flint was recovered from all the medieval features on the site.

Period 15: Early medieval period

Kiln 12105 (Fig. 3.22) comprised an irregular ovate, steep-sided, flat-bottomed pit measuring 3.4 m long x 1.8 m wide x 1.1 m deep. A clay-lined flue and hearth occupied the west end of the feature. In the centre the pit deepened to 1 m against the southern side of the structure. Its northern flank was less steep, with a distinct shelf at a depth of approximately 0.4 m (below stripped ground level). A 0.1 m deep band of fired clay (12142) lay on the shelf. The basal fill (12145) of the pit, up to 0.24 m deep, was a fine pale yellow sand, similar to the natural, which contained sherds of medieval pottery and fragments of fired clay with wattle marks. This was overlaid by a 0.35 m deep layer of silty sand (12115), which appeared to represent a collapsed shelf, a southern equivalent of that surviving on the north side of the pit. On the surface of 12115 was a band of fired clay (12127), similar to 12142.

Overlying the clay band 12127, and sealing deposit 12115 and the clay band (12142) on the north side of the feature, was a 0.2 m deep layer of silty sand (12134). This in turn was sealed by a slightly darker silty sand layer (12109), up to 0.3 m deep. A further compacted silty sand dumped layer (12140), containing a noticeable quantity of charcoal flecking and ash, filled the upper part of the central area of the feature.

At the western end of the feature, the hearth base was approximately 0.18 m above the level of the in situ fired clay band 12142. The flue entrance was approximately 0.6 m wide at the west end, broadening to 1 m at the entrance to the chamber. A peak of natural sand was left in the centre of the chamber opening, effectively dividing the flue channel into two. The flue was originally provided with a clay lining (12146/12150). The flue throat was later narrowed by curving the walls inwards (12149/12152) against dumped infill deposits 12147 and 12151. Sealing the hearth area was a compacted dark greyish brown layer (12106), 0.06 m deep.

Kiln 12104 (Fig. 3.23): This was situated approximately 2 m north of pit 12154. It was oriented W-E, displayed a similar teardrop shape in plan to pit 12120, and measured 3 m long x up to 1.5 m wide x up to 0.55 m deep. The east, south and north sides were steeply sloping; the west side was gently sloping. The primary fill (12143) was a 0.08 m deep mix of burnt sand, fired clay and charcoal. This was also noted towards the shallow western end of the kiln pit—the floor of the hearth —and further ashy deposits were noted immediately west of the pit. The flue sides retained the remains of its fired clay lining, and the whole hearth area was covered by a mixed layer of black silty sand and charcoal (12107). Over the kiln pit itself, layer 12143 was overlaid by a 0.5 m deep layer of medium brown silty sand (12112) which may represent the collapsed (shelved) sides of the kiln pit. Layer 12112 was overlain by a 0.25 m deep layer (12110) of dark grey/black silty sand containing a considerable quantity of pottery, fired clay and charcoal. Over this deposit was a layer (12108), up to 0.1 m deep, of yellowish grey silty sand with moderate charcoal and fired clay inclusions. A thin layer of light grey

silty sand (12111), with occasional charcoal inclusions, overlay 12108.

Pit 12154: An oblong pit (12154) was identified, measuring 2.2 m long x 0.72 m wide x up to 0.53 m deep. The south-east quarter of the pit was truncated by kiln 12105. The primary fill (12155) of the pit was a 0.25 m deep layer of ashy, silty sand. This was overlain by layer (12156), a dark grey mix of silty sand and charcoal ash, with a high concentration of pottery sherds and clay fragments. Overlying 12156 was a layer of fragments of clay lining (12157), which in turn was sealed by layer 12158, a mid-brown silty clay.

Pit 12120: A pit (12120), teardrop shaped in plan, was identified approximately 2 m west of kiln 12105. It measured 2.2 m long by a maximum of 1.75 m wide and had a maximum depth of 0.59 m, with steep sides and a shelving base. The primary fill (12121), a pale yellow silty sand, contained no finds and probably represents eroded natural. This was overlain by layer 12122, light brown silty sand up to 0.3 m deep, which produced two pottery sherds. The upper fill (12123), up to 0.2 m deep, was a medium grey brown silty clay, containing a concentration of pottery sherds.

Feature 12128: A very shallow NE-SW oriented oblong feature, measuring 0.65 m long x up to 0.25 m wide was identified, approximately 2 m north of kiln 12104. At its SW end it deepened to a maximum of 0.15 m. Its fill (12129) of brownish grey sandy silt contained a significant quantity of pottery sherds.

Both kilns appear to be of a similar design, and this along with the pottery recovered from them suggests they were part of the same short-lived industrial episode on site. The kiln design equates most nearly to Type 1a of Musty's typology of medieval pottery kilns (Musty 1988, fig. 16), comprising one chamber, one flue, and no internal dais or fixed platform for the pots. This kiln type originated in eastern England, and first appeared in the late Saxon period, although later medieval examples are known.

Although the kilns discovered revealed no in situ kiln furniture, some informed speculation could be undertaken, based on the elements of the structure that did survive. The fired clay 'shelves' that were evident on either side of the firing chamber some 0.5 m below ground level seem most likely to have supported the platform for the pots. The platform itself, of which no trace was found, presumably consisted of removable bars made of fired clay. These would have provided support for the pots while preserving the airflow from the flue, up through the pots and out of the roof of the kiln.

It is tempting to suggest that each pit may relate to a particular kiln, and represent excavation for clay. If so, then pit 12154 must relate to kiln 12104, and represent the earliest pair, and pit 12120 must relate to kiln 12105, and represent the latest pair. Feature 12128 may belong to either kiln.

Analysis of the fragments of wasters from the site shows no appreciable variation in either fabric composition or vessel type produced. The most likely scenario is that the two kilns represent consecutive examples of a small-scale pottery industry. Typologically the pottery dates to late in the 12th century, and the

kiln characteristics are not inconsistent with that date.

Excavation to the immediate south-west of the site by Essex County Council Fieldwork Unit revealed remains of seven further kilns (ECC forthcoming). Pottery associated with these structures dated to around the late 12th century, and it appears most probable that these kilns formed part of the same industrial episode. How long that episode lasted is a difficult question; the pottery itself shows no clear difference in fabric or vessel form from kiln to kiln. While this could suggest that at least some of the kilns were in simultaneous use, the pottery type is known to vary little throughout its possible production span.

The stratigraphy of features associated with those found in the A120 project would suggest that the two kilns found there were not contemporary, leading to the conclusion that at least some of the total of nine kilns are likely to represent replacements for others. In theory, there could have been just one kiln in operation at any one time. The lifespan of a pottery kiln of this type is difficult to determine, but McCarthy and Brooks have suggested a figure of five years for a medieval kiln site at Laverstock (1988, 46), and a similar figure is proposed by Cotter for the Middleborough kilns at Colchester (2000, 67). Therefore it could be suggested that, if only one kiln on the site by the River Roding was in operation at a time, the entire industry may have come and gone in less than 50 years. Clearly that figure could be a lot less if some of the kilns were contemporary.

Related reports: Finds: flint, medieval pottery, fired clay (CD/Chapter 4); Animal bone (CD/Chapter 6).

Little Canfield Hall(SITE 6; Fig. 3.24)

This site (at NGR TL 58750 22265) was located at 90 m OD within a regularly cultivated field (divided by a modern field ditch) on a gentle slope on the east side of the River Roding. The underlying geology was boulder clay, with patches or bands of sands and coarse flint gravels, overlain by pale orange-brown silty clay subsoil. The site covered c 34.5 ha. Pottery and tile of 14th-century date was recovered during fieldwalking, which may have been associated with Little Canfield Hall located nearby (Medlycott 1990).
The evaluation revealed a number of ditches of likely later prehistoric date, along with a number of undated features including a pit and several tree throw holes.

Period 8: Middle Iron Age

A number of linear features on different alignments may represent the development of an Iron Age field system. One linear ditch, 1008/1016, comprising two separate lengths of ditch on the same line, produced fragments of late prehistoric pottery (possibly of late Bronze Age date).
Ditches 1008 and 1016. These ditches were recorded over 45 m running E-W, in two separate lengths. Part of the western length was excavated in evaluation Trench 0603 (ditch 6015). Here it was 0.55 m wide and 0.15 m deep, with straight moderately steep sides and a flat base. Its single brown silty clay fill (6014) contained four small abraded sherds of post-Deverel-Rimbury pottery and five worked flints including two blade-like flakes.

The eastern 10 m length of the same ditch was further recorded, but not excavated, during the excavation (ditch 1008) where it was 0.6 m wide. It produced one sherd of middle Iron Age pottery (and two small fragments of late Bronze Age date). The western 15 m length of the ditch (1016), also unexcavated was 0.5 m wide.

A single curvilinear ditch in the north-west corner of the site was also dated to the middle Iron Age; other undated features in the same area, including a second curving ditch and several truncated postholes, may represent a focus of contemporaneous activity.
Curvilinear ditch 1006. This curvilinear feature, c 7 m long, aligned approximately NW-SE, was 0.35 m wide and 0.2 m deep. Its single fill (1007) produced 23 sherds of middle Iron Age pottery. There was a similar but undated feature (ditch 1010) c 7 m to the south-east (see below).

Undated

The majority of the features across the site were undated, although most were sealed by a relict ploughsoil of possibly medieval or later date.

Curvilinear ditch 1010. This unexcavated feature, c 7 m to the south-east of ditch 1006, was 4 m long and 0.4 m wide. A flint hammerstone was recovered from its fill (1011).

Ditch 1014. This unexcavated ditch, 0.6 m wide aligned NE-SW, ran in a straight line for over 28 m across the full width of the site, crossing the line of ditches 1008 and 1016 at an angle of 60□, and truncating the western end of ditch 1008. Its southern end was recorded (as ditch 6016) in evaluation Trench 4.
Ditch 1020. There was a short length of ditch 0.8 m wide, running for 3.8 m NW-SE, in the angle formed by ditches 1008 and 1014. It was not excavated.
Ditch 6006. This ditch, recorded running approximately E-W in evaluation Trench 2, was 1.6 m wide and 0.3 m deep. It had a single fill (6007).

Ditch 6022. This ditch, recorded running approximately NE-SW in evaluation Trench 7, was 0.75 m wide and 0.28 m deep, with moderately steep sides and concave base. It had a single fill (6023).

Ditch 6025. This ditch, recorded running approximately NW-SE in evaluation Trench 8, was 0.75 m wide and 0.38 m deep. It had two fills (6023 and 6024).
See Table 3.4 for other undated features.

Related reports: Finds: flint (CD/Chapter 4); Animal bone (CD/Chapter 6).

West of Stone Hall(SITE 41; Fig. 3.25)

This site (at NGR TL 558855 222244), was located some 80 m east of Site 6 on the eastern side of the River Roding, at c 94 m OD. The underlying geology was boulder clay with some gravel and large areas of calcareous clay. A small scatter of features were located during the watching brief which appear to represent a continuation of the dispersed late Bronze Age settlement activity which ran along the higher ground east of the River Roding, and which was recorded in earlier investigations at Little

Canfield Hall (Site 6) and Stone Hall (Sites 7 and 42).

Periods 6–7: Late Bronze Age to early Iron Age

A single feature (pit 13002) was datable to the late Bronze Age, although two undated excavated features to its east (13001 and 13003) may indicate activity from same general period given the predominance of contemporary features in the wider area.

Quarry pit 13002. This large subcircular pit was 6.7 m in diameter and 1.2 m deep, with a generally shallow concave profile. The primary fill (13009) contained 27 sherds of post-Deverel-Rimbury pottery, two with sandy fabrics. This was overlain by a 0.4 m thick layer (13010) containing a further two sherds, stone, unworked flint and charcoal. The flintwork largely represents a dump of knapping waste, although use-wear was noted on six of the flints. The upper 0.1 m thick fill (13008) contained a further 40 late Bronze Age to early Iron Age sherds and 31 worked flints. The pottery sequence suggests construction in the late Bronze Age, with the pit continuing to silt up into the early Iron Age.

Undated

Pit 13001. This oval pit measured 1.18m by 0.78 m and was 0.12 m deep, with moderately steep sides and a flat base. Its single fill (13000) contained charcoal and two pieces of animal bone, but no datable finds.

Tree throw hole 13003. This semicircular feature measured 1.92 m by 1.2 m and was 0.38 m deep, with moderate to steep irregular sides and a concave base. The natural clay on one side had been burnt, and there was redeposited burnt clay and charcoal in the lower fills (13004–6), suggesting the tree root ball had been burnt. Four flints, including a broken blade, were recovered from the upper fill (13007).

Related reports: Finds: Flint, prehistoric pottery (CD/Chapter 4); Animal bone (CD/Chapter 6).

Stone Hall(SITES 7/42; Fig. 3.26)

Sites 7/42 (between NGR TL 558960 222165 at the north-west and TL 559174 222045 at the south-east) were located at c 94–5 m OD on ground sloping gradually towards the south-east. The natural geology was boulder clay and chalk. The location had been recently cultivated and though there were areas of truncation, the depth of the subsoil had helped preserve most of the features and deposits.

Extensive evidence for activity spanning middle Bronze Age to the middle Iron Age, including clearly defined concentrations of features, was recorded distributed over some 240 m of the road corridor at Sites 7 (evaluation and excavation) and 42 (watching brief), between the River Roding and its tributary to the east. The site overall represents dispersed settlement, farming and mortuary activity of later Bronze Age date including field boundary and droveway ditches, refuse and quarry pits, postholes (including at least one four-post structure) and a dispersed group of predominantly unurned cremation burials.

Period 5: Middle Bronze Age

Middle Bronze Age activity on the site is indicated by the significant quantities of pottery that were found in a number of later features

across the site, particularly towards the north-western end. Two subcircular pits (14115 and 14122) in this area appear to date from this period.

Pits 14115 and 14122. Pit 14115 was 0.7–0.9 m wide and 0.3 m deep with moderately steep sides and a flat base. Its lower fill (14186), containing charcoal flecks and fragments of pottery, was overlain by a darker silty fill (14187) that produced two sherds of middle Bronze Age pottery. Larger quantities of pottery, and a greater range of finds, including fired clay, worked flint and sarsen whetstones/rubbers, were recovered from the single fill (14193) of pit 14122. It measured 0.9–1.1 m wide and 0.16 m deep, with steep sides and a flattish base.

Period 6: Late Bronze Age

There were two main clusters of features, including large and small pits, postholes and unurned cremation burials, separated by a series of linear ditches forming a part of a late Bronze Age field system.

Ditches

The northernmost ditch (14103) ran at a right angle to two parallel ditches (7006/7008/1012 and 1010) forming a possible droveway running NE-SW, with a further length of ditch (1020) continuing to the south.

Ditch 14103 (Fig. 3.27). This ditch was at least 35 m long running SE-NW, curving slightly to the north where it continued beyond the excavation area. At its southern end 1014 was 0.5 m wide, with a single fill (1015) containing two sherds of late Bronze Age pottery. To the north (14177, in the watching brief), it was 0.7 m wide and 0.17 m deep, with a moderately sloping side to the west and a steep side to the east and a slightly concave base. The primary fill (14178) contained single sherds of middle Bronze Age and (probably intrusive) middle Iron Age pottery while the upper fill (14179) produced eight sherds of late Bronze Age pottery. At the point where it was cut by pit 10104 (section 14180) the upper fill produced two middle Bronze Age and four late Bronze Age sherds.

Ditch 7006/7008/1012. The northern of the two parallel ditches forming the possible droveway was recorded in evaluation Trenches 1 (7006) and 2 (7008) and during the excavation (1012) running for a combined length of c 38 m SW-NE.

At the north-east end (7006) it was 0.82 m wide and 0.16 m deep with a moderate irregular concave profile. Its single fill (7007) contained three sherds of late Bronze Age pottery and a piece of fired clay.

Section 7008, immediately to the south-west, was 0.55 m wide and 0.26 m deep with a V-shaped profile. Its single fill (7009) produced a further sherd of late Bronze Age pottery.

A heavily truncated ditch (1012), 0.6 m wide, was recorded on the same alignment to the south-west as three separate segments with a combined length of 16 m, continuing beyond the excavation area. Its fill (1013) produced 14 sherds of late Bronze Age pottery (as well as two residual middle Bronze Age sherds).

Ditches 1010 and 1020. This ditch was c 6 m to the south-east of, and parallel to, ditch 7006/7008/1012, and was traced for c 28 m, being truncated at its north-east end by a modern boundary ditch (1018). It was 0.7 m wide and had a mid brown clay fill (1011). Running off it at a right angle towards the south-east was another 2 m length of ditch (1020), 0.55 m wide with a similar fill (1021), and probably contemporary with it.

Pits

There was a series of large pits to the north of the droveway (14116 and 14104) and multiple intercutting pits, to the south.

Pit 14116. This suboval pit measured 3.6 m by 2.4 m and was 0.54 m deep, with irregular sides and a flattish base. Above the sterile primary fills was a 0.12 m thick silty clay layer (14206) with moderate amounts of charcoal, producing three sherds of late Bronze Age pottery, suggesting the date of the pit's construction. A 0.34 m thick deposit on the eastern side of the pit (14207) produced 41 sherds of an early/middle Iron Age jar (Printed volume, Fig. 2.39.2) as well as further middle and late Bronze Age sherds; this layer appeared to fill a cut in layer 14206, possibly indicating the clearing out and continued use of this feature in the Iron Age. The upper fill, a 0.28 m thick layer of light brownish grey silty clay sealing both layers, produced a further mix of Bronze Age and Iron Age sherds, as well as five worked flints and burnt flint.

Pit 14104. This pit, straddling the southern end of ditch 14103, measured 6.5 m by 4.1 m and was 1 m deep, with steep sides and an irregular base. The primary 0.25 m thick fill (14192) was overlain by a 0.21 m thick layer (14191) containing a sherd of late Bronze Age pottery (and four residual middle Bronze Age sherds) and eleven pieces of animal bone. Above this was a similar layer (14190) with no finds, then layer (14189), tipped in from the north side, of very dark grey/black gritty silt containing much charcoal and burnt shattered flint fragments, as well as a further 15 sherds of late Bronze Age pottery and a piece of animal bone. A piece of post-medieval CBM found in this layer probably dates to the subsequent silting up of the feature, the upper two thirds of the cut being filled with a pale brown silty clay (14188/14185) which produced two late Bronze Age sherds as well as further pieces of CBM and four residual middle Bronze Age sherds.

A number of the intercutting pits south-east of the drove way, covering an area some 12 m by 15 m, were excavated during the first phase of excavation (1028, 1030, 1032, 1036, 1039 and 1041), with a further single pit (14140) being excavated during the watching brief. Other pits in the same area (1006 and 1008, and subsequently 14139, 14141 and 14142) were not excavated.

Pits 1028, 1030, 1032, 1036, 1039, 1041 and 14195. In the south corner of the site an area 12 m by 15 m of multiple intercutting pits was exposed. These intercutting pits had concave sides and rounded bases and measured between 1–2 m in diameter, with an average depth of 0.35 m. Some of these pits were filled by domestic waste and are dated to the late Bronze Age on the basis of the pottery present. All deposits (1029, 1031, 1035, 1037–8, 1040 and 14194) comprised silty clay and several were rich in

charcoal and ash (1033, 1034 and 1042).

Pit 14140 (Fig. 3.28). This subcircular pit, dug into the mixed chalk and clay natural, was 4.3 m in diameter and 1.4 m deep, with an irregular, steep and stepped profile and a flattish base. The primary fill (14220) was a c 0.3 m thick layer of pale brown silty clay with lenses of charcoal, redeposited natural and silts. It produced 11 sherds of late Bronze Age pottery, a flint scraper and 10 pieces of animal bone. A tip line (14219) from the east side of the pit contained a complete horse skull (object 14908) that had been placed on one of the level 'steps' around the edge of the pit. Overlying both fills was a 0.35 m thick layer of very dark brown silty clay (14218) with much charcoal flecking, containing four sherds of late Bronze Age pottery (and one residual middle Bronze Age sherd), a copper alloy brooch pin (Object 14910), and single pieces of worked flint, burnt flint and burnt stone. There were four further fills (13221, 14217, 14216 and 14215), 14217 producing a further 12 late Bronze Age sherds and three of middle Iron Age date.

At the north-west of the site there was an approximately linear group of mainly small features distributed over c 60 m running towards the north-west, located on both sides of ditch 14103 and on a similar alignment. Only some were excavated and many of these survived to depths of less than 0.2 m, making their interpretation uncertain. They included postholes, pits of varying size and small features containing burial deposits.

Four-post structure 14222 (Fig. 3.29). Four suboval postholes (14125, 14126, 14129 and 14130) close to the north edge of the road corridor appeared to form a rectangular four-post structure (14222) measuring 2 m by 1.5 m, its long axis aligned approximately east/west. The postholes were between 0.35 m and 0.55 m wide and up to 0.2 m deep, and contained between them middle and late Bronze Age pottery, fired clay burnt flint and burnt stone. The presence of exclusively middle Bronze Age pottery from two of the postholes was probably due to the proximity of pit 14122 (above). Charcoal from posthole 14126 produced a radiocarbon date of 910–790 cal BC (NZA-19582: 2678 ± 40 BP).

Cremation cemetery

South of the four-post structure there was a linear spread of small features, most of them to the east of ditch 14103, two of them containing significant quantities of cremated human bone and representing possible burial deposits.

Cremation burials 14029 and 14111, and feature 14026. Feature 14029, west of the ditch, was a moderately steep concave cut measuring c 0.45 m in diameter and 0.18 m deep. Its single fill (14030) contained a red-mottled black soil mixed within which were 504 g of cremated bone of an adult, possibly female, aged c 30–40 years, and three sherds of late Bronze Age pottery. Charcoal from the grave produced a radiocarbon date of 1010–820 cal BC (NZA-19587: 2769 ± 40 BP).

Feature 14111, east of the ditch, had similar dimensions. The lower part of its fill (14197) had been disturbed by an animal burrow, but the upper part (14196) was a very

dark soil containing numerous charcoal flecks. Mixed within the fills were 339 g of cremated bone of an individual aged over 20 years, and 41 late Bronze Age sherds. West of the ditch, towards its north end, a single vessel (Object 14900), within a feature (14026) whose edges could not be clearly identified, was assumed to be a cremation vessel, but in fact yielded only 1 g of cremated human bone.

Features 1016, 1022, 1024, 1026, 14107 and 14112. There was a group of four postholes (1016, 1022, 1024 and 1026) at the south end of the ditch, measuring between 0.23 m and 0.45 m in diameter and up to 0.12 m deep, but they did not form any identifiable structure. Only one of them (1016) produced any finds: seven sherds of late Bronze Age pottery.

Feature 14112, possibly a small pit some 15 m to their north, was 0.6 m in diameter and 0.2 m deep with steep sides and a flat base. Its lower fill (14174) contained four late Bronze Age sherds, with a further 14 sherds (two of middle Bronze Age date) from the dark upper fill (141775). There was another posthole, undated, just to its south.

South-east of the droveway was a second dense cluster of features. Approximately half of the features recorded were not excavated, but those that were all were heavily truncated, making their interpretation in many cases unclear. Among them were nine containing varying quantities of cremated human bone. Feature 14099, however, contained a large quantity of pottery, but less than 1 g of bone was recovered and this was probably incorporated accidentally. There were two main foci of burial activity—one within the main cluster of features at the north-west, with another to the south-east.

Cremation burials 14000, 14008, 14039 and 14042. Four small pits, between 0.34 m and 0.6 m in diameter and up to 0.27 m deep, each contained over 100 g of cremated human bone. Three of them (14000, 14039 and 14042) had single fills, containing bone from individuals aged over 20 years, that from feature 14039 possibly being female. Feature 14008 had three fills, most of the 241 g of bone from a female aged over 15 years coming from the main, upper fill (14011). Pyre debris from three of the burials provided radiocarbon dates: 1210–920 cal BC from burial 14008 (NZA-19584: 2878 ± 40 BP), 1130–900 cal BC from burial 14042 (NZA-18588: 2838 ± 40 BP), and 1050–840 cal BC from burial 14000 (NZA-19585: 2806 ± 35 BP).

Features 14002, 14005, 14083, 14098 and 14099. Five other features contained less than 10 g of human bone, two of them (14002 and 14005) containing bone from infants (0.5 g and 1.8 g respectively). While it is possible that some of these were deliberate deposits, some of the material may represent redeposited pyre debris within features that had other functions. The features varied in size. For example, feature 14098 (containing 4.1 g of bone from an individual aged over 13 years) was only 0.2 m in diameter and 0.1 m deep, while feature 14099 (containing less than 1 g of bone) was 0.4–0.65 m wide and 0.3 m deep with moderately steep, irregular sides (Fig. 3.30). The latter also contained 84 sherds of late Bronze Age pottery (along with

three of middle Iron Age date). The only other pottery from these features comprised a single late Bronze Age fragment from feature 14083, which contained bone from an individual aged over 20 years.

Possibly associated with the main group of features in this area was an elongated feature (14076), which may have had some function in relation to either the cremation or the burial rites.

Feature 14076 (Fig. 3.31). This feature was on the same alignment as the group of adjacent features, and it bounded them on the north-east side. It measured c 5 m long and 1.2 m wide, and was at least 0.18 m deep, with shallow concave sides and base. It was excavated in two sections, 14134 to the south-east and 14137 to the north-west. In section 14134 it had two fills, the lower fill (14136) being a densely packed layer of flint pebbles and sandstone in mid greyish brown silty clay, containing nine sherds of late Bronze Age pottery (and one residual middle Bronze Age sherd). This was overlain by a layer of dark brown/black silty clay (14135) containing a high percentage of burnt inclusions including cremated human bone, burnt clay and charcoal, and a further 20 late Bronze Age sherds. In section 14137, the single fill (14138) was a compact layer of dark brown/black silty clay with few inclusions, but containing a further 15 late Bronze Age sherds (plus four middle Bronze Age sherds).

Other features

The functions of the many other features within this general group cannot be readily determined, although nine of the larger features may be interpreted as small, very truncated pits.

Features 14018, 14036, 14043, 14047, 14067, 14072, 14073, 14074 and 14144. All these features were between 0.6 m and 0.85 m wide and up to 0.28 m deep, with variable, but generally shallow profiles and mid-dark grey/brown silty clay fills. Two contained no finds (14036 and 14067).

Feature 14018 contained 30 late Bronze Age sherds and a 18 mm thick flat stone shaped from a slice of a sandstone pebble; it was c 70 mm across but its function is unclear. Feature 14074 produced 18 middle Bronze Age and 15 late Bronze Age sherds. As well as four post-Deverel-Rimbury sherds, feature 14072 contained five sherds with a sandy fabric, suggesting an early Iron Age date.

Five fills were recorded in feature 14047 including, on the north side, a dense packing of burnt stone, burnt flint and charcoal, but no visible post-pipe that might indicate that it was a posthole. It produced three late Bronze Age sherds in the top fill.

There were also sixteen smaller features. These do not form any identifiable structures, and their general distribution among the cremation burials and other features suggest that some represent marker posts, or some other burial related of activity.

Features 14012, 14014, 14016, 14035, 14053, 14055, 14060, 14066, 14071, 14084, 14085, 14086, 14089, 14096, 14152 and 14171. These features, 0.5 m wide or less, all had mid-dark grey/brown silty clay fills. Two of them (14035 and 14152) contained significant

quantities of late Bronze Age pottery, while feature 14086, which contained six sherds, had burnt stones covering its base. Nine of the features contained no datable finds.

Related reports: Finds: Flint, prehistoric pottery, fired clay, worked stone (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6); Environmental: charcoal (CD/Chapter 7).

West of Strood Hall(SITE 43; Fig. 3.32)

Site 43 (at NGR TL 559776 221767) was located at c 91 m OD on ground rising gently to the east. The underlying geology was boulder clay with large areas of calcareous clay and smaller patches of gravel.

Period 7: Early Iron Age

Early Iron Age activity was recorded c 200 m to the west of the Strood Hall site, in the form of a possible quarry pit (15012) used subsequently for the disposal of waste. Although this feature appeared isolated, the quantity and range of material suggests domestic activity in the immediate area.

Pit 15012 (Fig. 3.33). The subrectangular pit was 4.1 m wide and at least 1 m deep, with stepped, moderately steep sides and a concave base. It contained many separate fills, the earliest of which, representing the initial natural infilling of the pit, produced no finds. Subsequent layers (15006/15011 and above), filling the upper 0.9 m of the feature, produced a moderate assemblage of finds, including over 2 kg of pottery, predominantly post-Deverel-Rimbury but with 24 sherds (160 g) with sandy fabrics of probable early Iron Age date. As well as fired clay, worked and burnt flint and a possible whetstone, there were also 64 fragments of animal bone (including cattle, sheep/goat and pig). A number of bones (both cattle and sheep) displayed dismemberment cut marks, and appear to have aged under 10 months. One of the sheep bones had been burnt, possibly as a result of cooking, while one of the cattle bones had been gnawed, suggesting the presence of dogs on the site. All the pig bones, probably from a single animal under one year old came from fill 15011. This range of finds suggests the feature had been used as a refuse pit for burnt material and organic waste, probably from a domestic context.

Related reports: Finds: flint, prehistoric pottery (CD/Chapter 4); Animal bone (CD/Chapter 6).

Strood Hall (SITES 9 AND 44; Fig. 3.34)

Located at NGR TL 66690 21650, this site lay at c 92–4 m OD across a slight terrace, in an arable field sloping to the south-west. The underlying geology was boulder clay, cut by numerous glacial ice wedges. This was overlain by 0.3–0.4 m of ploughsoil (1000), a dark brown loamy deposit that extended across the entire site. This layer directly overlay all archaeological features not cut by later activity. Similarly, archaeological features that did not truncate evidence of earlier activity had been dug into the natural boulder clay (1001). This contained occasional chalk and flint nodules and extended across the area of excavation. Cut features, such as ditches and pits, were invariably filled with a firm

silty clay deposit with chalk and flint inclusions that formed often through natural silting and weathering, but was also incorporated in places through deliberate deposition as backfill.

Fieldwalking carried out in 1990 identified a concentration of Roman pottery and tile forming a rectangular scatter some 100 m by 60 m. Excavation revealed evidence of activity dating to the Neolithic and from the later Bronze Age through to the later Roman period, the main focus being a Romano-British farmstead with associated cemetery.

Period 3: Neolithic

One feature in the south-eastern quarter of Site 9 produced an assemblage of 143 flints and 16 sherds of flint-tempered pottery identified as early Neolithic in character.

Pit 2241 (1512/1517) (Fig. 3.35). This oval pit, measured 1.65 m by 0.66 m, and 0.22 m deep, with fairly shallow sides, and moderately sloped east-west profile. Its lower fill, a 0.13 m thick layer of hard, dark grey/black clay (1515/1516, including finds contexts 1518 and 1519), yielded 141 worked flints, over a quarter of them burnt, as well as burnt unworked flint, and 16 sherds of early Neolithic pottery. There was a quantity of charcoal and burnt clay at the southern end of the feature suggesting that a fire had been lit in its base. The upper light brown fill (1513/1514) contained a further two flakes. The coherence of the assemblage and the fresh condition of the flints (Table 3.5) suggests a minimum of post-depositional disturbance, although a single ?intrusive Roman sherd was present.

Periods 5–7: Middle Bronze Age to late Bronze Age/early Iron Age

Middle Bronze Age pottery was recovered from two overlapping parallel linear features (1031 and 1037) on the northern edge of the site, pit 1486 and from two later ditches (1016 and 1593). There were no late Bronze Age/early Iron Age features, although a number of sherds were recovered from later features in the same area.

Linear features 1031 and 1037. Feature 1031, probably a ditch running north/south, was 2.1 m wide and 0.9 m deep, with straight, moderately sloping sides. Its 0.35 m thick primary fill (1032) was overlain by four layers of pale to mid brown silty clay (1033–6), the upper fill (1036) producing 56 sherds of middle Bronze Age pottery. It was cut on the east side by linear feature 1037 whose single fill (1038) produced a further 34 sherds and fragments of copper alloy. The interpretation of the contexts of these finds is hampered by the fact that both features were severely truncated by one of the post-Roman field boundary ditches running north/south across the site.

Period 8: Middle Iron Age

There was a scatter of middle Iron Age material across the site, but no features that can be securely dated to this period.

Periods 9/10: Late Iron Age/early Roman (mid 1st century BC to mid 1st century AD)

Most of the evidence relating to this period comes from the cemetery (see below). The only other possible

feature that could be assigned to Periods 9/10 is a single pit.

Pit 1069 was located immediately south of the intersection of ditches 2229 and 2242. It was irregularly shaped, comprising a shallow oval cut adjoining a deeper rounder cut. Overall, it measured 1 m long, 0.8 m wide and 0.2 m deep. Its lower fill, grey brown silty clay, was confined to the circular part of the feature. A second fill was seen in the top of this and the oval parts, which contained poorly preserved emmer/spelt crop processing waste, but relatively frequent bread-type wheat grains. Dating evidence was scarce; two sherds of grog-tempered ware from the upper fill potentially indicate a late Iron Age or early Roman date for the deposition of the crop waste.

Period 11: Early Roman (mid 1st to early 2nd century AD)

Features dated to this period were distributed across the area of excavation. A series of ditched enclosures was established in the southern half of the site alongside a trackway. One, maybe two, enclosures defined a domestic plot, and at least one roundhouse is represented by postholes and a gully. Two enclosures lacking internal features may have functioned as paddocks. A large enclosure, which again held livestock, was located in the north-eastern part of the site. A major land boundary defined the northern and western extent of the settlement. Some evidence of internal division was uncovered, although structural evidence was not forthcoming. Towards the latter part of Period 11, the boundary had been abandoned, and replaced by another major ditch that ran through the central part of the settlement. This remodelling was coincident with changes to the north-eastern enclosure. Ditches to the east aided the herding of livestock. A loose collection of pits and ditches was also noted in the central area, where domestic activity may have been concentrated. A cemetery was located beyond the eastern boundary. The earliest burials were unenclosed; a ditch, which was dug probably at the time of the boundary changes, surrounded the latest burials, dating to the late 1st or early 2nd century.

Southern enclosures (Phase 11.1)

A series of plots was established during the mid 1st century AD. These were defined by NE-SW aligned ditches, which created divisions for at least two structures, as evidenced by curvilinear gullies, postholes and pits. The earliest ditches stratigraphically are 2273, 2269 and 2267. Cut into the natural clay, the approximately 30 m long features were aligned NE-SW.

Ditch 2273. A single cut (1940), which measured 0.48 m wide and 0.23 deep, was excavated from ditch 2273, the most northerly of the three. The ditch had filled over two episodes of deposition. Ditch 2273 yielded undiagnostic pottery but is probably 1st century, certainly on stratigraphic grounds, if not alignment.

Ditch 2269 (Fig. 3.36), located further south, had likewise received up to two fills, although the second may have filled a recut of the ditch. The two excavated cuts (1565 and 1671) gave an average dimension of 0.72 m wide and 0.26 m deep. No pottery was recovered but the

feature is likely to date to the 1st century on stratigraphic grounds.

Ditch 2267 (Fig. 3.37) was south of 2269. It was wider and deeper than the latter at 1.2 m and 0.5 m respectively. The ditch was sectioned in three places (1552, 1556 and 1561), which again contained up to two fills, again resulting from a recutting of the ditch. In addition, part of the ditch was exposed in evaluation Trench 12. The best dating evidence was recovered from this ditch. Pottery from 1558 included Central Gaulish colour-coated ware and Verulamium Region white ware, suggesting that the ditch had filled by AD 70.
The plots created by ditches 2273, 2269 and 2267 were partially enclosed across the western axis, and there are good reasons to suggest that they were also closed off along the eastern side.

Ditch 2268 (Fig. 3.38), situated on the western side, was orientated NW-SE. It extended from the south of the site for c 45 m. It measured on average 0.79 m wide and 0.32 m deep. The ditch had a variable sequence of filling, with some parts of the ditch taking two fills, with another part filling over three episodes. Pottery was unevenly distributed along the feature: almost 1 kg was recovered from cut 1957 (where the ditch meets Period 12 ditch 2266), in contrast with apparently pottery-free deposits elsewhere. The assemblage included an early shell-tempered ware jar (Cam 254), a buff ware globular beaker (H1) and a black-surfaced ware high-shouldered jar (G16), suggesting a Phase 11.1 or later date for deposition. Ditch 2268 appeared to cut the western terminus of 2267, and must be later in the sequence. This sequence need not extend beyond Period 11, but it is clear that the use and importance of linear elements within the enclosure system altered over time. At its northern extent, ditch 2268 doglegs to form ditch 2274. The relationship between the two features at this point was not investigated fully during fieldwork, but on ceramic grounds 2274 probably forms part of a separate enclosure assigned to Period 12.

Ditch 2276, orientated NW-SE, apparently truncated the eastern terminus of 2273 at near right angle; unfortunately, this relationship was not investigated during excavation. The ditch measured c 0.83 m wide and 0.25 m deep, narrowing to a terminus further north. It possibly terminated a short way south of the 2273/2276 intersection, but the evidence is unclear, and the feature may have continued beyond that point towards the SE. Ditch 2276 was a recut of an earlier ditch (1530), but all activity was probably confined to Period 11. Pottery from the original cut (1530) and from the recut (2276), including shell-tempered ware and South Gaulish samian, is consistent with an early Roman date.

Ditch 2264 extends almost at right angles from the northern terminus of 2276. The relationship is unclear at this point. The western end of 2264 meets ditch 2259. The profile at this point records a single cut; both ditches were cut and filled contemporaneously. Both, too, were recut later and refilled in Period 12.

Ditch 2265, Period 12 appears to have been a recut of an earlier ditch (here labelled 2265a and the possible continuation of 2276). Later ditch 2265 obliterated much of this earlier evidence, but the base of the earlier ditch was observed at

the point of intersection between 2265 and ditch 2267 (cut 1555). Much of the pottery retrieved from 2265 dated to Period 11. The pottery is residual in that ditch, and it seems reasonable to suggest that it was incorporated into it from the underlying ditch (2265a).
A number of smaller features, all cut into the natural clay, were recorded north of ditch 2269. Dating evidence is predictably poor, comprising undiagnostic Roman pottery. These features are, however, grouped here on the basis of perceived function and their proximity to each other and the ditch. The features included pit 1568, feature 1532, structure 2263, pit 1486 and postholes 1715 and 1718.

Pit 1568 was located at the western end of 2269. It measured 1.8 m in diameter and 0.82 m in depth. It had a bell-shaped profile and contained four fills, which the excavator took to denote a water storage pit that had silted up over time. An isolated posthole (2124), 0.47 m in diameter and 0.66 m deep, was uncovered further east. It contained grog-tempered pottery in association with post-conquest pottery, and possibly dates to the mid 1st century AD.

Feature 1532 was oval in plan, measuring 1.8 m along its widest axis and 0.26 m deep. It contained a scorched clay fill, and perhaps functioned as a hearth. Intriguingly, it yielded many marine shells, although the significance of this, except to suggest that the feature was used for domestic waste, is unclear.

Structure 2263 (Fig. 3.39), a curvilinear gully, was located immediately north of ditch 2273. It measured 0.25 m wide and 0.13 m deep. The feature terminated at its western (1723) and eastern (1721) extents. Posthole 1711 lies to the north of, and within, the arc of the gully (Fig. 3.40). These features are likely to represent the remains of a roundhouse. The pottery retrieved from the gully carried a broad Roman date, but grog-tempered pottery in the posthole is consistent with the mid 1st century.

Pit 1486 was located with the corner of ditches 2274 and 2275. It measured 1 m in width and 0.58 m in depth. It was infilled over four episodes of deposition. The base fill may have resulted from natural erosion of the sides, but the second fill was charcoal-rich and probably represented a deliberately dumped deposit of material. Pottery was recovered from the top fill only; this could not be closely dated within the Roman period. However, the feature was truncated by ditch 2274/5 (intervention 1491), which filled possibly between the mid 2nd and early 3rd century. Since those ditches were dug after the pit has been totally infilled, the pit cannot belong to the mid Roman enclosure. Instead, the pit may relate to the plot defined by ditches 2273 and 2276 and be associated with structure 2263.
Two postholes 1715 and 1718 were located NW of structural gully 2263. The former was 0.69 m wide and 0.19 m deep; the latter was 0.75 m wide and 0.15 m deep. Posthole 1715 contained two fills. The bottom deposit yielded no finds and possibly resulted from deliberate removal of the post. The top fill was charcoal rich, although it is unlikely that this material was created in situ, since there are no signs of burning around the feature itself. Grog-tempered pottery was brought with this deposit, suggesting a mid 1st-century date for deposition. Similar pottery was retrieved from

1718. These two feature may be associated with structure 2263. In any case, this evidence may be taken with the central pits to argue for an area of domestic occupation located in the central part of the site during Phase 11.1.

Pit 1932 was set within the dogleg at the junction of ditches 2268/2274 and located immediately east of Ditch 2271. The feature was 1.5 m at its widest extent and was 0.41 m deep. It contained two silty clay deposits from which undiagnostic Roman pottery was recovered. On the exposed surface prior to excavation, the pit appeared to be cut by 2270, but no clear relationship was discerned in section.

Considering the evidence of the ditches and smaller features together, it is reasonable to suggest that at least two domestic plots were represented in the southern part of the site. One plot is defined to the south by ditch 2269, to the north by 2273, to the east by 2265a, and the west by 2268. A second plot was located north of 2273; ditch 2276 formed the eastern boundary, while its northern boundary, was 2264. A third plot, much narrower than the others, was created by 2269 to the north and 2267 to the south. It should be noted, however, that all ditches were not open at the same time, with the NE-SW aligned ditches being infilled before at least one of the NW-SE linears was cut. However, the integral sense of the enclosures may have been retained with aspects of the boundaries that have not survived, such as banks, hedges, fences and the like.

Eastern ditches and pits (Period 11)

A number of ditches were located at the eastern end of the site. These related to land divisions or functioned as a means of controlling the livestock movement. Two pits may also belong to this period.

Ditch 2229 (Fig. 3.41), southernmost of this group, was orientated roughly NE-SW. It terminated on to the west underneath 3rd- or 4th-century shallow pit or surface deposit 1326. The ditch extended east for a distance of some 70 m, but it must have been longer, since it continued beyond the limit of excavation. Five parts of the ditch were sectioned; all contained single fills. These revealed a shallow, but wide, feature averaging 0.2 m deep and 1.2 m wide. The relationship between this feature and ditch 2242, which initially runs south of 2229, then moves north of it further east, is very uncertain. At its western end, ditch 2229 is seen in evaluation Trench 7 and intervention 1339/1965 to cut ditch 2242, although the relationship was more apparent on the surface than in section. The two ditches follow reasonably parallel courses for some 30 m towards the east, before ditch 2242 (1082) crosses over and cuts 2229 (1080), veering away towards the north-east. At a fourth intervention (1061/1063), further east still, the relationship remains uncertain, although the NE facing section hints a 2242 being the later ditch.

Pottery provides a means of separating the two ditches, but its usefulness is limited, since relatively small quantities of pottery of similar date were recovered. Ditch 2229 yielded pottery of early Roman character, including South Gaulish samian, grog-tempered ware, a neckless jar (G3) in sandy grey

ware and a cordoned G19 jar in black-surfaced ware. The pottery from 2242 was less diagnostic, but nevertheless consistent with a later 1st-century date. On balance, however, ditch 2229 is likely to be the earlier of the two. Ditch 2242, at its western extent, turns 90° and continues towards the south-east (ditch 2226). The dating evidence from this feature was resolutely later, belonging to the second half of the 2nd century (Phase 12.1/2), although it should be stressed that the pottery provides an earliest filling date only, and that 2226 and, by implication 2242, must have been cut somewhat earlier.

Ditches 2245 and 2246 (Fig. 3.42). Two ditches aligned NW-SE and located north of ditch 2229 may belong to Period 11. Ditch 2246, cut by 2245, appears to be the earlier of the two. Cut into the natural clay, it measured some 50 m long. Towards the south, it terminated underneath Period 13 midden 1329. The terminus (1998), which contained two fills, was 0.51 m wide and 0.39 m deep. Another section (1175) was at the point of intersection with 2245. Dating evidence from 1175 included a G24 oval-bodied jar in sandy grey ware, which nominally dates from the 2nd century onwards. However, firm identification is uncertain, especially in cases where only the rim survives (as is the case here), as the form is typologically similar to 1st- and 2nd-century jar form G23. Pottery from 1998 was undiagnostic. Ditch 2245 cut 2246 and was the later of the two. It was also shorter at 35 m in length; it averaged 0.48 m wide and 0.27 m deep. Grog-tempered ware and a high-shouldered G16 jar were collected from ditch 2245 (intervention 1122). Pits 2035 and 2033. Immediately south of the 2245/46 ditch intersection, two pits had been dug into ditch 2245. Pit 2035 was 0.3 m wide and 0.1 m deep, although it had possibly been truncated by later ploughing. It contained undiagnostic Roman pottery. Pit 2033, however, was better dated. The feature (0.45 m wide and 0.27 m deep) yielded a near-complete high-shouldered G19 jar in black-surfaced ware. The type ceased to be current during the early 2nd century AD. Assuming that the pottery is not residual, the infilling of ditch 2245 occurred during the early Roman period, probably within the second half of the 1st century AD (Phase 11.1/2).

Ditch 2243, aligned NW-SE, was located north of ditch 2242 at the far eastern part of the site. Five sections of the feature were investigated which averaged 0.76 m wide and 0.2 m deep. The ditch, which was cut into the natural clay, apparently filled within a single episode of deposition. A small amount of pottery, including early shell-tempered ware typically dating to the 1st century AD, was recovered from cut 1129, but this could be residual, with the use of the ditch more properly belonging in Period 12. The southern end of the ditch butted mid Roman ditch 2242; no differences in the fills were detected at this point, suggesting that deposits were identical, and that the infilling of these features was contemporaneous. In any case, both ditches appear to be functionally related: the two meet at right angles to form a substantial boundary.

It is possible that the cutting of either 2245 or 2246 was contemporary with ditch 2243, since these features roughly share alignment and appear to create a

wide droveway. The chronology of 2243, which had been assigned to Period 12, is discussed below, but if the ditches were cut at the same time, then 2243 continued in use after 2245 and 2246 had been infilled. Shallow pit 1100 was located almost 10 m east of the southern terminus of ditch 2245. It was 1.28 m wide and 0.25 m deep. It contained a single silty clay deposit that yielded six sherds of early Roman grog-tempered and black-surfaced wares.

Central pits 1639, 1357, 1361, 1666, 1805, 1809, 2072

Pit 1639 was cut into the natural clay and measured 1.64 m at its widest extent and 0.44 m in depth. The feature was filled over two episodes; it had begun to silt up, possibly with cess, before material was deliberately discarded into it. A relatively large pottery assemblage of 1.1 kg was recovered, which included grog-tempered ware, North Gaulish white ware and high-shouldered jars (G3 and G19). A Hod Hill-type copper alloy brooch was also collected. Together, this material suggests a mid 1st century or later date for final deposition. The feature was truncated by Period 12 ditch 2209. The same ditch cut pit 1809. It measured 0.62 m wide and 0.24 m deep, and contained single, silty clay fill.

Pit 1357 was located some 25 m to the NE of pit 1639. It was larger than 1639 at 3.1 m wide. The feature received few finds, but silted up gradually over time. Three episodes of deposition were seen in section. A small group (119 g) of pottery was recovered from the top fill, which included a South Gaulish samian dish fragment (Drag 18), and a carinated bowl (C16), globular beaker (H1) and platter (A4), all in reduced coarse wares. This material is consistent with an early Roman date, with the absence of grog-tempered ware hinting at date after c AD 70/80, although the pit could have been filled anytime after this date.

Pit 1361. A smaller pit dug into an infilled 1357. This feature was 0.84 m wide and 0.44 m deep. No finds were collected from its single deposit, and the pit is essentially undated, but assuming that the pottery in 1357 is not residual, the feature must date from the later 1st century AD onwards.

Pits 1666 and 1805. A further two pits were uncovered 10 m east of pit 1639. Oval-shaped pit 1666, cut into the natural clay (1001), was 2.2 m in width at its widest extent and 0.34 m deep. A total of 778 g of pottery was recovered from its single fill, including grog-tempered wares, Verulamium Region ware, early shell-tempered ware, and globular beakers (H1) in black-surfaced ware. Also recovered was an unusual cosmetic pot or similar vessel in as yet unsourced glazed ware. The pottery suggests a mid 1st-century date for deposition (Phase 11.1), although infilling may well have been later. The condition of the assemblage was very poor, as indicated by its mean sherd weight of 5 g. It seems likely that the pottery had been subject to episodes of weathering and relocation prior to final burial, raising the prospect of residuality. However, the absence of certain 2nd-century pottery perhaps confines deposition to Period 11. Pit 1805, immediately NE of 1666, was 1.3 m in diameter and 0.4 m in depth. Its single fill yielded a small of group of grog-tempered and sandy wares. Topsoil (1000) overlay both features.

Pit 2072 was located more or less at the centre of the site. The outline and profile of the feature was indistinct, but it appeared to be wide and shallow. Five sherds of early shell-tempered ware recovered from its single fill argues for an early Roman date for deposition. The feature was apparently cut by the southern part of Period 12 ditch 2252.

Ditch 2288 was situated at the centre of the site. It extended along a ESE alignment from its eastern terminus (1363) for a length of 20 m before disappearing underneath Period 13 feature 1734. Ditch 2288 averaged 1.08 m in width and 0.55 m in depth. It was dug into the natural clay (1001). Fragments from two early shell-tempered ware jars (Cam 254), Hadham white-slipped oxidised ware and South Spanish amphorae suggest a date for deposition within or after Phase 11.2. The relationship between the western end of the ditch and 2252/2253 is unclear; the two almost certainly intersected, although this was not investigated during fieldwork. However, the feature must have been out of use by the late 3rd/early 4th century: the ditch was overlain at its eastern end by midden 2287.

Western boundary ditch 2204, 2250, 2255, 2259 (Period 11)

The ditch extended from the north of the site (essentially the northern corner of Period 11 enclosure 2247/8/9) in a SW direction for over 70 m (2250) before curving 90° and continuing towards the SE for 80 m (2255). The ditch turns again at right angles to extend towards the NE for 50 m (2259/60). It then turns once more at 90° (2204), and finally terminates less than 5 m from the corner. The northern terminus of Ditch 2250 has not been established, although it seems unlikely to extend more than 150 m towards the NE. No trace of the ditch was exposed in evaluation Trench 1, where it might be expected to emerge if continuing on the same alignment.

Ditch 2250 (Fig. 3.43) was examined in five places. These interventions gave average dimensions of 1.3 m wide and 0.58 m deep. Each had been infilled over a single episode of deposition, except intervention 1460, which had received two fills of redeposited clay prior to final infilling. Ditches 2249 and 2252 had cut ditch 2250.

Ditch 2255 (Fig. 3.44) was generally smaller at 0.78 m wide and 0.35 m deep. It saw a more varied sequence of filling, usually over one or two episodes. Four NE-SW aligned ditches or gullies (2202, 2207, 2209 and 2292) extended off from 2255 at 90°. Examination at certain points of intersection (1646/1644 and 1469/1471) showed no differences between deposits, suggesting that the features received the same material, having been infilled during the same episodes of deposition. The ditches or gullies may have functioned as plot divisions. The relationship between 2207 and 2255 was not investigated, while that of 2292 and 2255 was obscured by a medieval field boundary.

Ditch 2259 (Fig. 3.45). Five segments of ditch 2259 were investigated. The ditch was found to be approximately 0.75 m wide and 0.39 m deep. The ditch had been recut in the later 2nd or 3rd century. Most of the pottery recovered from the feature relates

to the termination of this later phase.

All three ditches appear to form part of a single feature; there is no evidence to suggest that 2255 terminated as it met 2250 or 2259. The entire boundary was open probably during the 1st century, but was receiving material certainly before c AD 125/30, the infilling date of later ditch 2252. However, the boundary continued to function to some extent well beyond, and some parts of the boundary must have remained available for deposition. Ditch 2255 received a buff ware wall-flanged mortarium (D13) and ledge-rimmed jar (G5) during the late 2nd/early 3rd century.

Western ditch 2207 and enclosure 2202, 2203, 2205, 2209, 2256 and 2257

A small rectilinear enclosure was situated inside the boundary 2250/2255. It comprised two NE-SW ditches (2202 and 2209). The SW side was formed by Ditch 2255. Two short ditches on the NE side provided entry into the enclosure.

Ditch 2202 extended 20 m from Ditch 2255. Two interventions were made, which provided a width of c 1 m and depth of 0.23 m. It had been filled with light brown clay as a single episode of deposition. No relationship was discerned at the intersection of 2202 and 2255. It is probable that both were open, and were filled, contemporaneously. The ditch had been truncated by later pits (1658 and 1664).

Ditch 2209 was cut parallel with 2202. It was almost identical to 2202 in terms of dimensions, depositional history and relationship with 2255. It appeared to cut earlier pits (1639 and 1809).

Ditch 2203 may have been part of Ditch 2202. It was c 10 m long, over 1 m wide and 0.3 m deep. An eastern terminus (1355) was recorded, which contained a single fill. The ditch had been truncated by Pit 1654 towards the west, but it is possible that 2203 continued beyond this point to meet 2202. After a short gap, which became an entrance into the enclosure, the ditch continued as 2205. This averaged 0.63 m wide and 0.29 m deep, and met boundary ditch 2252.

Short ditches 2256 and 2257, orientated NW-SE, divided the enclosure. The former extended some 5 m from the eastern end of 2209. Ditch 2257 probably butted 2203, although a post-Roman ditch obscured the relationship. A gap or entrance of 5 m separated the two ditches. Neither was excavated. The features were artefactually poor, although two ditches (2202 and 2203) received pottery after the late 3rd century.

Structure 2295. A curvilinear gully butted the eastern edge of 2256. Though unexcavated, the feature is likely to be the remains of a roundhouse and, given its physical relationship with the enclosure, belong to the early Roman period.

Ditch 2207 was located NW of, and parallel to, ditch 2202. Measuring c 0.9 m wide and 0.26 m deep, it butted boundary ditch 2255; no clear relationship between the two was observed, and both may have filled contemporaneously. The feature otherwise yielded no dating evidence.

Beamslot 2258 was uncovered towards the western side of the

central part of the site. It was aligned NW-SE and measured c 6 m long. The two interventions provide an average width and depth of 0.3 m and 0.12 m respectively. It yielded no dating evidence, but was truncated at the south by enclosure ditch 2292. The feature presumably formed part of a structure, although associated evidence is scanty; a similar sized ditch extends south from 1800, and together the features may represent a fence or similar.

Northern enclosure 2247, 2248 and 2249 (Period 11)

A large square enclosure was uncovered in the northern part of the site. It comprised ditches 2247, 2248 and 2249. A much shorter ditch, 1235, located within the enclosure's northern corner, may have formed part of it. The enclosure was bounded on the north-western side by Ditch 2250.
Ditch 2247 formed the north-eastern side of the enclosure. The NW-SE aligned feature was dug into clay and survived to a length of 40 m, although it probably never extended further than 45 m. Its northern terminus was not encountered, but may have been lost to later disturbance. The southern terminus should have been observed in evaluation Trench 2, since no remnants of the ditch were recorded beyond it. However, a NE-SW aligned ditch, surely part of ditch 2248, was seen only. Ditch 2247 was excavated in two places (1212 and 1171), where it averaged 1.3 m wide and 0.47 m deep. A single sherd of intrusive Hadham oxidised ware, typically dating to the 3rd and 4th centuries, was recovered from 1212.

Ditch 2248, dug into the natural clay, formed the south-eastern side of the enclosure. At 50 m, it was slightly longer than 2247, although 2248 was narrower and shallower at 0.6 m wide and 0.36 m deep. The ditch had filled largely with silty clay in a single episode, although its sides apparently eroded in places. Early Roman pottery was recovered from intervention 1163 and evaluation Trench 2. The ditch had been cut by 2249, which formed the south-western side of the enclosure. Thus ditch 2248 must have been infilled before 2249 was dug, and may have been out of use for some considerable time.

Ditch 2249 (Fig. 3.46), which ran parallel with 2247, was 0.77 m wide, 0.3 m deep and 50 m long. The north terminus meets ditch 2250, but the relationship is unclear at this point. Subtle soil differences hint at 2249 being the later. It is certain, on stratigraphic grounds, that ditch 2249 was dug within an existing (and possibly disused) enclosure composed of ditches 2247, 2248 and 2250. No features within the enclosure were certainly associated with it. Domestic evidence was generally scarce within the enclosure, which may have seen pastoral activity rather than domestic occupation. A short ditch (1235), measuring 0.6 wide, 0.1 m deep and a little over 5 m long, was uncovered within the northern corner of the enclosure. It yielded no dating evidence, but it may have been associated with this enclosure, perhaps aiding movement of livestock. Its location would seem to indicate that 2250 formed an integral part of the enclosure.

Northern ditch 2251, 2252, 2253 and 16008 (Period 11, with phases 11.2–12.1 infilling)

Linear features 2251, 2252 and 2253, and 16008, exposed during the watching brief, were components of a single, integral ditch. Its southern terminus was located at the centre of the excavation area. The ditch extended on a NW-SE alignment for over 90 m before turning 90°, continuing towards the SW for a further 50 m. No interventions were made in Ditch 2251. However, part of this ditch was excavated during the watching brief.

Ditch 2251. Cut 16008 was 0.9 m wide and 0.62 m deep (Fig. 3.47). It received three deposits. The lowest fills comprised redeposited subsoil from the erosion of the ditch profile. The top fill, containing a significant amount of pottery and charcoal, represents a deliberate deposit of waste material. The ceramic assemblage totalled almost 5 kg, representing the largest single deposit of pottery from the site. The latest pieces included Central Gaulish samian ware, bead-rimmed dishes (B2/B4) in black-burnished ware (BB2), Colchester colour-coated roughcast beakers (H20), and coarse reduced ware ledge-rimmed jars (G5). There was an earlier component, too, which included early shell-tempered ware jars (Cam 254), black-surfaced ware globular beakers (H1), 'London-Essex' stamped ware, and a North Kent grey ware bag-shaped beaker (H21). This earlier element was in much the same condition as the later pottery, and there is no reason to assume that their depositional history was different. Considered together as a coherent group, the pottery can be dated to the earliest part of Phase 12.1, possibly c AD 125/30. The lower fills included pottery of similar character.

Ditch 2252 (Fig. 3.48). Five slots were excavated from Ditch 2252, which gave an average width of 1 m and depth of 0.5 m. The ditch met NE-SW aligned Ditch 2250 immediately before it turned at right angles. The record of this relationship is confused, but 2250 appears to have been the earlier feature. All fills yielded pottery, totalling almost 1 kg; the bottom fill of intervention 1790 contained over half of this assemblage. Overall, the pottery is early Roman in date, although much of the pottery was undiagnostic and could not be closely dated. Intervention 1587 contained three silty clay fills. The lowest yielded cremated human remains. Associated pottery, which includes Colchester colour-coated ware and early shell-tempered ware, suggests deposition contemporaneous with that of 16008. A narrow gully (1591) was later cut into the top fill of the ditch. Pottery from its single fill, including grog-tempered pottery, is likely to be residual. Pottery from other interventions included Gallo-Belgic ware terra rubra from the upper fill of 1790, Hadham grey ware from the lower fill of the same feature, and Verulamium Region white ware and early shell-tempered ware from 2070. Evaluation Trench 3 exposed a section from the ditch (9014). This had a more complex sequence of infilling, and the pottery suggests that it continued to receive material in the 3rd century. The first and second fills yielded a reduced ware platter (A1), Hadham white-slipped oxidised ware and grog-tempered ware, which together records a date of around AD 70 or a little later. The next two deposits contained obviously later pottery, including 3rd/4th century Hadham oxidised ware. These deposits may have accumulated as the earlier soils subsided. Indeed, the top fill (9017)

continues beyond the boundary of the feature, as if part of a more extensive spread of material. But the evidence is nevertheless consistent with initial later 1st century deposition. The ditch cut Period 11 pit 2072; the ditch at this point yielded 1st-century pottery, possibly deriving from the pit. Ditch 2252 disappeared underneath Period 13 feature 1734 to re-emerge almost 10 m further along on the NW-SE alignment as Ditch 2253. This was recut later by 2204, indicating partial or total re-use of the ditch in the later 2nd or early 3rd century. However, clarification of the relationship between the two ditches is not forthcoming, since no section was recorded.

Ditch 2251/2/3 formed a significant boundary. Little can be discerned about its internal arrangements. Plot divisions (eg 2254 and 2209) that may have related to 2250/55/59 may well have continued to serve as such, but now with 2251/2/3. The ditch lies on a parallel alignment with the northern enclosure (2247/8/9); since both cut 2250, ditches 2252 and 2249 may well be contemporaneous. The dating evidence from their fills is not in conflict. Just two or three decades after the start of the 2nd century, the boundary had been abandoned—possibly with some ceremony, as the human remains suggest—although the ditch continued to receive material beyond that time.

Periods 10–11: Late Iron Age to early Roman (early 1st to early 2nd centuries AD)

The cemetery

The cemetery was located at the extreme western part of the area of excavation. It comprised a total of 31 burials. These include three possible cremation burials uncovered during the watching brief stage of fieldwork. Of the remainder, all but one was a cremation burial; a single inhumation burial was represented. All of the grave cuts, except those that truncated earlier burials, had been dug into the natural clay (1001), with their backfills sealed by topsoil (1000). Twenty-one graves were situated within a ditched enclosure. These appeared to be evenly, but densely, spaced and were aligned with the ditches along the prevailing NE-SW axis seen across the settlement. By contrast, graves outside the enclosure did not obviously conform to a regular pattern. Most of the graves yielded unburnt grave goods, with pottery occurring most frequently. Burnt pyre goods were also retrieved from some of the graves. No certain pyre-related evidence, save for these relocated objects, was uncovered. The graves spanned the late Iron Age to 2nd or early 3rd century; most belonged to the early Roman period. The earliest graves apparently predated the earliest settlement features, suggesting that people came to bury their dead from elsewhere. The grave backfills were invariably of identical composition to the subsoil, being redeposited natural, which made the boundaries of the graves almost impossible to see. In some cases, the presence of pottery breaking through the newly machined surface offered the only indication of an underlying feature.

Grave 1279 (1280–4, 1289–91, 2169, 2171) (Fig. 3.49). The grave cut was a slightly irregular, oval-shaped pit. It had been cut into the natural clay and measured 0.6 m across its widest extent. Its full depth was 0.12 m, although the

feature had been truncated by ploughing and a later land drain. A wooden plank or box, tentatively evidenced by two iron nails, was possibly placed in the empty grave. Three ceramic vessels were recovered from the grave. One of these, a jar (SF 310) contained cremated bone. A fourth vessel had been looted after the grave had been exposed during excavation. Pyre debris was deposited along the southern edge of the pit. The grave was backfilled with a mid brown silty clay soil that contained occasional flint, chalk and charcoal inclusions (1283). Thirty-three sherds of miscellaneous pottery were recovered from the backfill. Date: Late 1st to early 2nd century AD (Phase 11.2).

1. SF 306, context 1283. Iron nail.
2. SF 308, context 1281. Flagon (HAWO). No rim present; truncated by ploughing. Found lying on side; it is unclear whether the vessel was deliberately placed in this position. Located to the south of SF 309.
3. SF 309, context 1280. Jar (GRS). Truncated by ploughing; lower half of vessel survives. Placed upright near the centre of the grave.
4. SF 310, context 1289. Jar (GRS). Cinerary vessel. Severely truncated; fragments only were recovered. Located immediately west of SF 309.
5. SF 321, context 1290. Iron nail.
6. Context 1282. Cup Drag 27 (SGSW). Possibly belongs to the vessel removed by modern looters. Approximate location within grave: immediately S of SF 309.

Grave 1285 (1286, 1478–80, 1522) (Fig. 3.50). The grave cut (1285), dug into the natural clay, was square in plan with a flat base. It had a width of 0.8 m and depth of 0.13 m. Land drain (1522) truncated the grave. A wooden box, as evidenced by 137 iron nails, was placed within the empty cut. Two ceramic vessels and a pair of shoes were also inserted into the grave. Cremated bone of an adult female was contained in SF 400, located opposite the box on the eastern side, and deposited with pyre-debris on the floor of the grave (1478 and 1480) and in the backfill (1286). A glass vessel and bird bone that probably derived from the cremation pyre were placed alongside the other objects. A third ceramic vessel—a samian ware dish (SF 366)—was found within the land drain cut, but probably derived from the grave. Grave goods 1–3, 5 and 6 were not located in plan. The grave was backfilled with a yellow-grey silty clay that included charcoal flecks and chalk nodules (1286). Date: Late 1st to early 2nd century (Phase 11.2).

1. SF 351, context 1286. Flagon (HAWO).
2. SF 400, context 1478. Jar G19 (GRS). Cinerary vessel.
3. SF 460, context 1478. Glass vessel. Distorted through intense heat; pyre-good.
4. SF 366, context 1522. Dish Drag 18/31 (SGSW).
5. SF 392–6, 325–32, 335–6, 338–9, 344–6, 348, 350–1, 356–60, 363–4, 370–73, 378–9, context 1286. Iron nails from wooden box.
6. SF 422–24, 435–441, 443–7, 449–52, 460–77. 479–85, context 1478. Iron nails from wooden box.
7. SF 334, 349, 357, 365, 400, 431, 442, 448, 478, 500, contexts 1286 and 1478. Iron hobnails from footwear.

Grave 1287 (1247–8, 1288, 1293–6, 2133–4, 2170) (Fig. 3.51). Circular cut 1287 was dug into the natural clay. It measured 0.75 m across its widest axis (narrowing towards the base), and was 0.34 m

deep. The cinerary vessel (SF 419), containing the remains (probably of an adult male) and an animal also burnt on the pyre was placed inside the grave. The grave was then backfilled, presumably with the clay that had been removed previously (1248). A further four ceramic vessels were placed on top of the returned soil. These were clustered in the centre of the grave. Another episode of backfilling followed (1288). Date: Early 2nd century AD (Phase 11.2).

1. SF 374, context 1293. Cup Drag 27 (CGSW). The vessel had been broken neatly in half, possibly deliberately prior to deposition. AD 100–25.
2. SF 375, context 1294. Platter A4 (BSW).
3. SF 376, context 1295. Platter Drag 18 (SGSW). Mutilated or 'killed' vessel: a piece had been removed deliberately from the rim prior to burial. Early Flavian.
4. SF 377, context 1296. Flagon (BUF). The vessel was resting on its side within the centre of the cluster. The rim and one side of the vessel were missing, possibly from later disturbance.
5. SF 419, context 1247. Jar (BSW). Cinerary vessel. No rim was encountered, which may have been removed before burial.

Grave 1307 (1308–9, 2172) (Fig. 3.52). Oval cut 1307 measured 0.45 m wide and 0.15 m deep. Cut into the natural clay, it had moderately sloping sides and a near-flat base. A single ceramic vessel (SF 320) was inserted into the grave. The vessel yielded very few fragments of human bone belonging to an adult and newborn child. Given the quantity of bone, the feature may be a cenotaph or 'token' burial, rather than a conventional grave. The grave had been backfilled with light brown to yellow clay (1308). A land drain had contributed to truncation on one side of the grave. Date: Roman.

1. SF 320, context 1309. Jar (GRS)

Grave 1314 (1315, 2173) (Fig. 3.53) cut into the natural clay, was circular in plan; it had moderately steep sides and a flat base. It measured 0.46 m wide and 0.08 m deep, although the grave had been severely truncated by ploughing activity. A single ceramic vessel (SF 506) had been deposited. Just the base survived, but the vessel may have once contained cremated remains. Four iron objects were also deposited, one of which was found below the vessel. The grave was backfilled with a light brown to yellow silty clay (1315). Some cremated bone fragments were encountered within this deposit. Date: Late Iron Age or early Roman (Period 10).

1. SF 506, context 1315. Jar (BSW). The fabric also contained grog, suggesting a Period 10 date.
2. SF 507–10, context 1315. Iron sheet fragments.

Grave 1342 (1343, 2130, 2174–5) (Fig. 3.54). Cut 1342 was an oval grave that measured 0.7 m wide and at least 0.5 m deep. The true depth could not be established, since the grave truncated an earlier inhumation burial (1345). Three ceramic vessels were placed centrally into the grave, one of which (SF 322) contained pyre-debris (including animal bones) and the cremated remains of an adult, probably female. The vessels had been disturbed and crushed by later disturbance, including a land drain. The grave was backfilled with a dark brown silty clay soil (1343). Charcoal flecks occurred

throughout. Date: Late 1st to early 2nd century AD (Phase 11.2).

1. SF 291, context 1343. Seven iron nails.
2. SF 322, context 1343. Jar (HAR). Cinerary vessel.
3. SF 333, context 1343. Dish Drag 18/31 or Drag 18/31R (SGSW).
4. Context 1343. Flagon or flask (RED). No separate small find number was assigned.

Grave 1345 (1346–7) (Fig. 3.55). A rectilinear cut, orientated NW-SE and measuring 1.64 m long by 0.3 m wide and 0.33 m deep, was cut into the natural clay. This contained a skeleton of a young adult female. The skeleton lay supine, with the head towards the NW, the hands resting together over the pelvis, and the feet meeting, suggesting that the body had been shrouded. The grave had been backfilled with a mid orange brown silty sand with chalk and charcoal inclusions (1346). No grave goods were present. Animal burrowing and the cutting of cremation grave 1342 had truncated the grave, from which the charcoal may have derived. Grave 1307 also appears to cut the grave, although no such relationship was recorded during fieldwork. The objects in 1342 suggest that the inhumation burial dates up to the end of the early Roman period. It could be considerably earlier, but it is located within the cemetery enclosure, and respects its alignment, suggesting contemporaneity. Date: Up to the late 1st/early 2nd century AD (Phase 11.2 or earlier).

Grave 1381 (1382, 2131–2, 2175) (Fig. 3.56). Cremation grave 1381 was a square cut dug into the natural clay that was 1.09 m long, 0.96 m wide and 0.24 m deep. It had vertical sides and a flat base. Three ceramic vessels were placed in the cut. They were equidistant, each positioned c 0.4 m apart. The cremated bones of an adult, probably male, and the remains of a bird burnt on the pyre, were deposited into a flagon (SF 369). The grave was backfilled with mid orange brown silty clay and charcoal from the pyre (1382). Date: Early Roman (Period 11).

1. SF 361, context 1382. Flagon (BUF). Found fragmented and lying on its side, probably moving from an upright position after deposition.
2. SF 369, context 1382. Flagon (BUF). Cinerary vessel. Highly fragmented and abraded.
3. SF 362, context 1382. Platter A2 (HAB). Mutilated or 'killed' vessel: part of the rim removed.
4. SF 665, context 2132. Copper alloy Colchester type brooch. Found within SF 369.

Grave 1386 (1387, 2136, 2176) (Fig. 3.57) was a circular, slightly oval, cut that had been dug into the natural clay. It measured 0.72 m along its widest axis and was 0.26 m deep. A single vessel (SF 505) had been deposited centrally within the grave. This contained a copper alloy toilet set (SF 664) and the cremated bones of an adult, probably female. The grave was then backfilled with mid orange-brown silty clay (1387). The grave had been disturbed by metal-detectorists, which accounts for the fragmentation of the pottery. Date: Mid 1st century AD (Phase 11.1).

1. SF 505, context 1387. Butt-beaker Cam 117 (BSW). Cinerary vessel.
2. SF 664, context 2136. Copper alloy toilet set, comprising nail-cleaner, tweezers, and scoop. Found within SF 505.

Grave 1410 (1411–9) (Fig. 3.58) was an irregularly-shaped, slightly square, cut with steep sides and reasonably flat base. It had been cut into the natural clay and measured up to 1 m wide and 0.49 m deep. Charcoal was concentrated around the edges of the grave. The first backfill—a dark grey silty clay soil (1416)—contained the dispersed cremated remains of an adult, probably female. Three ceramic vessels and four copper alloy objects were recovered from fill 1416. Animal bone deriving from the pyre was also deposited. Date: Mid 1st century AD (Phase 11.1).

1. SF 347, context 1412. Copper alloy tweezers.
2. SF 380, context 1416. Collar-necked flagon Cam 161 (NGWF). Found resting on its side.
3. SF 502, context 1416. Copper alloy nail cleaner (Crummy Type 2a).
4. SF 503, context 1416. Ring-necked flagon J3 (BUF). Butts SF 504.
5. SF 504, context 1416. Bucket-shaped jar Cam 254 (ESH).
6. SF 513, context 1416. Copper alloy loop. Function unknown.
7. SF 514, context 1416. Copper alloy nail cleaner (Crummy Type 2a).
8. Animal bone from pyre (not planned).

Grave 1448 (1449–5) (Fig. 3.59). Circular cremation grave 1448 had been cut into the natural clay. It had a concave profile and measured 0.5 m wide and 0.14 m deep. A light brown clay fill (1449)—possibly redeposited natural—lay at the base of the grave. A single vessel (SF 652), which contained the cremated remains of a human adult, had been placed on top of this deposit. The overlying deposit was indistinguishable from the base fill. The top of the grave appears to have been truncated by the plough or machine. Date: early to mid 1st century AD (Period 10).

1. SF 652, context 1450. Jar (BSW). Cinerary vessel.

Grave 1452 (1453–6, 2128, 2129) (Fig. 3.60) was circular in plan. It had been cut into the natural clay and had a concave profile. The grave measured 0.82 m across its widest axis and was up to 0.25 m deep. Three ceramic vessels were clustered within the empty feature. Two vessels (SF 318 and 319) yielded cremated human bone of one or two adult males, although it is unclear whether the bone was deposited deliberately in both, or that one received bone accidentally. The grave was backfilled with a mid orange brown clay fill (1453). Date: Mid 1st century AD (Phase 11.1).

1. SF 317, context 1454. Indeterminate form (HAR).
2. SF 318, context 1455. Butt-beaker H7 (RED). Cinerary vessel. The fabric has a dull red colour, but appears to be identical to the late Roman oxidised Hadham fabric (HAX) when examined microscopically, and may have a Hadham-region source.
3. SF 319, context 1456. Jar (GRS). Cinerary vessel.

Grave 1475 (1476–7) (Fig. 3.61). A circular cut that measured 0.55 m wide and 0.21 m deep was dug into the natural clay. Four ceramic vessels were deposited into the grave. These were clustered around the cinerary vessel (SF 324), into which the cremated remains of a female adult and a juvenile (sex unknown) were placed. The grave was backfilled with a mid yellow-brown clay soil with occasional pyre-related charcoal flecks (1476).

Date: Early to mid 2nd century AD (Phase 11.2–12.1).

1. SF 300, context 1476. Ring-necked flagon J3 (VRW).
2. SF 301, context 1476. Globular beaker H1 (GRF). Found on its side, probably moving from an upright position after deposition.
3. SF 323/299, context 1476. Cup Drag 27 (CGSW). Fragmented and slightly dispersed, probably after deposition. Hadrianic-early Antonine.
4. SF 324, context 1476. Jar (GRS). Cinerary vessel.

Grave 1509 (1510–11, 1520–21, 1523, 2135) (Fig. 3.62) was a square cut measuring 0.83 m wide and 0.22 m deep. It had steep sides and a flat base. Over 80 iron nails were located around the edge of the grave base. These are likely to belong to a degraded wooden box into which four, possibly five, ceramic vessels and a pair of shoes were placed. The nails were within a spread of pyre-debris that had been redeposited around the outside or inside edge of the box. Bird bones and glass fragments from the pyre were also found in this deposit. The cremated remains of an adult male were contained by SF 486, although they had been disturbed and dispersed subsequently after deposition. A yellow-brown silty clay layer (1510) sealed the grave. Date: Late 1st century AD (Phase 11.2).

1. SF 486, context 1523. Necked jar with cordons G17 (BSW). Cinerary vessel. Located within centre of the cut. Resting on its side, but probably moved from an upright position after deposition.
2. SF 487, context 1523. Jar (GRF). Base only. ?Broken prior to burial.
3. SF 488, context 1523. Vessel not located after excavation. Field record reads, 'Badly degraded pot of reddish fabric against south edge of SF 487 at base of cut 1509.' Body sherds of a white-slipped red ware fabric (MWSRS) were retrieved from the soil contained within SF 488.
4. SF 489, context 1523. Platter Drag 18 (SGSW). AD 80–95.
5. SF 490, context 1523. Platter Drag 15/17 (SGSW). AD 55–70.
6. SF 292–98, 302–04, 307, 313–16, 337, 340–43, 352–55, 367–68, 381–83, 385, 389–91, 397–99, 420, 425–32, 434, 453–59, 486–90, context 1511. Iron nails from ? wooden box.
7. SF 491–95, context 1520. Iron nails
8. SF 305, 384, 386, 433, 421: Iron hobnails from footwear.

Grave 1538 (1539–41) (Fig. 3.63). Cremation grave 1538 was circular in plan with steep or slightly concave sides. It measured 0.4 m wide and 0.11 m deep. A single ceramic vessel (SF 311) that contained the cremated remains of an adult, probably female, was deposited. The grave was then backfilled with yellow-brown silty clay soil (1539). Date: Early to mid 1st century AD (Period 10)

1. SF 311, context 1540. Jar (BSW). Cinerary vessel.

Grave 1585 (1586, 2141) (Fig. 3.64) was circular in plan with concave sides and a flat base. It was 0.46 m wide and 0.1 m deep, but had been severely truncated by machine on its S and N sides. The single ceramic vessel (SF 614) deposited in the centre of the empty grave was very fragmented. The vessel was found to contain cremated bone from an adult female, six glass beads, animal bone, and two copper alloy objects. These objects had possibly been placed on the cremation pyre before

being redeposited in the vessel; one object (SF 663) was certainly burnt. The grave was backfilled with orange-brown clay soil. Date: Mid to late 1st century AD (Period 11).

1. SF 614, context 1586. Butt-beaker H7 (BSW). Cinerary vessel.
2. SF 659, context 2141. Copper alloy Hod Hill type brooch. Deposited in SF 614.
3. SF 660, context 2141. Annular glass bead. ?Burnt. From pyre and deposited in SF 614.
4. SF 661, context 2141. Annular glass bead. From pyre and deposited in SF 614.
5. SF 662, context 2141. Copper alloy armlet. From pyre and deposited in SF 614.
6. SF 663, context 2141. Annular glass bead. Burnt. From pyre and deposited in SF 614.
7. Context 1586. Three annular beads from SF 614. Burnt. From pyre.

Grave 1593 (1594–5, 2142–3) (Fig. 3.65) was a circular feature with vertical sides that measured 0.63 m wide and 0.09 m deep. The cremated remains of an adult female, mixed with pyre-debris, were found unenclosed on the floor of the N side of the grave. The remains of a small animal, and iron and glass objects, burnt on the pyre, were found within this deposit. Three unburnt ceramic vessels were placed in a row in the southern part of the burial. Two metal objects were placed to the N of the vessels and E of the bone. The grave was backfilled with mid brown clay (1595). Date: Early Roman (Period 11).

1a-b. SF 623, context 1594. Two copper alloy rings.
2. SF 624, context 1594. Iron sheet fragments.
3. SF 625, context 1594. Ring-necked flagon J3 (VRW).
4. SF 626, context 1594. Bowl Drag 36 (SGSW). Mutilated or 'killed' vessel: pieces removed from rim. Vessel repaired in antiquity.
5. SF 627, context 1594. Beaker (GRS). No rim present.

Grave 1596 (1597–8, 2150–54) (Fig. 3.66). Circular grave 1596 was 0.46 m wide and 0.16 m deep. It had vertical sides and a flat base. A single ceramic vessel (SF 641), which contained the cremated remains of a human adult and an animal, was placed in the centre of the empty cut. The grave was backfilled with orange-brown silty clay (1597). Date: Late Iron Age or early Roman (Phase 9.2/10.1).

1. SF 641, context 1597. Jar (GROG). Cinerary vessel

Grave 1733 (1866–7, 2138) (Fig. 3.67). Square-shaped cremation grave 1733 was 0.5 m wide and 0.21 m deep. Two ancillary ceramic vessels were deposited. The grave was backfilled first with yellow clay (1867), then capped with yellow-brown clay (1866). The lower deposit yielded pyre-debris and the cremated remains of a juvenile, which were concentrated in the NW corner. Context 1867 contained pyre-debris only. Fragments from a bird and copper alloy objects, also burnt on the pyre, were recovered from both fills. Date: Late 1st or early 2nd century AD (Phase 11.2).

1. SF 581, context 1867. Copper alloy cosmetic vessel.
2. SF 582, context 1867. Poppy-headed beaker H6 (GRF). Butts SF 583.
3. SF 583, context 1867. Flask G40 (RED).

Grave 1755 (1754, 2144–8) (Fig. 3.68) was square in plan, with steep sides and a flat base. It had been dug into the natural clay and measured 0.77 m in width and 0.17 m in depth. Three ceramic vessels were placed within the grave. The largest of these, a flagon (SF 633), contained the cremated remains of an adult, probably male. An iron knife and animal bone fragment were also found. The grave was backfilled with yellow-brown silty clay (1754). Date: Mid 1st century AD (Phase 11.1).

1. SF 620, context 1754. Platter A1 (GRS).
2. SF 621, context 1754. Triangular iron knife.
3. SF 633, context 1574. Flagon (VRW). Cinerary vessel. The base had been removed and the break trimmed before deposition, although this is likely to represent an old modification unrelated to the funeral. The hole was plugged with an organic material before the vessel was filled with cremated bone.
4. SF 634, context 1574. Globular beaker H2 (BSW). Vessel butts SF 633.
5. SF 635, context 1574. Animal bone

Grave 1757 (1756, 2149) (Fig. 3.69). A circular grave had been dug into the natural clay. A diameter and depth of 0.46 m and 0.07 m respectively was recorded, although the feature had been severely truncated by the plough. A single vessel was deposited into the centre of the grave. This contained the cremated remains of an adult human and an animal. The grave was backfilled with yellow-brown silty clay (1756). Date: Late Iron Age or early Roman (Phase 9.2/11.1).

1. SF 640, context 1756. Jar (GROGC). Cinerary vessel. Base present only.

Grave 1759 (1758, 2156–66) (Fig. 3.70). A roughly circular grave was dug into the natural clay. It measured 0.75 m wide and 0.24 m deep. Two ceramic vessels were inserted into the grave. One of them (SF 642) contained the cremated remains of an animal and a young adult male. The grave was backfilled with dark yellow-brown clay (1758). Date: Late Iron Age (Phase 9.2/10.1).

1. SF 642, context 1758. Pedestal jar Cam 204 (GROG). Cinerary vessel.
2. SF 643, context 1758. Carinated bowl Cam 211 (GROG).

Grave 1764 (1763, 2167–8) (Fig. 3.71) dug into the natural clay, was circular, 0.5 in diameter and 0.15 m deep. The upper portion of the cut had been truncated by the plough and a field drain, which removed part of a ceramic vessel (SF 646). Two vessels were recovered. Cremated human adult bones, probably female, were deposited in SF 646. The grave was backfilled with yellow-brown silty clay, with some human bone included (1763). Date: Early to mid 1st century AD (Period 10).

1. SF 646, context 1763. Jar (GROG). Cinerary vessel. Truncated.
2. SF 647, context 1763. High-shouldered, necked jar G19 (BSW). Butting SF 646.

Grave 1821 (1822–4) (Fig. 3.72). Cremation grave 1821 was approximately square in plan, with steep sides and a flat base. It measured 0.78 m wide and 0.08 m deep, but appears to have suffered from severe truncation, by machine

or the plough. Four vessels had been deposited within the empty grave, although these were found to be very fragmentary and dispersed on excavation. Cremated human bone from an adult was concentrated in the centre of the grave, but given the clear disturbance, it is uncertain whether the bone was originally contained in a ceramic vessel. The grave was backfilled with orange-brown silty clay (1822). Date: Mid 1st century AD (Phase 11.1).

1. SF 636, context 1822. Platter Drag 18 (SGSW). Substantially complete and containing a quantity of cremated remains. AD 50–65.
2. SF 637, context 1822. Beaker (RED). Disturbed.
3. SF 638, context 1822. Beaker (GRF). Disturbed.
4. SF 639, context 1822. Beaker (HAR). Disturbed.

Pit 1851 (1852) (Fig. 3.73) dug into the natural clay, was circular in plan with concave sides and base. It measured 0.41 m in diameter and 0.18 m in depth. The feature contained a copper alloy ring only. The backfill, a grey silty clay, was charcoal-rich. No cremated human bone was present. The feature may represent a cenotaph or pyre-related pit. Date: Late Iron Age or early Roman (Phase 9/11).

1. SF 615, context 1852. Copper alloy ring.

Grave 1855 (1856–61) (Fig. 3.74). A circular cut, measuring 0.7 m in diameter and 0.28 m deep, was dug into the natural clay. It had near-vertical sides and a flat base. Six ceramic vessels were deposited. (Four vessels were recognised during fieldwork; another two were identified during pottery recording and analysis. Consequently, three vessels have been assigned the same small find number.) A group of four vessels was inserted first into the grave. A flagon (SF 616), which contained the cremated remains of a bird and adult female, was then placed above them. Another vessel, located on the edge of the cluster, appeared to be free standing. Pyre debris (1861) was deposited on the base of the grave. The grave was backfilled with a grey-brown silty clay (1856). Date: Early to mid 1st century AD (Phase 10.1).

1. SF 616, context 1856. Ring-necked flagon Cam 166 or J3 (NGWF). Resting above, or butting SF 617 and SF 619 (three vessels). The North Gaulish white ware flagon had two, possibly three, twisted or plaited clay handles. The vessel closely resembles Cam 166, although the type is typically from Central Gaul and mica-coated. Cinerary vessel.
2. SF 617, context 1856. Platter Cam 21 (GROG). Situated below SF 616.
3. SF 618, context 1856. Flagon (BUF). Highly fragmented.
4. SF 619, context 1856. Butt-beaker Cam 118 (GROG). Below or butting SF 616.
5. SF 619, context 1856. Butt-beaker Cam 109 (GROG). Below or butting SF 616.
6. SF 619, context 1856. Platter Cam 22 (GROG). Below or butting SF 616.

Grave 1862 (1820, 1863–5) (Fig. 3.75). A circular cut was dug into the natural clay. It had near-vertical sides and a concave base, and measured 0.65 m in diameter and 0.21 m deep. A single vessel (SF 632) was placed into the empty cut. This contained cremated human adult remains. The vessel was immediately packed on its western

side with yellow-brown clay, but was not fully covered. Two deposits of charcoal and cremated bone were located above (1863) and to the E of the vessel (1864). The former also covered the lower backfill, while the latter yielded iron nails, possibly deriving from a wooden box that had been placed on the pyre. The grave was then fully backfilled. Date: Early Roman (Period 11).

1a-d. SF 628–31, context 1864. Four iron nails, possibly from a wooden box.
2. SF 632, context 1864. Jar (BSW). Cinerary vessel.
3. Iron hobnail from footwear; ? redeposited.

Grave 1868 (1869–70, 2139–40) (Fig. 3.76). An approximately square grave had been cut into the natural clay. It had near-vertical sides and a flat base, and was 0.67 m wide and 0.17 m deep. An area of cremated human bone (1870) belonging to an adult female was deposited in the centre of the grave, spreading towards the northern edge. Five ceramic vessels were clustered mainly within the SW corner. A dish was deposited first, and then a lamp placed inside it. A flagon was rested on its side and above the dish. A copper alloy brooch and an iron nail were also recovered. The grave was backfilled with an orange-brown clay (1869), which also contained human bone and pyre debris. Date: Mid 1st century AD (Phase 11.1).

1. SF 592, context 1869. Iron nail.
2. SF 593, context 1869. Globular beaker H1 (BSW).
3. SF 594, context 1869. Ring-necked flagon J3 (BUF). Deliberately placed on its side and resting above SF 604.
4. SF 595, context 1869. Cup Drag 35 (SGSW). Located on the southern edge of the grave, separated slightly from the main cluster.
5. SF 603, context 1869. Ceramic lamp (LYN). Placed inside SF 604.
6. SF 604, context 1869. Platter Cam 30 (GROG). Contained SF 603.
7. SF 605, context 1869. Copper alloy Colchester-type brooch.

Cemetery enclosure (2200, 2201, 2239)

The ditch appeared to be a single cutting that comprised two long, NE-SW aligned axes (2200 (Fig. 3.77) and 2201 (Fig. 3.78)), and a shorter NW-SE length (2239). The enclosure was open on its eastern side. Overall, the ditch averaged 0.63 m wide and 0.24 m deep. It enclosed a group of 21 graves, but there remained considerable space for further interments. For unknown reasons, no further burials were made here after the late 1st or early 2nd century. The earliest burials within the enclosure belong to Phase 11.1, and are unlikely to date beyond AD 70. The ditch was almost certainly cut, though not necessarily immediately, after the conquest. Pottery recovered from the ditch was largely undiagnostic, though is consistent with an early Roman date. The enclosure was filled in up to two episodes. Occasional charcoal, presumably redeposited pyre-debris, was observed throughout the fills. Ditch 2201 appears to butt Period 11 Ditch 2255, which probably existed prior to the cutting of the cemetery enclosure.

Pit 1762. This feature was located immediately south of the southern corner of the cemetery enclosure ditch. It had a diameter of 0.58 m and depth of 0.24 m. The edge of

the pit was scorched, while its single fill contained profuse charcoal flecking, indicating in situ burning. No artefacts were recovered, and it is uncertain whether the burning activity relates to the cemetery and the funerary rite.

Tree throw hole 1849. An irregularly-shaped tree throw hole, measuring 0.78 m long, 0.48 m wide and 0.65 m deep, was located inside the cemetery enclosure. It contained a single, charcoal-rich, fill. Although no dating evidence was recovered, the tree and the cemetery could well have been contemporaneous, with the former serving as a focal point for funerary activity.

Period 12: Mid Roman (mid 2nd to mid 3rd century AD)

The southern enclosures were remodelled to form new spaces; roundhouse 2263 had been abandoned by the start of the phase. The trackway, which connected the settlement with Stane Street, was now defined by a ditch on both sides. Pottery recovered from the ditches suggests that both had been infilled by the end of the 2nd century or beginning of the 3rd, although the trackway almost certainly remained in use beyond that time. A roundhouse in the eastern part of the site, and another further north, suggests that eastern and central areas became the focus of domestic activity. A ditch formerly belonging to the Period 11 western boundary was recut during this phase, finally closing by the mid 3rd century. Three cremation graves located some 75 m NW of the main cemetery are likely to belong to Period 12.

The southern trackway (Phase 12.1–12.2)

The trackway extended on a NW-SE alignment from the southern corner of the site for a distance of almost 100 m. It was defined by two principal ditches that ran parallel with each other. Users of the trackway, if travelling south, would presumably expect to reach the major route of Stane Street, which afforded access to the market town of Great Dunmow.

Ditch 2265 (Fig. 3.79) (Fig. 3.80). The western boundary of the trackway was formed by ditch 2265. It extended from the south for some 70 m before turning sharply towards the SW (2266), continuing for another 30 m. The ditch truncated the eastern termini of Phase 11.1 ditches 2267 and 2269, which were infilled by the time that 2265 was cut. The ditch was sectioned in five places, from which an average width of 1.35 m and depth of 0.48 m was obtained. It had a varied history of deposition along its length, but appeared to have largely filled in up to two episodes. The latest pottery from the feature was recovered from the centre of its length at the point of truncation with ditch 2269. The large assemblage of 2.5 kg included plain-rimmed (B1) and bead-rimmed (B2) dish types, a fragment from a Central Gaulish samian Drag 35/36 bowl or cup, and an oval-bodied sandy grey ware jar (G24). The condition of the pottery was good (it had a mean sherd weight of 18 g), suggesting that the assemblage had been buried comparatively soon after initial discard. The assemblage is unlikely to predate c AD 120/5, but may extend into the late 2nd century (c AD 170+). The remaining pottery from the ditch had a earlier, 1st-

century character, but this is likely to be entirely residual and derive from an underlying ditch (2265a). Ditch 2265 turned towards the SW to form 2266. Ditch 2276, continuing the NW-SE boundary of 2265, has been assigned to Period 11, and may have been totally infilled by the mid 2nd century.

Ditches 2277 and 2278. Ditches 2277 and 2278 continue the western border. The former consisted of a short slot sandwiched between 2278 and Period 11 ditch 2276. Ditch 2277 appeared to truncate Period 11 ditch 2259, although the soil was poorly differentiated. Ditch 2278 was c 15 m long, and measured 1.5 m wide and 0.22 m deep at its northern and southern termini. It was filled with silty clay soil, which yielded generally undiagnostic pottery, although, including a plain-rimmed dish (B1) in black-surfaced Hadham ware, the assemblage was consistent with a mid or late Roman date. The feature is orientated WNE-ESE, but appears to continue the line of the western trackway ditch.

Ditches 2226 and 2242. The eastern boundary of the trackway comprises ditches 2226 (Fig. 3.81) and 2242. The former emerges from the southern edge of excavation and continues on a NW-SE alignment for a distance of 80 m. It runs parallel with 2265, with 10 m separating the two. Ditch 2226 turns 90° to form 2242, which extends along a NE-SW alignment for 60 m before disappearing underneath the eastern baulk. Ditch 2226 measured on average 1.6 m wide and 0.56 m deep and was recut at least once (1321/1325), although not along its entire length. It had not endured a complex sequence of infilling: slots through the ditch contained up to two silty clay deposits. Three of the five segments yielded pottery that included a decorated bowl (Drag 30) in East Gaulish samian ware, a cone-shaped cup (f33) in Central Gaulish samian ware, buff ware mortarium fragments and a plain-rimmed dish (B3). This material is consistent with a mid to late 2nd-century date (undiagnostic or no pottery was recovered from the other two segments). Cut 1327 was overlain by an amorphous silty clay deposit of pit (1326), which, based on the recovery of Hadham oxidised ware, was laid down from the later 3rd century onwards. Ditch 2242 was 0.76 m wide and 0.3 m deep. The feature was infilled over a single episode of deposition. Pottery from the feature—including early shell-tempered ware, grog-tempered ware and a G19 jar in black-surfaced ware—retained the early Roman character of the pottery seen in Phase 11.1 ditch 2229, and may in part have derived from it. The chronological contrast between the 2226 and 2242 assemblages is otherwise striking.

Structure 2286 (Fig. 3.82). Ditch 2242 kinks slightly towards the south before changing direction again to continue a NE-SW orientation. The ditch at this point appears to respect the plot of a roundhouse. Curvilinear gully 2286 survives as an arc with an average width of 0.32 m and depth of 0.13 m. The gully terminated at its west end (1904), but was truncated at its east end. A pit or posthole (1914) was located immediately inside the western tip of 2286. This was 0.64 m in diameter and 0.1 m deep and contained a single charcoal and clay soil. An irregularly shaped spread of burnt soil (1920) was observed approximately 5 m south of the centre of gully 2286. The spread, which contained a charcoal-rich soil,

may be the remains of a hearth. Two pits, located either side of the structure, may have been related to it. Pit 1906 was an oval-shaped feature that had been cut into the natural clay. It was located c 5 m west of Structure 2286, and measured 1.84 m across its widest extent and was 0.38 m deep. It contained a sequence of seven fills. These had accumulated through natural weathering or silting events, but the comparatively darker base fills and top fill suggest some degraded organic content and deliberate backfilling. These deposits also yielded pottery and animal bone. The former was chronologically undiagnostic. Pit 1084, cut into the natural clay, was located approximately 5 m east of Structure 2286. It was 1.23 m at its widest extent and 0.14 m deep. It contained two silty clay fills that were devoid of finds. Considered together, this evidence is likely to represent a roundhouse and associated features. Pottery recovered from the gully was undiagnostic, although a possible Hadham grey ware bowl-jar from 1902 hints at a mid or late Roman date and is consistent with the dating from ditch 2242. Given its proximity to ditch 2242, structure 2286 is tentatively assigned to Phase 12.1/2, but much chronological uncertainty remains.

Southern enclosures (Phase 12.1)

The domestic plots were abandoned by the second half of the 2nd century. Ditch 2266, a continuation of ditch 2265, provides a stark indication of this, as it cuts through the centre of the enclosure defined by ditches 2273, 2265a, 2269 and 2268.

Ditch 2266. Two parts of the ditch were investigated. Cut 1961, at the western end of the feature, was found to be 0.3 m wide and 0.22 m deep. It contained three silty clay deposits. The top fill yielded undiagnostic Roman pottery (local reduced ware body sherds). At the eastern end, as 2265 curved into 2266, intervention 1526 was 1.53 m wide and 0.43 m deep. It also yielded undiagnostic pottery. However, the pottery from ditch 2268, which was cut by 2266, provides a terminus post quem of c AD 43–70 for the digging of 2266. The chronology of the ditch is bracketed by the dating evidence from the fill of 2265, which belongs to Phase 12.1/2. Ditches 2270 and 2272 support a mid/late 2nd century date for the completed infilling of 2266. The former truncated the western terminus of 2266 and yielded a Hadham black-surfaced plain-rimmed dish (B1) of 2nd to 4th century date. That ditch was in turn cut by 2271, from which a sherd of Colchester colour-coated ware was recovered. This is unlikely to date much beyond the early 3rd century (or Phase 12.2).

Ditch 2274. At its northern limit, Period 11 ditch 2268 appeared to form a dog-leg to become ditch 2274. This corner was not fully investigated during fieldwork, but it is probable that 2274 was dug in Period 12 and consequently truncated the junction of the earlier ditches 2273 and 2268.

Ditch 2274 (intervention 1943) was 0.57 m at this point, and widened to 1.93 m further along its length (1949). It was deeper here, too, at 0.78 m compared with 0.48 m at its southern end. The feature was some 10 m long. The ditch then turned 90°, continuing for 35 m in a NW direction (2275). It terminated on

reaching Period 11 ditch 2276. No precise relationship was discerned between 2275 and 2276, but on the grounds of dating evidence, the former should be the later intrusion.

Ditch 2275 was almost 1 m wide and 0.35 m deep. On excavation, the two ditches (2274/5) were found to have a variable depositional history. Segments through the features usually contained one or two fills. Intervention 1949 was more complex, with a sequence of seven deposits. Together with the pottery recovered from the deposits, this suggests that parts of the ditches were infilled deliberately, rather than entirely through natural silting and weathering. Over 600 g of pottery were recovered from 2274/5. The bulk of this (400 g) came from interventions 1943 (Ditch 2274) and 1484 (Ditch 2275). The former yielded Central Gaulish samian ware and Colchester colour-coated ware, indicative of Phase 12.1/2 date, possibly after c AD 140, for deposition. The latter contained Central Gaulish samian ware, but also a Colchester buff ware flagon (J3), a plain-rimmed dish (B1) and grey ware carinated bowl (C16). The flagon and bowl are commonest in the Flavian period, but can be found up to the mid 2nd century. A terminal date of c AD 160/70 can be provided for this group. Undiagnostic pottery was recovered from the remaining segments, except for 1949 (2274), from which 26 g of residual Period 11 pottery was recovered.

These ditches form the northern and western sides of an enclosure that was seemingly open at the southern and eastern sides, although traces of former ditches 2276 and 2273 (or associated boundary features) may have remained. Ditches 2275 and 2266 share an alignment not matched by 2273, however, and may be better paired as an integral arrangement.

Ditches 2270, 2271 and 2272 (Phase 12.1–12.2) A series of intercutting ditches was exposed immediately to the west of the southern enclosures. Ditch 2272, which survived to a length of c 5 m. At intervention 2091, the feature was 0.7 m wide and 0.27 m deep. A plain-rimmed dish (B1) in Hadham black-surfaced ware was the best-dated piece from the ditch, suggesting a date for deposition after c AD 120/5. Feature 2272, like ditch 2266, cut Period 11 ditch 2268, but was itself cut by ditch 2270. Ditch 2271, dug into the natural clay, was located west of 2270. It extended for 30 m before being truncated by 2270, and was presumably longer. The ditch averaged 0.45 m wide and 0.22 m deep. Excavated segments contained single deposits that yielded no pottery. Ditch 2270, which cut both 2271 and 2272, was some 35 m long, over 1 m wide (although it varied in places), and 0.35 m deep. It filled differently along its length, mainly through natural silting or weathering, but appeared to receive no more than three deposits at any place. Approximately 1 kg of pottery was collected from the feature. The most diagnostic material was found in the top fill of intervention 2102, which included Colchester colour-coated ware that typically dates within the region to Phase 12.1/2.

These ditches may form part of the same boundary that was recut over time. The chronology of the sequence is uncertain, but it is clear that 2270 was the latest feature. Given the relationship between one of the earliest ditches (2272) and 2266 and the date of the most diagnostic pottery, the sequence of

activity began and ended within the mid Roman period.

Structure 2237 (Phase 12.2–12.3) (Fig. 3.46) (Fig. 3.83). Curvilinear gully 2237 lies adjacent to the southern part of enclosure ditch 2249. It is approximately 10 m long, 0.34 m wide and 0.2 m deep. The gully forms an arc, terminating at its southern point and, after turning sharply almost at 90°, its northern end. The gully was infilled with a silty clay soil that had been deposited mainly from a single episode of filling. The soil contained frequent charcoal. The feature cuts earlier ditch 2249 and posthole 1436. A second curvilinear gully (2217) was seen 3 or 4 m south of the southern terminus of 2237. This feature was 0.23 m wide, 0.13 m deep and no more than 5 m long, and contained single deposits in each of its three interventions. It cut earlier Ditch 2252. The pottery from 2237, which includes Nene Valley colour-coated ware, and bead-rimmed dish and folded beaker fragments, is broadly dated, spanning the late 2nd to mid 3rd century. Undiagnostic Roman pottery was recovered from 2217. Gully 2212 (Fig. 3.84) was adjacent to 2217. It survived to a length of almost 10 m, and averaged 0.28 wide and 0.11 m deep. Its single fill yielded 3rd or 4th-century pottery.

Postholes 1436 and 1776. Posthole 1436 was dug into the northern edge of Gully 2237. It was 0.25 m in diameter and 0.08 m deep. It was filled with a charcoal-rich, silty clay soil. Posthole 1776 was located immediately inside the line of the gullies. It was 0.24 m wide and 0.07 m deep. No finds were present in either. Both features had been severely truncated by ploughing.

None of these features are certainly associated with each other, except in spatial terms. If the gully 2237 were to be extended to form a complete circumference, albeit with gaps, then it could conceivably have encompassed 2212 or, more likely 2217. Taken together, these features might well have formed part of a roundhouse, with 2212 possibly denoting a fence line. However, the gullies are not perfectly aligned, giving an odd shape to any structure. The gullies, of course need not have been wall-trenches, but were instead possibly drainage ditches. The gullies therefore did not have to correspond to the shape of a structure exactly. The dating evidence provides a period of use of perhaps no more than 100 years, possibly considerably less. However, pottery groups were consistently small, and the possibility that much of the pottery is residual remains high. Indeed, the use of the structure may well have been somewhat later, especially if associated with Period 13 enclosure 2233/4/5/6.

Miscellaneous central layers 1817 and 1818 (Phase 12.3). Deposits 1817 and 1818 were adjacent to surface 1819. Context 1817 was a dark brown loamy clay with chalk fleck and flint nodules. It was 0.28 m thick and yielded a ceramic assemblage spanning the late 2nd to mid 3rd century. Much of this is likely to be residual. The underlying deposit (1818), almost identical in composition to 1817, contained Hadham oxidised ware and rim from an olive oil amphora (Dressel 20), suggesting deposition within the first half of the 3rd century or beyond.

Pit or tree throw hole 1374 (Period 12). This was an irregularly-shaped feature that measured 1.35 m along

its widest extent, but was shallow at 0.21 m in depth. Fourteen sherds of pottery were recovered, including a bead-rimmed dish fragment.

Ditch 2259. This feature, open first in Period 11, was recut after the boundary to which it belonged (comprising ditches 2250, 2255, as well as 2259) had been abandoned. Pottery recovered from the upper fills of the recut segments suggest that the ditch was open perhaps for most of Period 12, possibly up to the mid 3rd century.

Ditch 2292 was orientated NE-SW, and appeared to extend at right angles from 2255, although the actual point of intersection was lost through later disturbance (resulting from Ditch 2284). The east end appeared to have been truncated by 2293 and possibly 1207. The ditch was 1.38 m wide and 0.56 m deep. The pottery suggested final infilling by the late 2nd or early 3rd century AD.

Features underlying or adjacent to midden 1140/1329

Pit 1330 was located towards the eastern part of the site and lay below midden 1329. It had been cut into the natural clay. The feature was only partially exposed during fieldwork, and its shape in plan remains unclear. However, the northern edge of a cut feature (1980) excavated immediately north of 1330 appears to form part of the same pit, and together the interventions offer a D-shaped or oval feature. Cut 1330 has gently sloping sides and a concave base. It was 1.4 m wide and 0.5 m deep, and was filled with a single sandy/silty clay deposit with chalk inclusions. The fill appears to be identical to the upper fill of Pit 1332, and may represent the same depositional event. This deposit lay beneath midden deposit 1333. The northern edge of the pit was revealed in cut 1980. The feature was not fully excavated at this point, but its fill, which was identical in composition to the upper fill of 1330, was removed to a depth of 0.15 m. Midden 1329 overlay this soil. Animal bone fragments were recovered from 1331, but the pit fills were otherwise devoid of finds and dating evidence. However, 3rd- or 4th-century pottery was collected from the upper fill of 1332. The overlying midden deposits contained mid 4th-century material.

Pit 1332/1977. An oval pit cut into the natural clay, was located immediately S of pit 1330. Its E-W axis was exposed in intervention 1332. The feature in this cut measured 2.7 m wide and 0.9 m deep. It contained two fills. The lower fill was a light grey, silty clay soil that principally yielded animal bone and pottery. The upper fill consisted of light brown, sandy silty clay and was identical to the fill of Pit 1330, and similarly yielded pottery and animal bone. Midden layer 1333 overlay this deposit. Cut 1977 represents the southern edge of the pit. The cut contained a single sandy silty clay deposit that almost certainly is the same as the upper fill of 1332. It yielded animal bone and pottery. The dating evidence from the lower fill of 1332 was generally undiagnostic, but included a plain-rimmed dish (B1), which suggests a mid or late Roman date for deposition. Infilling continued during the late 3rd or first half of the 4th century: the upper fills yielded Hadham oxidised ware and a bead-and-flanged dish rim (B6). Midden layer 1968 that was laid down by the mid 4th century sealed the fill of 1977.

Pit 1406 was located at the eastern side of midden 1329 and immediately south of feature 1200. The pit, cut into the natural clay, was 1.2 m at its widest extent and 0.38 m deep. It contained two fills. The lower fill was a deliberately deposited dark grey-brown clay layer with abundant charcoal. The upper fill was a dark grey or black artefact-rich deposit that was equal to midden deposits 1329 or 1140. This had accumulated within a hollow created after the first fill had settled. Some root disturbance was noted on the north-eastern side of the feature. Late Roman pottery was recovered from the upper and lower fills.

Pit 1975. An oval-shaped cut into the natural clay and located immediately south of cut 1977. It was 0.9 m wide and 0.3 m deep and contained a single dark grey silty clay deposit, which yielded pottery, animal bone and ceramic building material. These finds were chronologically undiagnostic. The pit was sealed by midden deposit 1968, suggesting that infilling had terminated by the mid 4th century.

Pit or posthole 1200 was situated at the eastern side of 1329. It survived to a width of 0.8 m and depth of 0.2 m. It was filled with a mid brown sandy silt deposit that contained no finds. This underlay midden deposit 1202 (equivalent to mid 4th century layer 1140). Posthole 1191 was located to the south-east of features 1200 and 1406. Cut 1191 was approximately 0.8 m along its widest extent and 0.19 m deep. It contained two fills. The lower fill was a compact sandy clay deposit that yielded no finds. This was sealed by the upper fill that may have formed part of midden deposit 1140.

Oval Pit 1973, which measured 1.4 m wide and 0.25 m deep, was immediately east of midden 1329. It had been infilled with a single deposit, which consisted of light grey, sandy silty clay soil. This yielded pottery and oyster shell. Dating evidence was inconclusive. The pottery from this feature was broadly Roman in date. Pit 1973 was cut by later Pit 1332, from which mid and late Roman pottery was recovered.

Pit 1498 was situated to the south of midden 1329. The oval-shaped feature was cut into the natural clay; it measured 1.28 m across its widest extent and 0.49 m deep. It contained four fills. The first three fills were silty clay deposits that were devoid of finds and are likely to represent natural silting or erosion of the sides. The fourth fill (1499), uppermost in the sequence, comprised a very dark silty clay deposit that was similar in character to the midden deposits and may form part of it. Pottery recovered from the fill was consistent with a late Roman date, although 1st- and 2nd-century material was also present.

Pit 1916 was an irregularly shaped feature located to the south of midden 1329. It had been cut into the natural clay and measured 2.96 m at its widest extent and was 0.13 m deep. The pit contained two fills: redeposited clay formed the lower deposit, and the upper fill was a dark brown silty clay deposit that was similar in appearance to the midden layers. It yielded pottery that was broadly Roman in date.

These features form a dense concentration in the eastern part of the settlement. None of them can be firmly dated, but most were sealed by midden 1329 and were out of use by or during the late

Roman period (Period 13). It is therefore unlikely that the use of the pits, if regarded as an integral group, were directly associated with the midden, though may have been related to a former structure.

The cemetery

Three graves were located SE of the main cemetery. These were comparatively poorly furnished, yielding cremated human remains and pyre-debris. The three graves form a discrete, but coherent group, and it seems likely that they form part of a single and contemporaneous phase of mortuary activity.

Grave 16002 (16003): A circular cut, located some 60 m SW of the main cemetery, had been dug into the natural clay. It was approximately 0.45 m in diameter and 0.06 m deep, although the cut had been severely truncated by machine. It contained a single, silty clay fill with frequent charcoal flecks and cremated bone fragments of a juvenile or adult. The deposit was radiocarbon dated to cal AD 125–220 (NZA-19579: 1844 ± 35 BP). Date: Early/mid 2nd to early 3rd century AD (Period 12).

Grave 16004 (16005). Circular cut 16004 had been cut into the natural clay. It was located immediately N of pit 16002. The pit measured 0.35 across its widest extent and was 0.14 m deep, but had been slightly truncated. Its single fill (13005) was compact silty clay that yielded charcoal and burnt human remains. No other objects had been deposited. A radiocarbon date of cal AD 60–240 (NZA-19580: 1873 ± 35 BP) was produced. Date: Early/mid 2nd to early 3rd century AD (Period 12).

Grave 16007 (16006). This circular feature, cut into the natural clay, was located immediately to the S of pit 16002. It was 0.48 m across its widest extent and east 0.1 m deep, but it is likely that the feature had been severely truncated. It contained a single fill (16006), which yielded frequent fragments of burnt human remains. This produced a radiocarbon date of cal AD 20–220 (NZA-19581: 1907 ± 35 BP) which matches the date ranges of 16002 and 16004. Date: Late 1st to early 2nd century/early 1st to early 3rd century (Periods 11/12).

Period 13: Late Roman (late 3rd to late 4th/early 5th century AD)

Settlement activity became concentrated in northern and central areas, as the southern half of the site was abandoned, although to what extent the trackway continued to function remains unclear. Dense, centrally located, spreads of domestic debris join pits and a cobbled surface in providing clear evidence for late Roman occupation. One midden accumulated within the hollow of an abandoned structure, this time rectangular. Another collected within a possible fishpond. The midden deposits accumulated mainly during the late 3rd and first half of the 4th century. By the mid 4th century, activity at the settlement had declined rapidly, and it is likely that all occupation had ceased by the end of the century, if not several decades previously.

Pit 1742 (Phase 12.3–13.2) an irregularly shaped pit measuring 4 m across its widest extent and 0.45 m deep. It had been cut into late Roman ditch 1750. The pit was filled first by gradual silting, then by a soil deposit that appeared to be part

of a more extensive layer. Pottery recovered from both fills is consistent with late Roman infilling, with deposition continuing into the first half of the 4th century or beyond. The top fill also yielded a glass bottle and a copper alloy bowl.

Ditch or pit 1750 (Phase 12.3–13.2). A tentatively identified ditch or pit was found to extend approximately NE-SW from pit 1742. The feature contained a single silty clay fill that yielded 3rd- or 4th-century pottery.

Central pits 1658, 1664, 1654 (Phase 12.3–13.3). A group of three pits were located towards the western part of the centre of the site. All of them cut a Period 11 enclosure, defined principally by ditches 2202, 2203, 2209. Pit 1654, which cut 2203, was 0.56 m in diameter and extended to a depth of 0.27 m. It contained a single silty clay soil. Pit 1658 measured 0.42 m wide and 0.2 m deep. Pit 1664 was 0.85 m wide and 0.27 m deep. Both contained single silty clay fills and cut ditch 2202. No dating evidence was recovered, but stratigraphically the pits are likely to date from the 3rd century or later.

Northern pits and postholes

Pits 1131 and 1143, found at the northern end of the site, are grouped together here on spatial and chronological grounds. Pit 1131 was a substantially sized feature with a width of 2.35 m and maximum depth of 1.1 m. It was cut into the natural clay. The angle of slope was steep. The pit contained four deposits. The first fill was a natural-like clayey deposit, probably representing erosion of the pit profile. The second was a deliberately deposited narrow band of charcoal. The final two deposits were thick, silty clay layers that yielded small quantities of pottery and animal bone. Both deposits represent episodes of backfilling, although wind-borne or eroded material may have accumulated during this time also. The pottery included a bead-and-flanged dish, indicating a late Roman date for final deposition. Pit 1143 was cut into the natural clay. It measured 1.28 m at its widest extent, but only 0.18 m deep, having been truncated through ploughing (it was noted during excavation that the topsoil was relatively thin at this point). The single silty clay deposit contained a small group of pottery of 3rd or 4th-century date. The function of these two features cannot readily be determined. Storage seems an unlikely use for Pit 1131, given its size. Alternatively use as a waterhole or quarry can be suggested, although the steepness of the pit make the former appear less convincing. Both features may be associated with the enclosure to the south or, indeed, the number of undated pits and postholes in close proximity.

Posthole 1214 was 0.54 m in diameter and 0.21 deep. It contained a single silty clay deposit, which included degraded organic material possible deriving from a decomposed post.

Posthole 1216 measured 0.48 m in diameter and 0.16 m deep. It contained two fills: a naturally accumulated silty clay lower fill and a charcoal-rich upper fill. This top fill may relate to in situ burning, possibly of a post, although the surrounding soil is not scorched, and instead the soil may have derived from elsewhere.

Pit 1155 was 1.29 m wide and 0.24 m deep. It contained two fills that

had formed through natural wind-borne or silting processes.

Pit 1160 was 1.08 m wide and 0.57 m deep. It contained three fills: the first and top fills had accumulated naturally through erosion of the feature profile or silting. The second fill was clayey, but notably different in colour, and was perhaps deliberately dumped.

Pit 1196 was 0.85 m wide and 0.22 m deep. It contained two deposits: the base fill had accumulated naturally; the top fill yielded a single undiagnostic sherd of Roman pottery and some animal bone, indicating some deliberate deposition.

Pit 1847 had been severely truncated, and measured 0.28 m wide and 0.17 m deep. It contained a single silty clay fill.

All features were cut into the natural clay and were sealed with topsoil, and, with the exception of 1196, yielded no finds. Given their proximate locations, these features may well be related, although function and precise associations cannot easily be discerned. The postholes presumably derive from a structure. There is little evidence to place the features into a firm chronology, but, close to Period 13 features, they may be set within a later Roman landscape.

Midden/structure 1206/1301 (Phase 13.1 disuse)

A NW-SE aligned rectangular spread of silty clay soil (1206), was located immediately E of the centre of the site. The soil sat within a hollow measuring 14 m long, up to 8 m wide and 0.3 m deep. Soil was removed from five box-sections or quadrants in spits of up to 0.07 m. The south-eastern quadrant appeared to be lighter in colour than 1206, and was numbered separately (1301). All spits in this quadrant were grouped under this number.

Deposit 1206 (Fig. 3.85) was a firm, dark soil comprising silty clay mixed with occasional flint, chalk and cobble inclusions. It contained a rich assemblage of domestic finds, including pottery, bone pins, and animal bone. Window glass fragments and structural brick and tile were also concentrated in this feature. Craft and industrial activity was evidenced by bone pin roughouts, iron tools, and a possible millstone. Deposit 1301 was a dark, brown grey silty clay overlain by 1206 and located at the southern end of the hollow, extending beyond it towards the south. Underlying all these deposits was a mixed fill/natural soil (1300), representing the earliest episode of deposition. The soil throughout the feature appeared to be largely homogeneous; distinct episodes of deposition could not be discerned. The dating evidence suggests that the soil had accumulated during the late 3rd, or possibly the early 4th century. A coin from deposit 1301 is dated AD 270–84, and the pottery is consistent with this. Similarly, the uppermost deposits of 1206 produced pottery dating largely to Phase 13.1 (late 3rd to early 4th century); little or none of this necessarily extended beyond the 3rd century. Context 1446 (second spit) yielded a coin also minted between AD 270 and 284. Earlier, but residual, 3rd-century pottery contributed significantly to the entire ceramic assemblage.

Smaller features were located around the edge of the spread. Pottery was retrieved from all but 1681, although only that in 1365

was reasonably well dated to the late 3rd century or later.

Posthole 1371 was situated immediately beyond its NW edge. It was 0.72 m across its widest extent and 0.22 m deep. Excavation revealed the shadow of a timber post that appeared to have decayed in situ.

Pit 1678. Another, possibly related, posthole or pit situated c 2.5 m NE of 1371. The feature was almost vertical-sided and measured 0.69 m wide and 0.26 m deep.
Posthole 1368 was located midway along the spread's NE boundary. It was similarly large, measuring up to 0.68 m across its surface and 0.22 m deep. The cut was V-shaped, possibly allowing a timber post to be inserted at an angle. Both features had been dug into the natural clay and were sealed with topsoil.

Posthole 1681. A third posthole was located opposite 1368 along the SW edge of the spread, but no further details are known.
Hollow 1365. An irregularly shaped hollow in the natural was uncovered within the area of the spread. It had a maximum width and depth of 0.9 m and 0.15 m respectively, and was filled with redeposited natural overlain by yellow brown silty clay.

Interpretation of this suite of features is uncertain. The large rectangular depression attracted a significant level of deliberate deposition of domestic and industrial material from the late 3rd century (Phase 13.1). The regular shape of the depression, and well-positioned postholes hint at a former structural use, and might denote the remains of a large, mainly timber building. Postholes 1371 and 1678 appear to mark the position of a doorway. The roof, flue and floor tiles recovered from the midden were generally fragmented and abraded, and while the building may have had a tiled roof, and a floor suspended over hypocaust pillars, it is perhaps more likely that the material derives from a nearby structure, outside the area of excavation. Given its size, the building represented by 1206 probably had a dual domestic and craft or agricultural function, although objects such as the pin roughouts and millstone, like the building material, cannot be attributed to the use of the building with certainty. In any case, the dating evidence from the midden suggests that such a building was constructed and occupied before the late 3rd century.

Surface 1207 and 1819, ditch 2293 and layer 1472 (Phase 13.1 disuse)

A degraded surface of cobbles was uncovered at the centre of the site immediately west of 1734. It comprised two deposits. No written record of context 1207 was made, except that it overlay 1819. Context 1819 was a dark brown silty clay with frequent chalk and flint cobbles. The layer appeared to extend further west than 1207 to the edge of Ditch 2001, subsequently slumping into it. The deposits are likely to form part of an external surface. A floor within a building is possible, but perhaps less likely, given the lack of structural evidence. A large finds assemblage was assigned to deposit 1207, which seems to have represented deliberate dumping on a disused surface. The ceramic evidence indicates a Phase 13.1 date. This is shared by a coin, also recovered, dating to c AD 270–284. The pottery from context 1819 was

largely consistent with this; a single sherd of late shell-tempered ware—normally mid 4th century or later—may be intrusive.

Ditch 2293 was located towards the western extent of the central part of the site and was adjacent to the cobble surface 1207. The ditch was orientated NW-SE and measured some 12 m long, assuming that cut 2078 represents the ditch's western terminus. The steep, almost vertical sided ditch measured 0.6 m wide and 0.33 m deep at its eastern terminus (1998), but increased to 1.06 m wide and 0.76 m deep further along its length (2001). It was filled with an alternate sequence of deliberate dumping of charcoal-rich soil and natural slumping. Part of the cobble surface had sunk into the partially infilled ditch, suggesting that the surface was originally bound by it.

Deposit 1472, comprising mid brown clay loam, was located to the north of surface 1207, and appeared to overlie part of 1819. However, the deposit remained unexcavated. Despite this, many iron nails were recovered from the surface. Given its apparent relationship with 1819, the deposit was probably laid down during the late Roman period. Layer 1473 was immediately west of 1472. Like 1472, it was unexcavated, but a dense concentration of iron nails was evident.

Central pit or fishpond 1734 (Phase 13.1/2) This kidney-shaped feature, measuring some 7.5 m long and 1 m in depth, was located in the centre of the site. It had been filled with a sequence of four deposits. The first three deposits, which extended across the feature, comprised natural clay, probably forming through silting. The top fill was a deliberately deposited mid brown clay. The lowest pottery-yielding deposit was broadly dated to the Roman period. However, pottery from the remaining upper fills was consistent with a late 3rd- or first half of the 4th-century date. Given the shape of the feature, and the seemingly natural infilling, a pond provides a reasonable explanation, although no fish bones were recovered.

Pit 2081 was located to the NE of pit or fishpond 1734. Cut into the natural clay, it was almost lozenge-shaped, but shallow, with a length of 1.86 m, a width of 0.66 m and depth of 0.19 m. It contained a single silty clay fill that included occasional chalk and flint nodules and charcoal flecks. This yielded a small, but mixed, ceramic assemblage. This was dated to the late 3rd or first half of the 4th century on the basis of a single sherd of Rettendon-type ware, but much earlier grog-tempered pottery was also recovered.

Pit 1784 was 0.52 m wide and 0.31 m deep. It appeared to cut gully 2214 near to its S terminus, although no soil differentiation was apparent. No pottery was recovered, but the feature must be mid 4th century or later.

Midden/structure 1329, 1400, 1968 and 1969 (Phase 13.1/2)

An extensive area of dark, artefact-rich, soil was located towards the eastern part of the settlement. It was irregularly shaped and extended over 40 m along its widest extent. The spread was encountered in evaluation Trench 7 as a layer of dark brown soil (context 9039). Two linear features (9037 and 9040) were thought to cut the layer, although these did not appear to

relate directly to features exposed outside the trench. For the purpose of excavation, the spread was divided into four quadrants. The NE quadrant (1329) was excavated by hand. Soil from the remaining areas (1400, 1968 and 1969) was largely removed by machine.

Deposit 1329 was the upper layer in the north-eastern quadrant, where excavation was focused, but also became the group number to encompass all excavated deposits in this area. The deposit comprised a number of separately recorded fills, although there were few obvious differences between them. However, the soil tended to be lighter in colour and contain fewer artefacts towards the edges of the spread compared with the centre, which presumably represented the main area of deposition.

Context 1329 was a sandy silty clay. It incorporated deposits 1335, 1337 and 1338—black or dark grey layers in the centre and on the eastern edge of this quadrant—and 1336, which extended to the northern edge and was lighter. These layers yielded a range of artefactual material, including pottery, animal bone, glass, ironwork and ceramic building material, with contexts 1337 and 1338 providing the richest assemblages. At the northern edge of the midden, Deposit 1329 was 0.17 m thick and sat within a hollow (1979). The layer sealed Pit 1980 at this point. Further south, towards the centre of the midden, black or dark grey deposit 1333 lay under 1329. It was almost 3 m long and 0.2 m thick, and extended across the centre of the quadrant. It sealed earlier pits 1330 and 1332. It contained a dense concentration of pottery, burnt stone, animal bone and CBM. Context 1971 was a 1.2 m wide spread of light to dark grey soil beneath 1329, but also appeared to be a continuation of 1968 in the SE quadrant. It was, however, artefact-poor, yielding just three fragments of pottery. Underlying this deposit, and on the western edge of the midden, was 1972. It was 1.2 m wide and 0.1 m deep. Deposit 1140 lay at the eastern edge of the midden. This was dark brown or black and yielded pottery, animal bone, and burnt stone. A lighter brown soil (1194) lay above it; 1140 sealed posthole 1200.

Context 1969 was a machine-excavated deposit in the NW quadrant. Like 1329, it was a dark grey to black sandy silty clay layer from which a large artefactual assemblage was recovered. Beneath this was a succession of lighter-coloured silty clay soils (1873, 1874 and 1875). The lowest of these (1873) was an interface between the midden deposit 1874 and the natural clay, and contained comparatively few finds. Context 1968 was a machine-excavated deposit in the SE quadrant and was identical to 1329. It sealed pits 1975 and 1977.

The midden yielded a varied and significant assemblage, and invariably included pottery, iron nails, animal bone, and shell. As an indication of the size of the finds assemblage, it is instructive to note that each pottery-yielding deposit contained an average of 1132 g of pottery. The midden deposits were artefactually richest nearer the centre of the dark spread, compared with the edges. The soil was darkest in these denser areas, denoting high organic content. Deposit 1874 yielded abundant crop-processing waste, which included the charred remains of bread-type wheat grains. The material from the midden

suggests that an agricultural building stood above. The earliest pottery was recovered from deposits below 1969. Forming only a small component of the midden assemblage, this dated to the late 1st century or first half of the 2nd, and was probably redeposited. The majority of the pottery belonged to the late Roman period. The emphasis was firmly on the first half of the 4th century, and it is likely that deposition occurred mainly during this period, continuing to the mid 4th century.

Northern enclosure or byre 2296 (Phase 13.2/13.3)

Gully 1234 was a short linear feature that was enclosed by 2233/4/6. It averaged 0.44 m wide and 0.16 m deep. East and west termini were exposed; the feature was 5 m long in total. Its fills yielded small quantities of early or mid Roman pottery. The feature truncated posthole 1228, which was 0.32 m in diameter and 0.14 deep, and contained a single deposit. No finds were present.

Gully 2233 was c 6 m long, and averaged 0.3 m wide and 0.13 m deep. The northern tip of the feature was close to the southern end of the eastern side of Gully 2234; the two ditches were set at a gentle right angle. The two interventions cut into Gully 2233 contained single fills, which yielded late shell-tempered ware and Rettendon-type ware, together offering a date of the mid 4th-century or later.

Curvilinear gully 2234 was the most northern of this group of features. It formed a horseshoe shape, albeit with a longer eastern arm. The total length of the feature was some 25 m. Seven interventions were cut, which gave an average width of 0.5 m and depth of 0.3 m. Each intervention contained up to two fills, some of which had accumulated though natural silting. Small quantities of pottery were recovered from most deposits. Most of this was undiagnostic, but the first fill of 1261 included a flange-rimmed dish (B6), Hadham oxidised ware, and Rettendon-type ware, which were characteristic of the late 3rd or first half of the 4th century.

Gully 2235 was a roughly linear feature that ran inside the horseshoe of 2234, connecting the northern tip of 2236 with the eastern side of 2234. It was approximately 5 m long, although the entire length of the feature was not seen during fieldwork. The gully was on average 0.37 m wide and 0.09 m deep. A section cut at the intersection with 2234 suggested that 2234 truncated the eastern terminus of 2235. However, distinction was by no means clear, and it remains possible that the use and infilling of both was contemporaneous. Single fills were recorded in two other interventions. Pottery recovered from the feature was broadly Roman in date.

Gully 2236 was orientated NE-SW. The northern end met the southern tip of gully 2234. No boundary between the two was observed, and it is likely that both form part of the same feature. Gully 2236 was c 6 m long, and averaged 0.61 m wide and 0.36 m deep. Three interventions were made, which showed that the pattern of deposition was similar to that seen in 2234. The best dating evidence was retrieved from the upper fill of 1258. This included late shell-tempered ware, which suggests mid 4th century or later deposition. A second posthole was uncovered

immediately SE of gully 2236. This measured 0.3 m in diameter and was 0.19 m deep. It contained a single fill, from which undiagnostic Roman pottery was recovered.

Gully 2214 was aligned NW-SE. Its western terminus had been dug into Period 11 Ditch 2252. The gully was located immediately south of the corner of enclosure 2249/2248. A pit (1784) appeared to cut the gully near to its S terminus. It averaged 0.31 m wide and 0.14 m deep. Segment 1591 yielded residual mid 1st-century pottery, although the remaining pottery is firmly late Roman in date, with final deposition occurring in the mid 4th century.

Collectively, these features appear to form an integral unit (2296). Two components are possibly represented: a large, subcircular structure formed by the eastern arm of 2234, with 2235 and 2236; and, to the north, the horseshoe-shaped structure of 2234. Given their dimensions, the gullies may have functioned as beamslots for a roundhouse or, perhaps more convincingly, defined an open-sided structure or enclosure. The larger of the two structures was apparently open at the west, suggesting in any case that domestic occupation was unlikely. Instead, the feature may be interpreted as a byre or stock enclosure. In this light, the internal gully (1234) can be viewed as a slot for drainage. The horseshoe structure, presumably connected with this pastoral function, formed an annexe to the main enclosure. The dating evidence suggests that the use of the complex had terminated by the mid 4th century or later. The date of construction is unclear, but it is tempting to link the complex either with the square enclosure of ditches 2247, 2248 and 2249, or the adjoining roundhouse 2237. If the latter, then the complex may have been in use from the late 2nd or 3rd century.

Parallel ditches 2261 and 2262

Ditch 2261 is orientated almost N-S, and cuts Period 12 ditches 2278, 2259/2260 and 2275 and Period 11 ditch 2273 as well as ditch 2262, but is itself cut by 2244. The latest pottery is Period 13. An amount of Period 12 pottery was recovered, but this was from a confusing intersection (1623), and may not belong to the feature.
Ditch 2262 runs parallel with 2261. Like 2261, it cuts 2278, 2259/60, 2275 and 2263, and is cut by 2244. The pottery provides an unclear picture. Ditch 2259/2260 was recut in Period 13, and was at least substantially infilled before 2262 was cut. Most of the pottery is probably residual. In any case, both ditches are orientated against the usual feature alignments, suggesting a break with the organic development of the settlement. It is possible that the ditches are considerably later than the pottery suggests.

Ditch 2244 (Phase 13.3+)

Ditch 2244, aligned NE-SW and shallow at 0.14 m deep, emerged from the eastern baulk and continued for a length of some 110 m before terminating at Period 12 enclosure ditch 2255. The point of intersection was lost to later truncation from field boundary ditch 2284, but it is certain that 2244 is stratigraphically later than 2255. The ditch is not cut by any Roman features, but itself cuts a number of features, including, crucially, midden 1329, which received material up to the mid 4th century AD. The little pottery retrieved from the feature is consistent with a late

Roman date, but is it unclear whether the ditch represents the latest Roman-period activity on the site, or was dug after this time. The feature reasonably respects the prevailing Roman-period alignment and ditch 2255, which may have remained a visible landscape monument when 2244 was dug.

Waterhole 2240 (Fig. 3.86). Pit 2240, cut into the natural clay, was located within corner of Ditch 2250/55. Two interventions comprising 1 m wide slots were made: 1393 in the NW quadrant and, opposite, 1390 in the SE quadrant. Intervention 1393 was excavated only to a depth of 0.12 m. However, the full profile was seen in 1390. This gave a width of 6 m and depth of 1.17 m. This segment also revealed two 'steps' cut into the side of the pit to create three gradually sloping levels. Two deposits were encountered. The lowest fill was a silty clay soil with c 5% chalk inclusions. The upper fill was also silty clay, but contained iron pan, rather than chalk. Considering the volume of soil removed during excavation, little artefactual material was recovered. Finds were restricted to animal bone fragments and almost 1 kg of pottery. The top fill included late shell-tempered ware and Hadham oxidised ware, suggesting a mid 4th century or later date for final infilling. The lower fill received Hadham oxidised ware, suggesting that initial deposition could have occurred as early as the 3rd century. The pit is somewhat isolated from Period 13 features, which are more centrally located. Given this, and its size and profile, the pit may have functioned as a quarry or waterhole, with the latter providing the more likely interpretation.

Unphased

Pit 1147 was located immediately outside the south corner of Phase 11.1 enclosure 2247–9. It was 1.1 m in diameter and 0.42 m deep. It contained generally undiagnostic Roman pottery.

Central features

Ditch 1746, apparently overlying structural gully 2295, was 1 m wide, and survived for a length of 3 m and depth of 0.15 m. No terminals were observed. The feature contained a single silty clay fill. Any upper fill was lost to truncation by Pit 1533. No dating evidence was recovered.

Pit 1533 had been cut into Ditch 1746. The feature measured 1.8 m across its widest extent and 0.26 m deep. It contained a sequence of silty clay deposits; the middle fills comprised a charcoal-rich deposit, possibly deriving from a hearth, below a dump of mussel shells. Pottery was recovered throughout the feature, although none of it was particularly diagnostic. Final infilling occurred during the middle or late Roman period, or later.

Ditch 1748 extended at 90° in a NE direction from the pit, although the two features did not meet. It continued below a dark soil spread, and contained a single fill that yielded no dating evidence.

Pit 1753 was located some 3 m NE of 1748. Cut into the natural clay, it was irregularly shaped. It contained two silty clay fills that yielded no finds. The feature was sealed by the dark soil layer.

Pit or posthole 1929 was a small feature located SE of this group of features. It measured 0.55 m wide and 0.1 m deep, and contained a single undated silty clay fill.

Ditch 2279. This ditch was located in the extreme N end of the site. It

measured 0.7 m wide and 0.2 m deep. Roman pottery was retrieved from it, but this could not be closely dated.
Ditch 1168. This feature survived for a length of c 8 m; it measured 0.74 m wide and 0.36 m deep. It contained a single red brown clay fill.

Periods 15–18: Post-Roman

A number of medieval field boundary ditches, which cut all Roman-period archaeology, were observed across the area of excavation. Ditch 2282 was among the earliest stratigraphically. It was orientated N-S and extended from the extreme northern end of the site to the centre before being cut by another major ditch (2284). This was similarly aligned, but extended along the entire length of the excavation area. Ditches 2283 and 2285 were orientated E-W, and extended off 2282 at 90° towards the eastern edge of excavation. Ditch 2280 was located at the extreme northern part of the site. Like 2284, it cut 2285, and may have met the northern terminus of 2284 to create two sides of a field.

Undated

Pit 1827. This pit measured 0.55 wide and 0.2 m deep. It contained a single silty clay fill that yielded worked flint and undated pottery, possibly prehistoric.
Pit 1853. The pit was located immediately west of enclosure ditch 2239. It measured 0.44 m across its widest extent and 0.24 m deep, and contained a single, charcoal-rich silty clay fill. No artefacts were found.
Central hearths 1813 and 1815. Two hearths were uncovered in the central part of the site. Hearth 1813 was an oval shaped feature that measured 1.4 m along its greatest extent and 0.13 m deep. Its single fill contained burnt flint and stone. In addition, a scatter of flint was observed on the surface. A second hearth (1815) was located nearby. This measured a maximum of 0.84 m wide and 0.09 m deep. It too contained burnt flint and stone, and charcoal-rich soil. A flint scatter was also seen on the surface. Both were dug into the natural clay and were sealed by topsoil. No dating evidence was recovered.

Related reports: Finds: flint, prehistoric pottery, late Iron Age-Roman pottery, ceramic building material, fired clay, coins, metalwork, worked bone, worked stone, glass (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6); Environmental: charred plant remains, charcoal, molluscs (CD/Chapter 7).

Stane Street South (SITE 45; Fig. 3.87)

In April 2002, two undated tree throw holes were recorded in the central part of the proposed carriageway cutting, to the south of the present A120 and north of the Flitch Way (disused railway). Both features lay between 92–3 m OD on generally level ground though rising very slightly to the north. A possible hearth feature was also identified. The natural was characterised by the prevailing boulder clay overlain by mid-yellowish brown silty clay with discrete patches of gravel and calcareous material.

Undated

Tree throw holes (17002, 17007). Irregular ovals. No artefacts were recovered.

Possible hearth (17003). A circular feature with a slightly curved base measuring 0.6 m by 0.62 m and 0.06 m deep. The fill (17004) comprised moderately compact silty clay and brown earth with c 20% charcoal. No finds were associated.

Highwood Farm (sites 11 and 46; fig. 3.88) and Great Dunmow Round House (site 12; fig. 3.89)

The Highwood Farm site (at NGR TL 6090 2132) was located at c 94 m OD on ground gradually sloping towards the north-west. The natural geology was boulder clay. The site had been recently cultivated and though there were areas of truncation, the heavy clay soil had prevented deep ploughing which had in turn preserved features and deposits. At Great Dunmow Round House, c 150 m to the east at c 93 m OD, the boulder clay was overlain by pale orange-brown silty clay subsoil.

At Highwood Farm an initial six evaluation trenches revealed several prehistoric features together with grubbed out post-medieval field boundary ditches. A more extensive excavation followed this with two separate areas being opened up, and subsequent observations were made during the watching brief. A five-trench evaluation was carried out at Great Dunmow Round House, which exposed a number of ditches of later prehistoric and unknown date.

Periods 6–7: Late Bronze Age

A low-density scatter of post-Deverel-Rimbury pottery (and a single middle Bronze Age sherd) recovered from Iron Age features at Highwood Farm indicates some activity during the late Bronze Age, but there were no features convincingly of this date. However, a ditch of this period (120211) was recorded some 230 m to the ESE at Great Dunmow Round House.

Ditch 120211. The ditch, recorded in evaluation Trench 1202 running ENE-WSW, was 1.44 m wide and 0.38 m deep with moderately steep sides and a flat slightly inclined base. Its single fill (120212), an orange-brown silty clay with flint nodules at the base, produced 16 sherds of late Bronze Age pottery at the base of the ditch and 97 pieces of animal bone (horse mandible) towards the top of the fill. It is likely that these bones are from the same male animal. The ditch was sealed by colluvium.

Ditches on the same alignment as 120211 were also recorded in Trenches 1201 (ditch 120109) and 1203 (120304), which, if part of the same feature, would give a length of at least 75 m. The wider feature (120209), 1.3 m to the south-east and recorded for c 35 m, was the same depth but 4.28 m wide.

Period 8: Middle Iron Age

At Highwood Farm, most of the evidence from this period comes from a complex of pits, gullies and ditches in the western part of the site (Table 3.6), although a ring gully and pit in the eastern part of the site suggest they represent part of a small farmstead and associated field system extending across and beyond both excavated areas.

The field system is represented by N-S ditch 1048, a length of ditch running parallel to it (1015) and another, probably associated but undated ditch, running at a right angle to it (1069).

Ditch 1048. This 18 m long ditch, running approximately parallel to

late Bronze Age ditch 1015, extended north of the excavated area, and was cut to the south by a wide ditch (1067), probably a post-medieval boundary ditch also recorded in the eastern excavation area (2037). It was 1.6 m wide and 0.93 m deep with a V-shaped profile getting steeper towards the narrow (0.18 m wide) flat base. Its primary fill (1049) was 0.22 m thick, and the boundary between its 0.3 m thick secondary fill (1050) and the overlying fill (1052) was interpreted in the field as a round-bottomed, 0.66 m deep, recut (1051) of the ditch, although this may simply mark the boundary between the primary and secondary fills. Fill 1052, which filled most of the rest of the ditch, produced four post-Deverel-Rimbury and one middle Iron Age sherds and six pieces of animal bone. It was overlain by a small spread of clay and chalk (1053) on the eastern side of the ditch, possibly eroded from a bank, and an upper silting layer (1054) along the centre of the ditch. Small amounts of charcoal were evident throughout the ditch fills, but it was present in larger quantities (c 25%) in the upper fill.

Ditch 1015 (and ditch 2069). A 10 m length of ditch was recorded running south-south-east from a rounded terminal some 13 m to the east of ditch 1048. It was 1.1 m wide and 0.26 m deep with moderately steep sides and a wide slightly concave base. Its single fill (1016) produced 15 sherds of middle Iron Age pottery.

Some 57 m to the south-east, crossing the eastern excavation area, a similar but undated ditch (2069) was recorded running to the south-east in a slightly meandering line for at least 18 m, possibly representing a continuation of the same ditch. It was 1.1 m wide and 0.25 m deep with a V-shaped profile and moderately steep straight sides, and a single fill (2068).

Ditch 1069. The southern edge of a ditch running at a right angle to ditch 1048 was noted in the northern corner of the site, and recorded in plan but not excavated. It was at least 2.5 m wide.

Many of the other middle Iron Age features at the site were recorded in the area east of ditch 1048. They included a series of linear features, some curved or angled, possibly marking small roundhouses or enclosures, and representing at least three phases of activity.

Ditch 1003. Immediately west of ditch 1015 a c 4 m long length of ditch was recorded running NNE from the southern edge of the excavation to a terminal. It was 1.2 m wide with a V-shaped profile, which varied slightly between the two excavated sections. In section 1012, to the south, it had moderately steep and slightly convex sides and a flat base, 0.58 m deep, while in section 1003, to the north, it had shallower and slightly concave sides and base, 0.5 m deep. Up to four grey-brown silty clay fills were recorded in the ditch, the sequences (1004–1006 in section 1003, and 1025–1028 in section 1012) being largely comparable in the two sections. The ditch produced a single sherd of middle Iron Age pottery and two pieces of animal bone.

Ditch fill 1006 was truncated on its west side by a tree throw hole (1009), the lower fill of which (1010) produced 19 sherds of middle Iron Age pottery, a possibly worked stone object and fired clay (as well as an intrusive clay pipe stem). This, in turn, was cut by

gully 1065 (section 1007), indicating a significant interval between the construction of the ditch and the gully. Between the two events ditch 1003 had silted up to a depth of at least 0.38 m, and a tree had become established and its eventual tree throw hole had itself silted up.

A second feature (gully 1066) was cut by gully 1065. However, the line of this curvilinear feature was closely matched by the later gully, suggesting a significantly shorter interval between the construction of these two features.

Curvilinear gully 1066. This narrow curvilinear feature, truncated at the east by gully 1065 (below), was recorded running for 9 m, forming the north-west arc of a circle c 8.5 m in diameter. In the two excavated sections (1042 and 1057) it was up to 0.24 m wide and 0.14 m deep with a moderately steep V-shaped profile. Its single organic-rich fill (1043 and 1058) produced three middle Iron Age sherds, as well as well as small quantities of fired clay, worked flint and animal bone.

Polygonal gully 1065. This feature, cutting the upper fills of ditch 1003 (as well as those of three throw hole 1009), ran ENE from the southern edge of the excavation for approximately 5 m, before a sharp turn to the north-west. After a further 6 m it made a similar turn to the south-west, then ran for c 4.5 m to a narrow terminal. At the southern recorded extent (section 1007) the ditch was 0.75 m wide and 0.24 m deep, with moderately steep sides and a wide flat base, and along its northern side (sections 1055 and 1040) it was 0.64–0.72 m wide and 0.11–0.16 m deep with similar profiles. At its western end, however, it narrowed to a 0.28 m wide and 0.11 m deep terminal with a V-shaped profile. Its profile at this point would suggest that this narrowing was not due to a greater degree of truncation in this area, but that the end of the ditch was a deliberate terminal.
The feature contained a organic-rich single fill (1008, 1041, 1056 and 1060), and produced 22 sherds of middle Iron Age pottery, as well as small quantities of fired clay, worked flint and animal bone.
Two further lengths of gully (1063 and 1064) were recorded immediately to the north, just beyond the area bounded to the east by ditch 1015.

Gully 1063. This slightly curved feature, running approximately ENE-WSW, was 5.85 m long, up to 0.5 m wide and 0.21 m deep, with concave sides and base. Its single organic-rich fill (1034 in section 1033, and 1036 in section 1035) produced six middle Iron Age sherds. During the evaluation stage (Trench 1101) the same feature (110104, fill 110105) had produced a further 13 sherds, as well as 21 pieces of burnt sandstone (possible a quern stone) and one piece of flint (as well as two intrusive small fragments of ceramic building material). The outer edge of the ditch cut a small pit (110106).

Curvilinear gully 1064.
Approximately 2 m north of the western terminal of gully 1063 was the eastern terminal of a gully describing the north-western arc of a possible circle c 9.6 m in diameter. The gully was 8.7 m long and up to 0.5 m wide and 0.32 m deep, with steep sides and a concave base. Its single organic-rich fill (1014 in section 1013, 1039 in section 1037 and 1062 in section 1061) produced one sherd of middle

Iron Age pottery and six pieces of animal bone.
The nature of gullies 1066 and 1064 is unclear, but they probably represent the remains of truncated wall trenches of roundhouses, with postholes for any internal posts supporting the roofs having being truncated. It is possible, given the lack of full circles, that they had some other function, perhaps bounding some type of activity area.

A series of small features, comprising five pits (1017, 1020, 1022, 1032 and 110106) and a short linear feature (1071), were distributed across the western part of the site. All had similar profiles (moderately steep sides and flat bases) and organic-rich fills. The pits were unrelated stratigraphically to other features apart from irregular pit 110106, which was cut by feature 110104 (gully 1063). Their fills contained burnt remains, bone, flint, and pottery and in pit 1020 a concentration of burnt flint nodules.

Some 75 m to the east, in the eastern excavated area occupied by predominantly late Iron Age features (below), there were two further middle Iron Age features, a curvilinear ring gully (2036) and a pit (2062) some 12 m to the south-west.

Curvilinear gully 2036. This 14 m long curving gully described the south-eastern arc of a circle c 12 m in diameter. It was 0.42 m wide and 0.13 m deep with moderately steep concave sides and base. The gully was intersected towards its north end by the ditch of late Iron Age subrectangular enclosure 2035 and although their stratigraphical relationship could not be established, the single fill of the gully (2097) produced one sherd of middle Iron Age pottery and two pieces of animal bone. As with gully (1064) to the west, this feature is likely to be a truncated roundhouse wall trench. Unlike most roundhouses of this period it did not have an east or south-east facing entrance—the nearest possible entrance to the norm would have been north-east facing.
Pit 2062. This pit was 1m in diameter and 0.45 m deep with vertical sides and a flat base. Its single fill (2061) produced three middle Iron Age sherds, as well as 438 g of fired clay and three flint chips.

Period 9: Late Iron Age

All the evidence from this period at Highwood Farm comes from a complex of features, including pits, postholes (some forming possible structures), gullies and ditches in the eastern part of the site. As with the middle Iron Age, the density of features, combined with the range of finds they contained, suggests that they represent a small farming settlement, although there were no indications of a contemporary field system.

Enclosure 2045. This subrectangular enclosure was up to 17.5 m long east/west and 14.5 m north/south. It was bounded by a ditch with two entrances—a c 3 m wide gap at the north-west corner and a slightly narrower gap approximately midway along the north side. The ditch varied in its dimensions around its circuit, being recorded in the six excavated sections (clockwise from eastern terminal of the northern entrance, 2112, 2130, 2108, 2129, 2088 and 2099) as 1.05–1.7 m wide and 0.44–0.70 m deep. It was narrowest on the north side between the two entrances. It also

varied in profile—in most sections it had a V-shaped profile, steep at the lip and towards the base, but in section 2088 it had concave sides. The excavated section produced c 1.5 kg of late Iron Age pottery distributed throughout its fills.
A primary fill (2128) against the outside edge of the ditch in section 2129 was interpreted as possible eroded bank material, suggesting that the enclosure may have had an outer bank. The eastern terminal of the north entrance (2112) contained what appeared to be a deliberate deposit (2111) of cattle mandibles and other bones at the base, as well as an antler weaving comb (object 2001), and the southern terminal of the western entrance contained parts of a spindlewhorl and a cylindrical loomweight. There was a dump of hearth material, comprising charcoal and burnt soil, at the top of ditch section 2129.
Apart from the northern end of middle Iron Age gully 2036, only one feature (2123), an undated possible posthole 0.28 m in diameter and 0.08 m deep, was recorded inside the enclosure, close to its western side.
A number of short lengths of gully were recorded in the area to the east of the enclosure, three of them dated to the late Iron Age. A number were curved, but did not form the regular arcs displayed in most roundhouse wall trenches.

Gully 2039. The western terminal of this 7.5 m long gully was c 5 m east of the enclosure, and the gully ran eastwards then curved to the north-east. It was irregular in profile, being up to 0.48 m wide and 0.28 m deep with steep sides and a flat base. Its single fill (2032/2049/2071) contained a large quantity of late Iron Age pottery (125 pieces, 692 g).

Gully 2040. Only 0.2 m to south of gully 2039, and roughly parallel to it, was a slightly curving east/west gully. It was 3.6 m long, and up to 0.29 m wide and 0.1 m deep with concave sides and base. Its single fill (2074/2076/2077) produced a small sherd of late Iron Age pottery and a fragment of fired clay.

Feature 110503. A third curvilinear feature, in the area immediately west of gullies 2039 and 2040, had earlier been recorded in evaluation Trench 1105, and it is possible that it represents a continuation of gully 2039, although this cannot be established. It was ran approximately E-W, curving south towards the west and extending beyond the edges of the evaluation trench. It was 0.7 m wide and 0.3 m deep with moderately steep sides and a flat base, and its single fill (110504) produced 11 sherds of late Iron Age pottery (as well as a single residual post-Deverel-Rimbury sherd).

Ditch 110508. Also in evaluation Trench 1105, this NE-SW linear feature was 0.7 m wide and 0.2 m deep with moderately steep sides and a concave base. Its single fill (110509) produced a single, probably residual fragment of post-Deverel-Rimbury pottery and a piece of worked flint. The feature was not recorded during the subsequent excavation.
There were numerous postholes outside the enclosure. Some of these appear to have formed recognisable structures. One group of nine postholes c 15 m south-east of the enclosure appears to have formed two four-post structures (2022 and 2027), although the postholes in structure 2027 varied substantially in size (0.16–0.60 m in diameter). The structures were clearly not contemporary as they

were on different alignments and overlapped, but it was not possible to determine which was the earlier. One posthole (2029) in the group may be unrelated to either structure. Although single postholes within each structure produced pottery of significantly different date (middle Bronze Age from structure 2022 and late Iron Age from structure 2027), the concentration of features in this small area suggests that they are broadly contemporary and associated with the late Iron Age settlement.

Four-post structure 2022. This approximately square arrangement of four postholes (2007 (Fig. 3.90), 2012 (Fig. 3.91), 2014 (Fig. 3.92) and 2019 (Fig. 3.93)) was 2.5 m by 2.7 m, its longer axis aligned approximately WNW-ESE. The postholes were 0.4–0.5 m in diameter and 0.07–0.29 m deep. Posthole 2014 contained fragments of presumably residual middle Bronze Age pottery and fired clay (and a fragment of CBM, presumably intrusive), while the fill of posthole 2019 included c 20% charcoal.

Four-post structure 2027 (and posthole 2029). This approximately square arrangement of four postholes (2003 (Fig. 3.94), 2005 (Fig. 3.95), 2010 (Fig. 3.96) and 2017(Fig. 3.97) was also 2.5 m by 2.7 m, its longer axis aligned approximately NW-SE. The postholes, two of which (2003 and 2005) produced single late Iron Age sherds, were 0.16–0.60 m in diameter and 0.18–0.28 m deep. The post at its south-western corner lay inside four-post structure 2022. A fifth posthole (2029) (Fig. 3.98), 0.44 m by 0.68 m and 0.16 m deep, lay just inside the west side of the structure, and may be unrelated to it.

There were a further 13 postholes in the area around the enclosure. Only one (2046), measuring 0.18 m in diameter and 0.14 m deep, could be dated, producing three late Iron Age sherds, although, like a number of the other postholes, it appeared to form a pair with a similar sized posthole (2050) c 1.7 m to its south.

There were also two oval late Iron Age pits (2026 and 2092) some 13 m apart, south of the enclosure.

Pit 2026 (Fig. 3.99). The eastern pit was 1.9 m by 2.3 m wide and 0.5 m deep. Most of the finds, consisting of over 1.5 kg of late Iron Age pottery, along with fired clay, burnt stone and animal bone came from the upper of the two fills, which also included a substantial amount of charcoal.

Pit 2092. The western pit was c 1.25 m in diameter and 0.75 m deep. It also produced substantial quantities of pottery, fired clay and animal bone, including a fragmented cattle skull from the thin primary fill.

There was further evidence for late Iron Age activity some 300 m ESE (Site 46) in the form of a single curvilinear gully, possibly associated with an adjacent undated hearth.

Gully 18004. This S-shaped feature, running for c 5 m approximately NNW from a terminal at its southern end, was up to 0.9 m wide and 0.03 m deep, with concave sides and base. Its single fill (18005) produced 12 sherds of late Iron Age pottery.

?Hearth 18003. This oval feature, 2.6 m west of gully 18004, measured 0.36 m by 0.4 m and 0.1 m deep. Its 0.5 m thick primary fill (18002) was overlain by a layer of

burnt flint and charcoal in a silty clay matrix (18001).

Undated

There were a number of undated linear features in the eastern part of the site. However, as both middle and late Iron Age features were recorded in this area, they could belong to either of these phases.

Curvilinear gully 2028. This curved gully was 5.5 m long, describing the northern arc of a near circle c 9–10 m in diameter. It was at least 0.15 m wide, and up to 0.18 m deep at its eastern terminal, with moderate to steep sides and variable flat/concave base, and a single fill (2059/2072).

Feature 110506. This north/south feature was recorded in evaluation Trench 1105 close to the eastern edge of the excavation area, but was not excavated. It was 1.7 m wide.

Gully 2067. This 1.94 m long slightly curved feature, describing part of the south-eastern arc of a circle, was 0.37–0.49 m wide and 0.1 m deep, with concave sides and base. Its single fill (2064/2066) produced a fragment of fired clay.
There were also two undated hearths close to the enclosure ditch, one (2119) on the north side between the two entrances, the other (2101) on the east side.

Hearth 2101. This circular feature was 0.85 m in diameter and 0.14 m deep with steep sides and a flat base. Its single fill (2012) contained 50% charcoal and ashes.

Hearth 2119. This oval feature measured 0.65 m by 0.75 m and was 0.08 m deep, with shallow sides, steeper at the west. It single fill (2118) contained large quantities of charcoal and some burnt soil.
All but one of the postholes were undated, although like postholes 2046 and 2050 a number appeared to form pairs or be otherwise associated. Some 8 m south of the enclosure, postholes 2034 and 2043 were c 1.4 m apart immediately on the north side of, and possibly associated with, pit 2026 (below), while stakehole 2023 cut the lower pit fill on the same side. Postholes 2103 and 2105 were immediately adjacent, sited 2.5 m outside and aligned on, the north entrance of the enclosure. The other postholes appear to have been individual features. Table 3.7 summarises the undated pits and postholes. A small undated pit (2054) was recorded east of the enclosure, and a further two (110403 and 110605) during the evaluation to the south-east and south.

Related reports: Finds: flint, prehistoric pottery, Roman pottery, fired clay, metalwork, worked stone, worked bone (CD/Chapter 3); Animal bone (CD/Chapter 6); Environmental: molluscs (CD/Chapter 7).

South of Great Dunmow (SITE 47; Fig. 3.100)

Two areas c 160 m apart were investigated at NGR TL 561450 221206 on ground sloping gently from c 90.5 m OD at the west to c 87 m OD at the east. The underlying geology is boulder clay with gravel patches in places.

Period 5: Middle Bronze Age

Three small sherds of middle Bronze Age pottery recovered from tree throw hole 19007 suggest limited activity nearby.

Undated

Other dispersed but undated activity is indicated by a quantity of burnt flint recovered from a second tree throw hole (19004), a hearth and a length of ditch.
Hearth 19001. This isolated shallow circular feature was 0.92–1.01 m in diameter and 0.03 m deep. The clay natural beneath it was burnt red and its single fill (19002) contained a large amount of charcoal but no finds.
Ditch 19006. This ditch, running 15 m NW-SE, was 0.33 m wide and 0.23 m deep with a U-shaped profile, and a single fill (19005).

Related reports: Finds: prehistoric pottery (CD/Chapter 4).

Minchins (SITE 13)

Site designated but not investigated.

West of Ongar Road (SITE 48; Fig. 3.101)

Site 48, extending from NGR TL 562318 221147 in the west to TL 562560 221036 in the east, was located on land sloping gradually to the east from c 83 m to 78 m OD. The underlying geology was boulder clay with patches of natural gravel and sand.
An assemblage of earlier prehistoric flintwork was recovered from the subsoil. Ephemeral traces of later Bronze Age settlement with pits, postholes and ditches and a possible cremation were identified.

Period 3: Neolithic

The subsoil (21016) produced a scatter of mid/late Neolithic flint debitage, whose fresh condition suggests the flints had not been significantly disturbed. The scatter contained a high proportion of blades and blade-like flakes, possibly reflecting a specialised aspect to the assemblage, which contained also four complete flake cores. There were two retouched flakes and one end-and-side scraper, and at least 15 pieces showed signs of use, indicating activities other than just flint-knapping on the site.

Periods 6: Late Bronze Age

Late Bronze Age features were recorded in both eastern and western parts of the site. Of the five small features, distributed at irregular intervals along a curving line in the western part of the site, four contained predominantly post-Deverel-Rimbury pottery (21002, 21004, 21007 and 21010), with only a single sandy ware sherd. The fifth, an unurned cremation burial (21013) is radiocarbon dated to the late Bronze Age

Pit 21002. This subrectangular feature measured 0.4 m by 0.5 m wide and was 0.11 m deep, with moderately steep sides and a flat base. Its single fill (21001) contained three small sherds of post-Deverel-Rimbury pottery.
Pit 21004. This circular feature was 0.72 m in diameter and 0.15 m deep, with an irregular shallow profile. Its single fill (21003) contained two post-Deverel-Rimbury sherds, six pieces of animal bone and a broken flint blade.

Pit 21007. This subcircular feature was 0.87 m in diameter and 0.25 m deep, with moderately steep sides and a flat base. Its 0.07m thick primary fill (21006) was overlain by a burnt deposit of dark brown-black

silty clay (21005) containing a four post-Deverel-Rimbury sherds, including a rim, as well as featureless pieces of fired clay and charcoal.

Pit/posthole 21010. This oval feature measure 0.87 m by 0.64 m and was 0.22 m deep, with steep sides and an irregular concave base. It had a compact packing of interlocking flint nodules and occasional pebbles (21009) on its north side, the rest of the cut, interpreted as the postpipe (21008), containing patches of burnt clay and charcoal flecks, and producing 51 post-Deverel-Rimbury sherds (plus one early/middle Iron Age sherd), and single pieces of animal bone and flint.

Cremation burial 21013. This circular feature, c 13 m east of pit 21002, was 0.6 m in diameter and 0.2 m deep, with shallow sides and concave base. The lower fill (21012), an apparently deliberately placed deposit of mid brown-yellow clayey silt, contained no finds. However, the upper fill (21011) in the centre of the cut consisted of an unurned cremation deposit, with human bone (1085 g) of a possibly male adult aged over 40 years, and redeposited pyre debris, with burnt clay in a loose black soil containing much charcoal. Charred plant remains from the upper fill provided a radiocarbon date of 910–790 cal BC (NZA-19582: 2678 ± 40 BP).

Postholes 20168, 21070 and 21072. At the north of the eastern part of the site, this tight group of three evenly spaced postholes formed a near right angle. They were 0.21–0.3 m wide and 0.17–0.26 m deep, and although only posthole 21070 was dated, containing a single post-Deverel-Rimbury sherd, the three are likely to be associated. The postholes may belong to a truncated four-post structure.

Approximately 90 m to the south was an arrangement of linear features, many aligned at right angles to each other and interpreted during their excavation as part of a post-medieval, or later, field system, although the only dating evidence was a single post-Deverel-Rimbury sherd.

Ditch 21015 and gully 21063. The main element was a straight ditch (21015) aligned approximately east-west and recorded for some 65 m, in which two sections were excavated. In section 21015 it was 0.51 m wide and 0.24 m deep, with a moderately steep V-shaped profile. Its single fill (21014) produced one post-Deverel-Rimbury sherd and a flint blade. In section 21066, it was 0.55 m wide and 0.27 m deep, with steep sides and a flat base. It had a 0.05 m thick primary fill (21065) overlain by an upper fill (21064) producing a featureless piece of fired clay.

Running south at a right angle from the east end of the ditch, and probably associated with it, was a 10m long gully (21063). It was 0.2 m wide and 0.06 m deep with moderately steep sides, a rounded base, and a single fill (21062).

Feature 21030 (Fig. 3.102). To the north of ditch 21015, and at a right angle to it, was a linear structure of unknown function comprising a short linear feature and three postholes. The linear feature (21020/21027) was 2.4 m long and up to 0.6 m wide, narrowing towards the north. The two ends were excavated.

In the northern section (21020) it was 0.35 m deep, with steep sides and a shallow terminal. The primary fill (21019) was limited to the terminal. In section it appears that this layer was steeply cut into, the

upper of the two fills (21017) producing three worked flints.
In the southern section (21027), the primary fill (21026) was also limited to the sloping terminal of the feature, being cut through into the natural by posthole 21025. The posthole was 0.6 m in diameter, and 0.35 m deep below the present ground level, with a single fill (21024). Abutting this posthole to the north was a second posthole (21023), 0.4 m in diameter and 0.32 m deep below the present ground level, also a single fill (21022). Layer 21021 sealed both postholes and was the same as the upper fill (21017) at the north end.
A third, smaller posthole (21029), 0.22 m in diameter and 0.15 m deep, with a similar fill (21028), was sited immediately to the south of the linear feature's southern terminal.

Undated features

Feature 21061. To the south of ditch 21015 was a shallow circular scoop, 0.6 m in diameter and 0.09 m deep, its mid grey brown sandy clay fill (21060) containing fragments of charcoal but no finds.
Postholes: To the east of the site was a single isolated posthole (21055), 0.26 m in diameter and 0.06 m deep, and a pair of possible oval postholes up to 0.4 m wide and 0.12 m deep, c 3 m apart (20159 and 20157). None of these features produced any finds.

Related reports: Finds: flint, prehistoric pottery (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6).

Hoblongs Brook (SITE 14; Fig. 3.103)

Site 14 lies on gently sloping ground to the north of Hoblongs Brook (NGR: TL 6283 2076), at around 67 m OD. The natural geology is boulder clay with chalk inclusions. All features show signs of truncation by ploughing.
Fieldwalking in the vicinity of Hoblongs Brook located a scatter of Roman tile and post-medieval pottery. Four evaluation trenches (1401, 1402, 1403, 1404) were excavated in order to determine the extent of the archaeology. These revealed short stretches of three modern drainage ditches, two running north-south (140303, 140305) and one running NW-SE (140103). A modern drainage pipe was cut into the fill of ditch 140103 shortly after it had silted up and the fill of ditch 140305 contained modern glass. These ditches are therefore thought to be 20th century in date.

Period 7–9: Iron Age

A single sherd of middle Iron Age pottery was recovered from modern ditch 140103 (context 140104).

Period 18: Modern

Ditch 140103 was linear in plan and orientated NW-SE. It was exposed for a length of 2 m and was 2.6 m in width by 0.9 m in depth. In profile the ditch was V-shaped, having gently sloping sides descending to a narrow slightly pointed base. The primary fill (140107) comprised light grey silt, with occasional small pebbles and occasional charcoal flecks and occupied the lower 0.35 m of the ditch. Overlying this was a light grey clay-silt (140104) 0.25 m thick, with occasional inclusions of small stones and frequent charcoal flecks. Fill 140104 was cut by a U-shaped pipe trench (140108)

measuring 0.28 m in width by 0.26 m in depth. This was filled by a dark grey brown silty-clay (140109) containing occasional inclusions of small pebbles and a ceramic pipe. Sealing pipe trench 140108 and filling the upper 0.29 m of the ditch was a dark grey brown silty-clay (140105) with occasional inclusions of small pebbles and occasional charcoal flecks. The secondary fill contained a 20th-century glass vessel and part of a paving slab. The other layers were devoid of finds.

Ditch 140303 was linear in plan and orientated N-S. It was exposed for a length of 2.4 m and was 2.85 m in width. The ditch was not excavated.

Ditch 140305 was linear in plan and orientated N-S. It was exposed for a length of 2 m and was 1.3 m in width by 0.26 m in depth. In profile the ditch was concave, having gently sloping sides and a rounded base. The single fill (140306) comprised a mid orangey brown silty-clay, with occasional inclusions of small subrounded and subangular stones, and occasional manganese flecks. The fill contained modern glass.

Related reports: Finds: flint (CD/Chapter 4).

A130 (SITE 15)

Site designated but not investigated.

Chelmer River (SITE 16; Fig. 3.104)

This site (at NGR TL 6395 2044) lies at 50 m OD adjacent to the River Chelmer, which runs 75–100 m to the north-east. The land was set-aside though had been under recent cultivation. Fieldwalking had revealed a light scatter of medieval pottery in the vicinity.

Six evaluation trenches were excavated over an area of approximately 100 m by 60 m. The natural in this area was alluvial gravel overlain by a thin subsoil, possibly also alluvial in origin. The site was covered in recent ploughsoil up to 0.36 m deep. Most features were post-medieval/modern in date or isolated and undated. A possible palaeochannel was located in Trench 1. The undated features include a human cremation burial with associated charred plant remains and a pit also containing burnt material, both of which are presumed to be of prehistoric date.

Palaeochannel

The southern edge of a possible palaeochannel (16015) was excavated in Trench 1. The steep edge was followed to a depth of 0.85 m below ground level although the base of the cut was not revealed. The channel ran east-west across the trench and was 4.5 m across with a upper fill of stony sandy silt.

Prehistoric

A cremation burial (16005) was cut into the top of the palaeochannel in Trench 1 with a second small pit (16006) some 37 m to the south east in Trench 3.

Cremation burial 16005. This circular pit was 0.55 m in diameter and 0.15 m deep with near vertical sides and a flat base. Its single fill (16004) contained cremated human bone (160 g) of a possibly female subadult/adult, aged over 15 years, and abundant ash charcoal.

Pit 16006. A small pit of similar dimensions containing dumped burnt material but no bone. No datable artefacts.

Undated

Ditch 16027: A single ditch in Trench 5 had an uncertain relationship to the alluvium and yielded no datable finds.

Related reports: Finds: flint (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6).

Clobbs Wood (SITE 17; Fig. 3.105)

Site 17, NGR TL 5643 2208, was located in a field sloping to the south between c 59–63 m OD in the area around the site of a former windmill. The underlying geology of the area is sandy gravel. The natural (102) as seen in the excavated area comprised a friable orange-brown silty clay, the upper part of which contained inclusions of small stones. Layer 102 was overlain by subsoil/ploughsoil (101) of pale brown sandy silt up to 0.20 m deep, and finally topsoil (100) consisting of a 0.18 m deep layer of silty clay loam. At the time of excavation it was under a crop (of beans). All archaeological features were cut into the subsoil 102. In addition to the windmill, traces of prehistoric activity in the form of a single pit and finds of later prehistoric and Roman date were recovered.

Period 5: Middle Bronze Age

Two sherds of middle Bronze Age date from the 'natural' (102) below the subsoil may indicate activity in this period.

Pit 128: a shallow subrounded pit in the western corner of the site measured 3.4 m wide by 3.8 m long and 0.16 m in depth. It had shallow rounded sides and a flat base but was generally poorly defined against the sandy soils. The presence of middle Bronze Age pottery from the locality might suggest the pit is contemporary with this.

Period 11–13: Romano-British period

Several residual Romano-British finds were recovered, notably from the lower footings of the mill. Pottery and ceramic building material was also recovered from the ring ditch surrounding the mill and later N-S ditches.

Period 15–16: Medieval period

The mill structure (Fig. 3.106)

Mill cross (Fig. 3.107): A large cut (104) was identified, measuring 10.18 m N-S x 9.06 m W-E, defining in plan a cross of four arms of approximately similar length. The arms were an even 1.12 m in depth, but varied in width from 1.87 m to 2.15 m, with flat bases and steeply sloping sides.

The primary fill (152) of cut 104 was a layer of silty clay up to 0.12 m deep, containing 10% small stones and pebbles, identified in the central area of the cross. It was not clear if this was a deliberate bedding layer or the result of natural erosion from the sides of the cut. Overlying layer 152 was a layer of orange-brown clay (151), up to 0.3 m deep, which produced a small quantity of Roman and medieval pottery, along with a single fragment of brick.

Set into layer 151 were the decayed remains of four large oak timbers (154, 155, 156, 157), forming

structure 148. Timbers 155 and 157 formed the east and west arms of the construction, and were originally overlaid by timbers 154 and 156, which formed the south and north arms respectively.

All timbers were severely decayed, so that only 155 survived as a single unbroken length. The other three survived as two (or three in the case of 157) separate pieces. In each case a gap approximately 0.4 m long was apparent 0.5 m in from the outer end, which may indicate the position of the housing for the upright. In the case of timber 155, which survived whole, the outer end was too decayed to identify any surviving housing.

All the timbers appeared to be roughly hewn oak trunks, with no visible tool or saw markings. No bark survived, and virtually all the visible heartwood had decayed. The dimensions of the surviving timbers in section varied, but it was estimated that originally they would have been approximately 0.25 m x 0.25 m. Where the wood had decayed, a very dark grey soft clay silt remained.

Overlying the decayed timber structure (148) was a sequence of deposits of pale brown sandy silt/clay (115) up to 0.25 m deep. In the outer parts of each arm, this was sealed by a similar, though sandier layer (146, recorded as 147 in the southern arm of the cross), which was up to 0.5 m deep. Over the central part of the cross layer (115) were patchy lenses of yellow-brown silty clay (114) overlain by a composite dumped layer (105/149) of pale brown and orange silty clays, up to 0.52 m deep. This extended over the layers 146 and 147, and was itself sealed by the subsoil/ploughsoil (101).

Finds recovered from the layers overlying structure 148 comprised a mixed assemblage of Romano-British and medieval pottery, a few iron nails (none in situ), and a small fragment of copper alloy strip.

Other features

Gully 118 (Fig. 3.108): Arcing around the south-west and south side of the cross trenches of structure 148 was a shallow gully (118), measuring a maximum of 0.1 m deep x 1.1 m wide x 11 m long. The displayed profile was a very shallow U shape, and the termini were very indistinct. The fill (119) was a grey brown sandy silt, very similar to the overlying ploughsoil (101).

Ditch 165 (Fig. 3.108) (Fig. 3.109): A substantial horseshoe-shaped ditch (165) was partially exposed, surrounding structure 148 and gully 118, and opening to the east. The western edge of the ditch extended beyond the excavation area. The width of the ditch varied from 5.72 m on the northern side to 4.2 m on the south side, with a shallow U-shaped profile. The depth varied from 1 m in the north to 0.8 m in the south. Three sections (120, 138, and 142) were dug into the ditch. The lower fill of the ditch (144/141/122) was orange brown sandy clay with small stone inclusions. Two sections displayed a shallow secondary fill (121, 140) of a stony sandy clay, either a dumped layer or the result of erosion of the sides. The upper fill in each section (121, 139, 143) was pale brown sandy clay, overlain by the ploughsoil (101). None of the fills in any of the sections produced any datable artefacts.

Three ditches extended east from the termini of ditch 165, and are thought to be associated with it.

Ditch 124: A shallow ditch, averaging 2.06 m wide by 0.38 m

deep was revealed, extending 7.5 m south from the southern side of the northern terminus of ditch 165, then turning sharply to the east for a further 19 m before being cut by ditch 126. The dark reddish brown silty clay fill (125) produced no finds. The relationship between 124 and 165 indicated that they were contemporary.

Ditch 126 extended from the southern terminus of ditch 165 for a distance of approximately 43 m to the eastern edge of the site. The depth of the ditch was fairly consistent at 0.34 m, although the width of the ditch varied from 1.8 m to 2.3 m. No finds were recovered from the dark reddish brown sandy clay fill (127). The relationship between ditch 126 and ditch 165 was destroyed by a later ditch (116), but it is reasonable to assume that 126 and 165 were contemporary.

Ditch 112 extended from the northern terminus of ditch 165 for a distance of approximately 37 m to the eastern side of the excavation. The ditch averaged 1.45 m wide x 0.34 m deep, and the reddish brown sandy clay produced no finds.

The location of windmills in the region (Fig. 3.110)

By mapping the location (derived from SMR records or indicated on Andre and Chapman's map of 1777) of the known windmill sites along the road corridor over the topography of the area, an indication of each mill's aspect and visibility can be demonstrated.

Mapping methodology
A Digital Elevation Model (DEM) was generated, in a Geographic Information System (GIS), from OS height data of the region around the A120. From this, models of slope, aspect and visibility were generated and values for these queried out for the known mill locations. The visibility model was created by dividing the area into a 50 m grid and running an algorithm to check what was visible from each grid point. This created a surface where each value is a count of the number of grid points on this 50 m grid any point is visible from, so the higher the value the more visible a point is from the surrounding landscape.

Results of the modelling
The survey indicates that there was some variation in the aspect and visibility of the mills, possibly more than might be assumed. For example, five mills (one of them Clobbs Wood: no. 12) are situated on the flanks of the valley of the River Chelmer, which runs NW-SE across the road corridor, skirting the west side of Great Dunmow. While two mills are on the east side (as might be expected), three are on the west side. The individual aspects of these five mills vary from east through south to south-west. Displaying a similar variety of aspect, a group of four mill sites are situated along the eastern side of the low ground to the west of Takeley, each one with a different aspect (south-west, south, north, and west).

It would appear that factors of topography, visibility and aspect orientation were not as critical as might be assumed, in the situation of windmills. In a broadly flat landscape, such wind variation as might be encountered could be easily accommodated by the facility of turning the entire mill on its axis. The results also suggest that other factors, such as proximity to roads or land ownership, probably played a large part in the process.

Undated

Ditch 130: An 'L' shaped ditch (130) extended from the south-east side of the excavation area for a distance of 25 m. Its relationship with the intersecting ditch 126 was not established. The greyish brown silty clay fills 131 and 132 produced no finds.

Ditch 106, 116: A N-S interrupted ditch was identified cutting the complex of mill-related ditches. The northern part (106) appeared to terminate within the fill of the horseshoe ditch 165, and averaged 0.85 m wide and 0.66 m deep. A ceramic field drain was laid in the bottom, with an overlying fill (107) of dark reddish brown silty clay. The southern length of ditch (116) cut across the junction between ditches 165 and 126. Ditch 116 did not contain any clay drain, and as its profile is somewhat shallower than 106, its contemporaneity is open to some doubt, although their alignment and stratigraphic position would suggest they were both later than the mill complex and were associated. One piece of redeposited Romano-British pottery and two fragments of post-medieval roof tile were recovered from the fill (117) of ditch 116.

Linear 110: A very shallow linear feature was identified south-east of the mill complex. It was oriented NW-SE, approximately 12.5 m long, and a maximum of 0.12 m deep. Averaging 0.8 m wide, it swelled to an oval shape in plan at its north-western end. It is most likely to represent the combination of a plough furrow and a tree throw hole. No finds were recovered from its silty sand fill.

Related reports: Finds: flint, prehistoric pottery, metalwork (CD/Chapter 4); Animal bone (CD/Chapter 6).

North of Clobbs Wood (SITE 17A; Fig. 3.111)

This site (at NGR TL 6457 2115) was located at c 70 m OD on ground sloping south and south-east towards the River Chelmer and immediately NW of Clobbs Wood. The natural geology was boulder clay overlain in this area by multiple colluvial deposits up to 0.55 m deep. These deposits were sealed by a sandy clay ploughsoil c 0.3 m deep. A cropmark had been observed which was thought to be part of an irregular enclosure. Two trenches were opened up within an exposed area of approximately 40 by 40 m. No archaeological features were encountered and the cropmark is likely to be a result of natural deposits.

Period 6: Late Bronze Age

Six sherds of post-Deverel-Rimbury pottery indicate activity in this period.

Periods 12-13: Mid to late Roman

A small assemblage of mid to late Roman pottery was recovered

Related reports: Finds: flint, prehistoric pottery, Roman pottery (CD/Chapter 4).

Clobbs Cottage (SITE 18) (Fig. 3.112)

This site (at NGR TL 6477 2129) lay at c 70 m OD on ground gradually sloping to the south-west. The natural geology was boulder clay overlain by clay subsoil up to 0.25 m deep and a clay loam ploughsoil

up to 0.35 m deep. Fieldwalking had produced a range of pottery of different periods. The site had been recently cultivated and features were heavily truncated. Only three datable features were found, one of middle Bronze Age date and two dating to the late Bronze Age.

Period 5: Middle Bronze Age

Pit 180306. This irregular rounded pit measured at least 1 m by 0.7 m and was 0.6 m deep, with moderately steep sides and a flat base. Its single fill (180305) produced a flint blade and 104 sherds, including a lug handle, from a single middle Bronze Age flint tempered globular urn. The blade, characteristic of a Mesolithic date, may be an accidental inclusion, or may, alternatively, have been found, curated and deliberately deposited.

Periods 6: Late Bronze Age

Feature 180304. Twenty-five post-Deverel-Rimbury sherds, five of them with tooled decoration, were found in an irregular, possibly natural feature (180304), c 2 m to the east of pit 180306. This feature was 1.35 m by 0.7 m wide and 0.1 m deep, with a similar fill (180303).
Posthole 180807. This feature was 0.25 m in diameter and 0.08 m deep. It produced two post-Deverel-Rimbury sherds and fragments of fired clay from its single fill (180805), which showed evidence of burning.

Period 8: Middle Iron Age

Activity is indicated by a single sherd of middle Iron Age pottery from a natural feature in evaluation Trench 3.

Period 11–13: Roman

A single sherd of Roman pottery was recovered from the boulder clay in Trench 5.

Related reports: Finds: flint, prehistoric pottery, Roman pottery (CD/Chapter 4).

Grange Farm (SITE 19; Fig. 3.113)

Site 19 (NGR: TL 6489 2138) lay at c 70 m OD on ground gradually sloping to the south-west immediately north of Clobbs Cottage. The natural geology was boulder clay. The site had been recently cultivated and features were heavily truncated. A single isolated middle Iron Age pit was found.

Period 7/8: Middle Iron Age

Pit 1002. This oval feature, 0.55 m by 0.35 m and 0.15 m deep, with moderate to steep sides and a flat base, had a single of early/middle Iron Age pottery in its dark greyish brown silty clay fill (1003).

Related reports: Finds: flint, prehistoric pottery (CD/Chapter 4).

Grange Lane (SITES 20/49; Fig. 3.114)

Sites 20/49 lay at c 79–80 m OD in a large arable field with a slight south-facing slope north of Grange Farm (NGR TL65300 21885). The total size of the site was 3.65 ha. The underlying geology comprised chalky boulder clay, cut by a number of periglacial linear features filled with mid orange-brown clay. This was overlain directly by ploughsoil up to 0.5 m deep.
Fieldwalking had located a small concentration of post-medieval

pottery and tile. A small four-trench evaluation carried out in 2000 identified potential prehistoric archaeology and a larger area was investigated in 2001 and observed during the watching brief.

The archaeological work revealed a range of later prehistoric activity dating from the middle Bronze Age through to the late Iron Age. Most of the evidence of middle Bronze Age activity, continuing into the late Bronze Age, came from the area north-east of a middle Iron Age subrectangular enclosure. While many of the middle Bronze Age sherds were clearly residual within later features, a number of features contained no later finds and may represent an early phase of occupation of the site, many of them grouped around the enclosure's north-east facing entrance.

Period 5: Middle Bronze Age

Two widely spaced pits (28005 and 28056) and 14 middle Bronze Age sherds from later features indicate a low level of activity on the site.

Pit 28005. This large subrectangular pit, possibly a quarry pit, measured 2.35 m by 2.2 m and was 0.82 m deep. It had a near vertical side to the east, and was moderately steep on the west. Its primary fill (28029) was a 0.08 m thick layer of black clay silt containing a large amount of charcoal, lying against the west side. This was overlain by a 0.5 m layer (28028) covering the rest of the base, then a 0.4 m thick upper fill (28027) producing one sherd of middle Bronze Age pottery and a flint flake.

Pit 28056. At the east end of the site an oval pit (28056) measuring 1.46 m by 1.08 m and 0.39 m deep, had a single fill (28073) that produced three sherds of middle Bronze Age pottery and worked and burnt flint.

Period 6: Late Bronze Age

This low level activity continued during the late Bronze Age with four features within 20 m of each other—two pits (1128 and 28010) and two cremation burials (28004 and 28006)—in the eastern part of the site.

Pit 1128. This subcircular feature, overlying a probable tree throw hole, was c 0.77 m in diameter and 0.06 m deep, with an irregular concave profile. Its single fill (1129) contained four sherds of flint-tempered post-Deverel-Rimbury, and 10 middle Bronze Age sherds, perhaps suggesting a date early in the period.

Pit 28010 (Fig. 3.115). This shallow oval pit measured 1.02 m by 0.9 m and was 0.19 m deep with steep to near vertical sides and a slightly concave base. Its single fill (28011) contained 228 sherds of post-Deverel-Rimbury pottery, 23 pieces of animal bone (including red deer), as well as fired clay, burnt flint and stone, charcoal and a worked flint. As the base of the cut had not been scorched, this appears to represent a deposit of mixed materials, possibly of domestic origin, although the proximity of the two unurned cremation burials could point to some other function.

Cremation burial 28004. This oval feature, approximately midway between the two pits, was 0.38 m by 0.43 m wide and 0.15 m deep, with vertical sides and a flat base. Its single fill (28021) contained cremated human bone (283 g) of a possibly female juvenile aged c 11–12 years, and charcoal, a sample of which produced a radiocarbon date

of 1120–900 cal BC (NZA-19583: 2838 ± 40 BP).

Cremation burial 28006. This subrectangular feature was c 30 m south of cremation burial 28026. It was 0.3 m by 0.35 m wide and 0.12 m deep, with vertical sides and a flat base. Its single fill (28022) contained cremated human bone (1238 g) of a possibly female adult aged c 30–45 years, and charcoal.

A series of ditches (1033, 1039 and 1050) to the east of the Iron Age enclosure also produced only post-Deverel-Rimbury pottery. However, all of them appear to be aligned on the enclosure entrance, suggesting that they were associated with it, and making it likely that the pottery is residual (see below). Moreover, ditch 1039 was stratigraphically later than middle Iron Age ditch 1037. A further 27 post-Deverel-Rimbury sherds were found in the fills of the Iron Age enclosure ditch, 23 of them from the southern entrance terminal (1042), and three from an Iron Age pit just inside the entrance (1107).

Period 8: Middle Iron Age

The evidence for activity in this period is centred on a subrectangular enclosure containing traces of two possible roundhouses, with the continued construction and use outside the enclosure of linear ditches indicating the agricultural basis of the settlement. The fills of the enclosure ditch suggest a sequence of use, abandonment and re-use.

Enclosure 1041. This subrectangular enclosure was up to 33 m long east-west by 26 m wide. It had a 3 m-wide entrance on the eastern side, although, as 15 m and 8 m long sections of the enclosure circuit on the south and north-west sides respectively were not examined, it is possible that there were further breaks in the ditch in these areas. The ditch was, on average, c 3 m wide and 1.3 m deep, but it varied in its dimensions around its circuit being wider and deeper on the eastern side. It may have been deeper than the water table as the lower fills were gley soils. It had a generally V-shaped profile, with moderately steep and slightly concave sides, being more severely truncated on the western side.

Seven sections were excavated (clockwise from the entrance's southern terminal: 1042, 1069, 1080, 1066, 1095, 1058 and 1088). In each section there was a comparable sequence of deposits, consisting of one or two primary silting layers immediately post-dating construction, followed by one or more layers dating to the occupation of the enclosure, some representing the further gradual infilling of the ditch, others consisting of distinct tips of settlement debris.

The deposits in the southern entrance terminal (1042) illustrate the sequence (Fig. 3.116). The earliest fill (1074) was a deposit of eroded natural up to 0.1 m thick at the base of the outside edge. It was overlain by a 0.5 m thick mid brown, silty clay gley with abundant chalk and flint fragments (1044) that yielded two post-Deverel-Rimbury sherds and twenty-three of middle Iron Age date, animal bones and fragments of fired clay, probably representing domestic refuse associated with occupation of the enclosure. The layer above (1075/1076), up to 0.4 m thick and apparently filling the rest of the ditch, was a pale brown silty clay containing no finds and possibly indicating a period of abandonment. This uppermost layer, however, was subsequently cut by a gently sloping

ditch recut 2.1 m wide at the top and 0.5 m at the base. The recut was filled to a depth of up to 0.25 m with a fairly compact mid grey brown silty clay producing large quantities of middle Iron Age pottery, animal bones and fired clay, indicating renewed occupation of the enclosure. Filling the rest of the recut was a fairly loose mid grey-brown silty clay (1079), 0.45 m thick, producing few finds (including a quern fragment) and possibly representing a second phase of abandonment and disuse.

Apart from the southern terminal 1042 and section 1058 at the north-east corner which produced 514 g of pottery and 734 g of animal bone—probably a single dump of material—there were generally low levels of finds in the fills below the recut, including from the northern ditch terminal. Interestingly, the same two sections contained the highest levels of finds from above the recut, section 1058 producing 549 g of pottery, as well as flint, fired clay, animal bone and worked and burnt stone. It is possible that one of the pieces of worked stone (from 1079) is from a saddle quern.

There were a series of features, including pits and postholes, immediately inside the enclosure entrance.

Feature 1107. This shallow circular feature, against the inner edge of the enclosure ditch c 3 m south of the entrance, was 2.4 m in diameter and 0.28 m deep with moderately steep sides and a flat base. Its primary fill (1106) contained five sherds of middle Iron Age pottery (as well as two post-Deverel-Rimbury sherds). The upper fill (1105) produced a further 61 middle Iron Age sherds (and eight of post-Deverel-Rimbury sherds), as well as fired clay and animal bone.

Pit 1110. This kidney-shaped pit, in a comparable position to feature 1007, but on the north side of the enclosure entrance, measures 1.35 m by 0.79 m and was 0.44 m deep, with moderately steep concave sides and a slightly concave base. It was unclear whether the lowest two recorded layers (1111 and 1112) were in situ or were redeposited natural; neither contained any finds. The upper two fills, however, appear in section to represent the fills of two adjacent features with steep concave sides and concave base, possibly postholes. Layer 1113, a charcoal rich layer 0.35 m deep and 0.81 m wide, contained four sherds of middle Iron Age pottery, fired clay, burnt flint, burnt stone (quartz?) and animal bone. Layer 1114 was 0.35 m deep and 0.5 m wide, the abundant charcoal on its east side may have been the remains of a burnt post.

Postholes 1146 and 1149. This pair of immediately adjacent oval postholes were sited in the line of the enclosure entrance set back slightly from the ditch. Posthole 1146 was 0.34 by 0.54 m, and 0.22 m deep, with a single fill (1145). Posthole 1149 was 0.3 m by 0.46 m and 0.2 m deep with a packing layer (1148) and a post-pipe (147). Neither feature produced any finds, but their position indicates a direct association with the enclosure entrance.

Two curvilinear gullies (1139 and 1140), possibly eaves-gullies, were recorded inside the enclosure, indicating the positions of two possible roundhouses towards its southern side.

Curvilinear gully 1140 and feature 1141. Semicircular gully 1140 (Fig. 3.117) described the north-western arc of a circle 12.5 m in diameter in the south-eastern part of the

enclosure. It was on average 0.5 m wide and 0.25 m deep. It had a clear terminal on the east side, indicating the northern side of an entrance aligned approximately ENE, the gully here having steep sides and a flat base. To the west, however, the gully gradually petered out, having a shallower U- or V-shaped profile, indicating that the feature had been completely truncated, probably by ploughing, around its southern half. A tear-shaped feature (1141) c 2 m south-east of the terminal, however, may represent the opposing terminal of the same feature creating an east-facing entrance. This was 0.47 m wide at the entrance end, narrowing to a point to the south, with moderately steep sides and an irregular base. Four lateral and three longitudinal sections were excavated (clockwise 1141, 1122, 1120, 1048, 1116, 1126, 1025).
The gully had a single fill, apart from at the northern terminal (1025) where it was deepest at 0.4 m. Here the primary fill of sterile redeposited natural (1026) was overlain by a dark soil producing the majority of the finds from the gully, including 254 g of middle Iron Age pottery, as well as fired clay and animal bone (including cattle). Three sections at the west and north-west (1120, 1048 and 1116), towards the rear of the structure, produced no finds.

Three small undated features (1003, 1131 and 1154) were excavated within the area of gully 1040, although in no case were they clearly associated with it.

Feature 1003. There was a shallow irregular feature (possibly natural) aligned north-south immediately south of the north terminal of gully 1040. It was 1 m long, 0.45 m wide and 0.1 m deep with gently sloping sides and a flat base. There were no finds from either of its two fills (1004 and 1005).

Feature 1154. This 1.98 m long linear feature with rounded terminals was set asymmetrically within the entrance of gully 1040, between feature 1003 and the possible southern terminal (1141). It was 0.32 m wide and 0.12 m deep with a slightly concave V-shaped profile, and a single fill (1153).

Feature 1131. A shallow concave feature, possibly a posthole, was excavated c 2.5 m inside gully 1040, towards its north side. It was 0.44 m in diameter and 0.11 m deep with concave sides and base.
The size and form of gully 1040/1141, including the east-facing entrance, suggest the location of a roundhouse, although the structure of such a building is not clear from the features recorded. As the only substantial feature, the gully probably represents the wall trench, although no evidence for structural timbers was found in the longitudinal sections excavated specifically to record any such features. With the exception of feature 1131, there were no internal postholes to support the roof, although given the truncation of the structure these would be unlikely to survive.

Curvilinear gully 1139. This smaller gully, in the south-western part of the enclosure, described the north-western arc of what would appear to have been an oval structure, with estimated dimensions of c 8 m east-west by c 6 m north-south. A single section was excavated, and it was not established whether either end of the gully represented a deliberate terminal or whether the rest of the gully's circuit had been truncated.

The gully was 0.3 m wide and 0.18 m deep with moderately steep concave sides and a concave base. No finds were recovered from its single fill (1140).
To the north and east of the enclosure there were a series of linear features, many of them aligned approximately on the entrance. Although three of them (1033, 1039 and 1050) produced only post-Deverel-Rimbury pottery, and others were undated, their positions in relation to the enclosure and each other suggest that most are probably associated with the enclosure, although, as with the enclosure, more than one phase of activity is evident. There was also a single pit or posthole (1155).

Pit/posthole 1155. This circular feature was 0.7–0.75 m in diameter and 0.3 m deep, with moderately steep sides and a rounded base. Its single fill (1156) produced eight sherds of middle Iron Age pottery.
Ditch 1178 (Fig. 3.118). This east-west ditch was aligned on the southern terminal of the enclosure entrance. It ran for at least 16.5 m from a terminal some 20 m east of the enclosure, continuing beyond the excavation area. It varied in width, being mostly c 1.3 m wide (but 2 m wide at its widest point) and 1.06 m deep, with steep, slightly stepped sides and a flat base. Eight fills were recorded in section 1177, including primary silting and construction layers (1172–1176), and secondary fills (1170 and 1171), none of which produced any finds, although charcoal was found throughout. Only the upper fill (1169) contained finds: a single sherd of middle Iron Age pottery, four pieces of fired clay and some animal bone.
The ditch became shallower, from 0.58 m, towards the terminal at the west (1123), where only two fills were recorded: a 0.19 m thick primary fill (1124) containing a further 13 sherds and animal bone, and an upper fill (1125), possibly the fill of a recut, containing single piece of middle Iron Age pottery, worked flint and animal bone.

Ditch 1019. This 6 m long undated feature lay almost parallel to, and c 2 m north of ditch 1178. Only its eastern terminal was excavated, where it was 0.58 m wide and 0.13 m deep with a shallow concave profile and a single fill (1020).

Ditch 1033. This 7.6 m long feature, similar in dimensions to ditch 1019 and immediately to its west, ran ENE-WSW, appeared to be aligned on the south terminal of the enclosure ditch. Both rounded terminals (1021 and 1023) were excavated. It was 0.54 m wide and up to 0.2 m deep with a shallow rounded profile at the east (1021) and a shallow v-shaped profile at the west. Its single fill (1022/1024) produced a sherd of late (possibly middle) Bronze Age pottery and a flint flake from the east terminal.

Ditches 1050 and 1053. Ditch 1050 (Fig. 3.119) was the earliest of a pair of overlapping ditches that ran east for some 3 m from terminals near the southern terminal of ditch 1034, and were truncated at the east by the terminal of a later, wider ditch (1108). At the west, ditch 1050 was 0.55 m wide and 0.37 m deep, with a very steep north side and a moderately steep and slightly concave south side. The 0.21 m thick primary fill (1051) produced a single sherd of late (possibly middle) Bronze Age pottery and seven pieces of animal bone (including horse). The upper layer (1052) contained no finds.
Ditch 1053 ran approximately parallel to ditch 1050 on its north

side, their western terminals being almost adjacent to each other, but towards the east ditch 1053 cut both fills of the earlier ditch. Ditch 1053 was 1.1 m wide and 0.37 m deep with moderately steep sides and a narrow flat base. Its 0.1 m thick primary fill (1054) produced a single sherd of middle Iron Age pottery and 50 pieces of animal bone. The upper fill (1055) produced no finds.

Ditch 1038 (Fig. 3.120). This straight ditch ran north-northwest/south-southeast for c 7.5 m between the northern edge of ditch 1108 and the northern edge of the excavation area and was aligned on the western terminal of ditch 1178 with which it was comparable in scale and form. It was 1.17 m wide and 0.54 m deep with moderately steep sides and a flat base. The 0.1 m thick primary fill (1029), was overlain by a 0.05 m thick layer on the east side of the ditch (1030) which contained one sherd of middle Iron Age pottery and 14 pieces of animal bone. The 0.17m thick secondary fill (1031) produced further bone and fired clay, as did the upper fill (1032) with further pottery.
The position of the ditch's southern terminal may be related to the projected lines of ditches 1050 and 1053, or alternatively ditch 1108 (see below). The ditch's northwards extension was not identified during the watching brief, although this could have intersected the southern end of the irregular curved ditch 28019. It was substantially larger than the gullies to the west (1037, 1039 and 1109).

Ditch 28019. This irregular curved ditch, running north-northeast before curving to the north, was c 24 m long, 1.1 m wide and 0.3 m deep with moderate to steep concave sides and a flat base. The 0.17 m thick primary fill (28018) was overlain by a layer (28017) containing 17 sherds of Iron Age pottery as well as animal bone and fired clay. The edge on the inside of the curving ditch was cut by a series of four possible pits, only one of which (28016) was excavated.

Pit 28016 (and features 28058, 28059 and 28060). This subrectangular pit measured 1.35 m by 0.9 m and was 0.59 m deep, with moderate to steep sides and a rounded base. Its 0.3 m thick primary fill (28015) was overlain by layer (28014) which produced nine sherds of middle Iron Age pottery (as well as single residual sherds of middle and late Bronze Age date), and 27 pieces of animal bone (three of them cattle bones, and one of them burnt). The similarity in the positions of the other three pits (28058, 28059 and 28060) with respect to the ditch suggest some association.
Three linear features north of the enclosure intersected (gully 1037, ditch 1039 and gully 1109), and represent three phases of activity.

Gully 1037. This slightly curved feature ran north from the outer edge of the enclosure ditch, continuing north for at least 13 m beyond the excavation area. It was excavated in three sections (1006, 1011 and 1159) and was up to 0.65 m wide and 0.15 m deep with moderately steep sides and a slightly concave base. In sections 1006 and 1159 only single fills were recorded (1007 and 1160), but in section there was a 0.04 m thick primary fill, overlain by the main fill (1013) which produced one sherd of middle Iron Age pottery and a small fragment, presumably intrusive, of CBM. It was cut at a right angle by gully 1109.

Gully 1109. This 22 m-long straight east-west gully was 0.3 m wide and 0.12 m deep with a U-shaped profile, and a single fill (1158/1162/1165), from which no finds were recovered. It was cut at a right angle by ditch 1039.

Ditch 1039. This ditch, approximately parallel to, and 2–3 m east of gully 1037, was aligned on the north ditch terminal at the entrance of the Iron Age enclosure. It was excavated in three sections (1008, 1034 and 1164). It ran north-south for at least 15 m, with a terminal at the south, and continued beyond the excavated area at the north. In the north section (1008) it was 0.8 m wide and 0.22 m deep with moderate to steep concave sides and concave base. Its 0.17 m-thick primary fill (1009), possibly slumped upcast from the east side of the ditch, produced two featureless fragments of fired clay. This was overlain by a dark yellowish brown clayey silt (1010).

At its rounded terminal to the south (1034), which was only 1m north-west of the terminal of ditch 1053, the ditch was 0.94 m wide and 0.21 m deep, with moderately steep sides and a concave base. The 0.16 m-thick primary fill (1035) was overlain by a layer (1036) containing three sherds of late (possibly middle) Bronze Age pottery, one flint flake and two pieces of animal bone.

Gully 28008. This 2.5 m length of gully, truncated at the south by medieval ditch 1108, was 0.35 m wide and 0.14 m deep with moderately steep sides and a flat base. Its single fill (28072) contained fragments of animal bone and charcoal, suggesting it may be associated with the other linear features.

Period 9: Late Iron Age

A single urned cremation burial (28023) in the eastern part of the site provides evidence for activity in this period.

Cremation burial 28023. This feature was c 70 m north-east of the middle Iron Age enclosure. It comprised an oval cut, 0.15 m by 0.2 m wide, but truncated by the machine bucket, containing a late Iron Age pottery vessel (28024), the fill of which (28025) contained cremated human bone (530 g) of a possibly female adult aged c 18–22 years.

There were also two unurned cremation burials (28004 and 28006) in the same area. However, one of these provided a radiocarbon date of 1120–900 cal BC, within the late Bronze Age (above) and it is likely both are of the same period. Nonetheless, the coincidence of the late Bronze Age and late Iron Age burial is notable.

Undated

In addition to those undated features which appear to be spatially associated with the Iron Age enclosure there were numerous other features, which, while in many cases associated with each other, have no direct or indirect dating evidence. Many of them were surveyed but not excavated.

Pit 1134. This oval pit, c 25 m east of the enclosure, was 1.72 m by 2.22 m wide and 0.68 m deep, with a U-shaped profile and a single fill (1133).

Feature 1151. Located 3 m west of feature 1110, this isolated oval feature, possibly a truncated posthole, was 0.14 m by 0.34 m wide and 0.04 m deep, with a

shallow concave profile. It had a single fill (1150).

Pit 28007. This subrectangular pit was 0.4 m by 0.7 m wide and 0.06 m deep, with gently sloping side and a slightly concave base. It had a single fill (28030).

Ditch 28066. This possible ditch at the western end of the site was c 15 m long, aligned north-west/south-east. It was 0.42 m wide and 0.19 m deep with concave sides and base, and a single fill (28067).

Ditch 1108 (Fig. 3.121). The wide ditch cutting the middle Iron Age ditches 1050 and 1053 is of uncertain date. It was up to 5.4 m wide and 0.8 m deep, shallow and slightly concave on the north side, with a steeper convex side to the south. It contained two fills (1118 and 1145). The lower fill (1118) was a mid grey/brown silty clay deposit, 0.35 m thick, formed while the ditch was holding water, possibly from the surrounding water table. The only datable material from the ditch was medieval pottery and roof tile, recovered from the single fill (1018) recorded in a partial section 13 m east of the terminal. However, its similar alignment to ditches 1050 and 1053, and the proximity of its terminal (1117) to theirs, immediately north-east of the enclosure entrance, suggests it may have been a replacement feature still associated with the enclosure and therefore Iron Age in date, with the medieval material being intrusive. However, it is substantially wider than any of the other ditches within the site other than an unexcavated ditch (28050) recorded running at a right-angle to it some 45 m to the north-east, and possibly forming part of a later (possibly medieval or post-medieval field system)

Analysis of pollen from the terminal of ditch 1108 (see Druce CD/Chapter 7) indicates disturbed grassland and hazel scrub, with nearby cereal cultivation, followed by the regeneration of hazel possibly associated with abandonment of the site. Subsequently increased burning coincided with a decrease in hazel and a return to more open conditions.

Related reports: Finds: Flint, prehistoric pottery, fired clay, worked stone, worked bone (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6) Environmental: charcoal, pollen, molluscs (CD/Chapter 7).

Clay Lane (SITE 21; Fig. 3.122)

Fieldwalking located a concentration of post-medieval pottery and tile within an area centred on NGR TL 65685 22070. The site is located at around 83 m OD on a plateau between the River Chelmer in the west and the Stebbing Brook in the east. Two trenches were excavated within an area 60 m by 40 m. The natural deposits comprise boulder clay overlain by a clay subsoil and modern ploughsoil. Four linear features were identified all of post-medieval/modern date. Five fragments of plain flat medieval or later tile in a sandy micaceous fabric were recovered.

Throes Farm (SITE 22; Fig. 3.123)

Aerial photographs had suggested the presence of a small circular cropmark, approximately 15 m in diameter. Fieldwalking in the locality found a concentration of medieval tile, daub and pottery and initially it

was thought this might be another windmill site. The site (at NGR TL 5660 2222) was located at c 93 m OD in a cultivated field sloping slightly to the south. The underlying geology is boulder clay, which was overlain by pale orange-brown silty clay subsoil and the present ploughsoil. Initial evaluation trenching had suggested a possible ring ditch from which a sherd of Iron Age pottery was recovered; the site was consequently further investigated through a strip and record excavation. Features of later prehistoric, medieval and modern date were excavated, the latter being a World War II bomb crater.

Period 6/7: Late Bronze Age

Two small sherds of post-Deverel-Rimbury pottery were recovered from a medieval feature.

Period 8: Middle Iron Age

A series of irregular linear ditches/gullies, extending beyond the excavation area, may represent part of wider field system. The low level of finds from this period indicates nearby settlement activity, but not necessarily within the immediate vicinity—possibly the middle Iron Age settlement at East of Little Dunmow Road (Site 50), some 200 m to the east.

Feature 104/187. This wide linear feature ran south-west for c 9 m from a narrow terminal at the north-east, continuing beyond the excavation area. Close to the rounded terminal (104) it was 1.07 m wide and 0.42 m deep, with steep sides and a slightly concave base. However, 2 m to the west it had widened to 2.77 m and had a maximum depth of only 0.12 m with very shallow sides and a flat base. Two fills were recorded in the terminal, the 0.23 m thick primary fill (105) producing a single sherd of middle Iron Age pottery, and the upper fill (106) which contained 15% charcoal and burnt clay, producing a further 32 sherds and two pieces of animal bone.

Ditch 108/150 (and ditch 111/156). This serpentine feature ran approximately NNW from the central bomb crater for c 20 m, continuing beyond the excavation area. It had irregular dimensions, being up to 1.32 m wide and 0.26 m deep, with variable but generally flat-based profile. Its single fill (107/151) produced three sherds of middle Iron Age pottery and two pieces of animal bone.

An undated linear feature (111/156) on the same alignment on the other side of the crater, with a terminal at its north end, may be the continuation of the same ditch to the south. At the terminal it was 0.68 m wide and 0.08 m deep, increasing to 1.7 m wide and 0.48 m deep at the southern edge of the excavation area.

Period 10: Late Iron Age/early Romano-British

A small number of sherds of late Iron Age and late Iron Age/early Romano-British date were recovered from a medieval feature.

Period 15/16: Medieval

Two broadly spaced parallel NE-SW aligned ditches (120/116/146 and 131/153/139/170) within the eastern part of the site were overlain by a later series of SW-NE ditches (118, 122, 124, 133, 172 and 178). These cuts were all fairly similar, with concave sides and flat or gently rounded bases. The NW-SE ditches were slightly broader and measured up to 1.12 m wide

whereas the SW-NE ditches typically measured between 0.60 and 0.68 m wide. Both ditch alignments were fairly shallow at c 0.21 m. The fills produced a small amount of later prehistoric, Roman and medieval pottery.

Other features

Ditch 136: a short curvilinear ditch in the eastern corner of the site. The feature was fairly shallow measuring 0.42 m wide by 0.09 m deep. The fill contained eight small sherds (20 g) of medieval pottery.
Pit 113: a shallow, circular pit, 0.9 m in diameter and 0.25 m deep. Two fills were distinguished, one of which, 115, produced six animal bones and one sherd of medieval pottery.
Pit 162/164: a shallow oval pit measuring 0.55 m by 1.25 m and 0.25 m deep. The single fill, 163, contained one animal bone and three sherds of medieval pottery.
Pit 169: a shallow, circular scoop/pit 0.4 m in diameter and 0.1 m deep. The fill produced one sherd of possible medieval pottery.

Period 18: modern

Crater 160: a substantial circular feature some 17 m across containing mixed fills with a band of pale grey chalky clay around its perimeter. The farmer revealed in conversation that this was a bomb crater created by a controlled detonation of an unexploded bomb or mine dropped in World War II (R. Francis pers. comm.).

Related reports: Finds: flint; prehistoric pottery (CD/Chapter 4); Animal bone (CD/Chapter 6).

East of Little Dunmow Road (SITE 50; Fig. 3.124)

Site 50, a subrectangular, 0.64 ha area of land, extended from NGR TL 566117 222220 in the west to TL 566298 222271 in the east. It was located on a high ridge at c 82 m in the west, sloping gently to the north and particularly to the east to c 79 m OD, as the ground fell away into the valley of the Stebbing Brook. The natural geology was boulder clay, with large patches in place of calcareous-rich clay. The extent of the site was first observed in a modern drainage ditch along the southern side of the carriageway cutting, which was associated with the road construction. An area of the northern extent of the site was left unstripped as a haulage corridor for road construction vehicles.
The site lay between two earlier excavations carried out in 2001: Site 22 (Throes Farm) located only c 100 m to the west and Site 24 (Blatches) c 390 m to the east. The excavations to the East of Little Dunmow Road recorded an extensive group of archaeological features representing a late Iron Age to early Roman settlement (including seven roundhouses) and associated farming activity. A small number of features, including two roundhouses (30073, 30120) were dated to the middle Iron Age but this may well be a factor of poor finds retrieval from heavily truncated features.

Four additional roundhouse structures (30078, 30144, 30330, 48205) of late Iron Age date recorded within the site. These were heavily truncated except for the two westernmost examples (30144, 48205). The seventh roundhouse structure (30124) in the west of the site was undated. A small subrectangular structure (30098) of late Iron Age or earlier date was also recorded. Localised

pitting was associated with the zones around the structures. These contained artefacts including pottery, animal bone, worked and burnt flint, fired clay as well as occasional charcoal-rich deposits.
A number of medium to large ditches were recorded which all had a prevailing NE-SW alignment, although associated perpendicular ditches were also recorded. In the east of the site a subrectangular enclosure (30284) with a double entrance was recorded which was integral with the ditch system.

Periods 6-7: Late Bronze Age/early Iron Age

Post-Deverel-Rimbury pottery was recovered in small quantities from features across the site, indicating a generally low level of activity. Exclusively post-Deverel-Rimbury pottery was recovered from two features in the vicinity of the middle Iron Age roundhouse 48205 at the western end of the site, and from a gully at the eastern end of the site.
Pits 30203 and 30216. The inside edge of the roundhouse gully, on the west side, cut an oval pit (30203), 0.6 m by 1.6 m wide and 0.44 m deep, with moderately steep sides and a flat base (Fig. 3.125). It contained animal bone but no datable finds, but clearly predated the construction of the roundhouse. There was a second pit (30216), up to 1.7 m wide and 1.1 m deep with steep sides and an irregular base, some 3 m to the north-west (outside the roundhouse). The only datable find was a fragment of late (possibly middle) Bronze Age pottery from the lowest of five fills (48188), the three upper fills (48184–48186) producing between them 72 g of animal bone.
Shallow scoop (30573), 15 m north east of the roundhouse, also produced exclusively post-Deverel-Rimbury sherds. It was cut by late Iron Age pit 30571 and its full extent could not be determined, although it was at least 0.85 m wide and 0.1 m deep.
Gully 30073. This 2 m length of gully (30073) ran south-east from the edge of the excavation and turned at an angle to the east before being truncated by ploughing. It was up to 0.45 m wide and 0.15 m deep with concave sides and base. Its single fill (48180) produced a fragment of post-Deverel-Rimbury pottery, as well as slag (14 g) and animal bone (3 g).

Period 8: Middle Iron Age

Pottery of middle Iron Age date was recovered from features across the site. In most of these features the pottery was predominantly late Iron Age, and the earlier pottery occurred in only small quantities, indicating a generally low level of activity. In two areas of the site, however, there were concentrations of the early pottery, indicating the likely foci of middle Iron Age settlement activity; these were at the south-west around roundhouse 48205, and in the middle of the site. In addition, a small number of features produced either exclusively early pottery, or assemblages dominated by it, and while it cannot be demonstrated that these are necessarily early in date, it is certainly possible that they are. The assignation of an early date to these features is therefore tentative. None of the straight ditches, which divide up the site into a series of probable fields, are early in date.

There were two adjacent circular gullies (30144 and 48205), indicating the positions of two probable roundhouses, separated by just 3 m at the western end of the

site. However, although their proximity suggests that they may have been contemporaneous, the finds suggest that the southern of the pair (48205) was earlier.

Circular gully 48205 (Fig. 3.125). This feature, recorded in the angle formed by late Iron Age ditches 30027 and 30134 (and extending south of the excavation area), comprised three lengths of gully in a circular plan. It was 12 m in diameter with two narrow gaps at the north and north-west (0.75 m and 1 m wide respectively) and a wider break, between 2.8 m and 4.4 m, probably an entrance, at the south-east. The gully was up to 0.8 m wide and 0.5 m deep with generally steep sides and a narrow base, containing up to three fills (on average a more substantial feature than that in roundhouse 30144, with a significantly different profile (see below)).

The gully produced a range of finds, including pottery of late Bronze Age to late Iron Age date, animal bone, worked flint and burnt stone. However, in contrast to roundhouse 30144 (below), where all the pottery was of late Iron Age date, 74% of the pottery (by weight) from this structure was of late Bronze Age to middle Iron Age date. All the late Iron Age pottery came from a single context: the upper fill of one excavated segment on the northern side (48091), which was overlain by a spread of late Iron Age material (30211) probably associated with roundhouse 30144.

Because the southern arc of the gully lay outside the excavation area, it was not possible to analyse the distribution of finds around its circuit. However, 64% of the animal bone (by weight) came from the terminal on the north side of the entrance (48017), along with four quartz pebbles. In contrast, most of the pottery came towards from the rear of the building, 95% of it coming from between sections 48050 and 48162.

The precise nature of this feature (and other similar features across the site) is unclear. Determining the structure of the suggested roundhouse is hampered by the lack of clear evidence for any structural internal postholes due to truncation. A number of small features were recorded within the circuit of the gully, including a large posthole (30208), 0.65 m in diameter and 0.23 m deep, just inside the entrance, near the likely position of the south-western entrance terminal. There was also a pair of adjacent small postholes (30204 and 48176), up to 0.3 m in diameter and 0.11 m deep, near the western side and a similar single posthole (30206) centrally towards the back. None could be dated, and while it is possible that they are associated with the structure, it is also possible that they are associated with the range of later features, including spread 30211, distributed around circular gully 30144.

The gully probably represents the building's foundation trench, although longitudinal sections adjacent to each gully terminal revealed no evidence of structural timbers having been placed within it. However, the evident truncation of the gully, which survived to an average depth of c 0.4 m, means that it would have been originally a substantial feature of a depth suitable for such a trench. As one or more pairs of postholes usually mark roundhouse entrance features it is possible that posthole 30208, which had no matching feature to the north-east, did not have a structural function.

It is possible that some of the other, undated, features (see below) also represent activity either predating

or associated with the middle Iron Age structure. Approximately 47 m to the ENE of roundhouse 48205 was a length of curved gully (30210), probably representing the truncated remains of another roundhouse wall trench. It produced sherds of post-Deverel-Rimbury and middle Iron Age pottery.

Curvilinear gully 30120. The 4 m-long curved gully was cut at the north by a drainage ditch but ended at a rounded terminal at the south, possibly marking the north side of an ESE facing entrance. Because of the short length of the gully it is possible only to estimate the diameter of the structure as within the range of 10–12 m. The gully, excavated in two sections, was up to 0.4 m wide and 0.33 m deep with a variable profile, and its single fill contained 71 g of pottery with a possible date range of late Bronze Age to middle Iron Age, as well as small quantities of fired clay and animal bone.

Some 17 m north-east of gully 30120 was a further length of curvilinear gully (30106) extending beyond the north edge of the excavation area.

Curvilinear gully 30106 (Fig. 3.126). This gully, with a projected diameter of 9–11 m, was 0.62–0.90 m wide and up to 0.33 m deep, with moderately steep sides and a concave base. Although the upper of three fills in section 48197 and the single fill in section 48200 produced five sherds of late Iron Age/early Romano-British pottery, in addition to 21 sherds of late Bronze Age to middle Iron Age date, the late pottery may be intrusive, deriving from late Iron Age ditch 30093 that cut it, and a small gully (30097) parallel to the ditch. For this reason the gully is assigned to the middle Iron Age phase of the site. One section of the gully (48200) produced a relatively large quantity (417 g) of fired clay.

Immediately east of curvilinear ditch 30106 was a series of linear and rectilinear gullies (30097, 30098, 30100 and 30101). At least two phases of activity are represented, the first phase represented by gully 30100, which was cut by late Iron Age gully 30098, and gully 30101 producing middle Iron Age pottery. The replacement and rebuilding in the same location of a number of rectangular structures from at least the middle Iron Age to the late Iron Age points to some continuity in the organisation of activities on the site.

Gully 30100. This slightly curved gully ran approximately north-east for 3.9 m. It was badly truncated with a maximum depth of 0.05 m, so that it was not possible to determine whether its ends represented terminals. It had no datable finds but was cut near its west end by gully 30098.

Gully 30101.This very truncated L-shaped gully ran west-southwest for 4.3 m then turned at a right angle to the north-northwest for a further 3.4 m. Both ends were truncated and it was not possible to determine whether either of these represented terminals. It was up to 0.28 m wide and 0.05 m deep, and its single fill produced three middle Iron Age sherds. It was cut by ditch 30096.

Immediately to the east of these gullies, and possibly associated with them, was a 14 m long curved gully representing part of the probable foundation trench of another truncated roundhouse (48156), of likely middle Iron Age date. There was also an angled length of gully (30073) 2.5 m outside the projected line of the roundhouse on its north-east side.

Curvilinear gully 30078 (structure 48156). The gully (30078) described the south-western arc of a circle c 11 m in diameter. It ended at a rounded terminal at the southern end, probably representing one side of an entrance gap facing just east of south. The northern end may also represent a terminal, although the rest of the gully circuit has clearly been truncated. The gully, as it survived, was up to 0.4 m wide and 0.17 m deep, and had generally moderately steep sides and a concave base. In all but one section two fills were recorded. Apart from two post-Deverel-Rimbury sherds, all the pottery was of middle Iron Age date, 86% of which (by weight) came from section 30353 adjacent to the south-eastern terminal, along with 54% of the animal bone and all of the worked and burnt flint.

There was also a posthole (30075), near the centre of the structure, and although it produced two small late Iron Age sherds, it is possible that these are intrusive, given the extent of late Iron Age activity in this area, including a large spread of late Iron Age material (30079) immediately to the north-west. Towards the projected rear wall of the roundhouse was an undated oval hearth (30076). It was 0.42 m wide by 0.62 m long and 0.09 m deep with steep sides and a flat base (30076), and its single fill (48155) contained large pieces of burnt flint (1344 g) and a high level of charcoal. Significant quantities of charcoal were recorded in the upper fill of the wall foundation gully, except towards the likely entrance at the south.

A short distance to the east of 30078 lay an oval posthole (30070). This was 0.45 m by 0.7 m wide and 0.1 m deep, with a single fill which produced two sherds of middle Iron Age pottery, fired clay and animal bone

There was also a cluster of small subcircular features (30085–88, 30092 and 48141) some 12–23 m to the SSW of roundhouse 48196. They were generally shallow, no more than 0.2 m deep, but varied in their size between 0.2 m and 0.55 m wide. Two of the features (30087 and 30088) contained between them four sherds of middle Iron Age pottery, the rest being undated, although their proximity and the absence of any late Iron Age finds suggest that they may all be associated. Feature 30092 produced numerous charred grains of emmer/spelt wheat (as well as indeterminate cereal grains and seeds of the arable weed chess), possibly indicating grain storage associated with these features. It also produced a single grain of naked barley, the only incidence of a crop not found in large quantities from sites later than the middle Bronze Age (see Carruthers, CD/Chapter 7).

Period 9: Late Iron Age

The late Iron Age activity on the site is dominated by a series of largely parallel boundary ditches, aligned NE-SW, with other ditches running perpendicular to them. Part of the ditch system at the eastern end of the site contained a small rectangular enclosure abutting one of the ditches, as well as series of probably associated internal divisions, and part of a roundhouse foundation trench. While all these features can be dated to the late Iron Age/early Roman period, their chronological sequence remains in some doubt. There was a second roundhouse at the western end of the site, close to the position of the possible middle Iron Age

roundhouse (48205). The late Iron Age features fall into a number of blocks determined largely by the surrounding field boundaries, and they are described below from east to west.

The eastern half of the site is dominated by a small rectangular enclosure (30284). The two main ditches in this area, 30080 running NE-SW and 30011 perpendicular to it towards the east, are likely to have joined outside the excavated area, as part of the wider ditch system. They may also have combined with a number of smaller ditches to form a larger enclosed area.

The small enclosure displayed up to three phases of construction, possibly corresponding to evidence of recutting recorded in the larger ditches. The layout of the other ditches also suggests change over time, although their phasing remains unclear and there are a number of possible interpretations for the development of this part of the site. The orientation of the enclosure on the same alignment as much of the wider ditch system (ie ditches 30080, 30093 and 30134) indicates that it is unlikely to have predated the ditch system; it is doubtful that an extensive ditch system would have been aligned with reference to a single enclosure. It may be significant that the enclosure was constructed at a point where the ditch system was subject to a significant change in alignment.

Ditch 30080. This ditch, which spanned the whole excavated area, ran approximately SW-NE for some 44 m, before turning slightly towards the east, immediately north of the north corner of enclosure 30284 (below), and continuing for a further 12 m. It had a slight inward kink where it formed the north-western side of the enclosure. This could indicate an initial realignment of the ditch towards ditch 30011, abandoned to allow the construction of the enclosure.

Towards the south-west (in section 30192) and the north-east (in section 30198) there was no evidence of the ditch having been recut. It had been recut, however, at the western corner of the enclosure (30547) (Fig. 3.127). There, the earliest phase of the ditch cut (30543), which was 1.74 m wide, dipped down into what appears to have been terminal with a flat-bottomed hole, possibly a posthole, at its end, the hole having a vertical face on the north-east side. The base of this feature was 0.94 m below the top of the ditch (as recorded).

The ditch at this point was subsequently recut and extended beyond the terminal towards the north-east. There was no direct evidence of the recut at the intersection with ditch 30081, 4.6 m to the south-east; in fact the ditch at this point may have been, in its final phase, deliberately backfilled. However, it was widest (2.15 m) at this point (30324) and it is possible that a wide recut had removed traces of any earlier cut. Where more than one ditch phase was evident, the earlier ditch cut appears to have had a shallower profile, the latest phase in most excavated sections having moderately steep to steep sides and a concave base.

A length of the ditch was recut a second time (30055) during the recutting of the phase 3 enclosure ditch (below). The recut was noted along the south-western side of the enclosure, continuing around its western corner and along the back, on the line of ditch 30080 (in sections 30398 and 30379).

Late Iron Age pottery was distributed relatively evenly along the length of ditch 30080, being found in layers both below and above the recuts. Fired clay, however, was weighted towards the north-east, 90% of it (by weight) coming from the upper fills in sections 30379 and 30198, the same sections producing 87% of the animal bone.

A shallow oval pit (30054), measuring 1.2 m by 1.6 m and 0.15 m deep, was subsequently cut into western side of the ditch at the western corner. It truncated an earlier but otherwise undated feature (30471), possibly also a pit.

Opposite its intersection with ditch 30081, the western side of the ditch was cut by a large pit (30319), possibly a quarry pit, measuring 7 m by 4 m and up to 0.5 m deep. This pit contained late Iron Age and early Roman pottery, the latter including 6 sherds (12 g) of East Gaulish fine ware with a date range of AD 170–260.

Ditch 30081 and feature 30040. Ditch 30081 ran for 11 m south-east from its intersection with ditch 30080, some 5 m to the south-west of enclosure 30284. It was c 0.9 m wide and up to 0.35 m deep with steep sides and a flat base. Although its fills were cut by ditch 30080, it is possible that they were in fact cut by the ditch 30080 recut, in which case ditch 30081 may have been associated with the original phase of ditch 30080. At its south-eastern end the ditch curved slightly towards the east and was not observed in the modern ditch 3 m south of the excavation area, indicating that it may have turned towards the east, running just outside the excavation area.

It is possible that feature 30040, recorded 12 m further east, represents the continuation and terminal of the same ditch, so creating a flanking arm around the south side of the enclosure. Feature 30040 was recorded running north-northeast for 2 m to a slightly squared, steep-sided 'terminal' some 5.5 m outside the entrance of the small enclosure. It was 1.2 m wide and, like ditch 30081, had steep sides and a flat base. A 0.2 m-deep depression in the base close to the terminal gave it an overall depth of 0.75 m. However, unlike ditch 30081 which had two fills, producing small quantities of late Iron Age pottery, animal bone and fired clay, four were recorded in the terminal, between them producing 355 g of late Iron Age to early Romano-British pottery (including 15 sherds, 27 g of imported continental fine ware), animal bone, fired clay and an iron nail. A 1st-century AD copper alloy brooch (object 30901), very similar to that from pit 30039 (object 30903), was recovered from the second lowest fill (30259).

Ditch 30081 cut a small pit 30084, 0.76 m in diameter and 0.36 m deep, with steep concave sides and a flat base, which produced a single sherd of late Iron Age pottery. A similar pit (30083) 2.5 m to the north-east produced no finds.

Enclosure 30248 (Fig. 3.128). Abutting ditch 30080, within the possible arc formed by ditch 30081 and feature 30040, there was a small rectangular enclosure, defined by ditch 30080 at the back and by a series of parallel ditches and gullies at the sides and front. Its was approximately 10 m by 14 m internally, and 12 m by 17 m externally. It had an entrance placed off-centre on its long south-east side. A short length of gully was the only internal feature. There were at least three phases of construction of the enclosure ditch. The purpose of the enclosure is not immediately apparent; it may have

been used for as an animal pen, although the relatively large number of charred cereal grains and chaff from the phase 1 ditch (section 30280, contexts 30281–2) suggests crop processing or storage in the immediate vicinity.

Phase 1

The north-east side was formed by a 12.5 m long ditch (30044), its shallow north-west end abutting ditch 30080 at a right angle, although the stratigraphical relationship at the intersection was not clear. The ditch, which, was up to 0.6 m wide and 0.36 m deep with moderately steep sides and a flat base, bowed slightly outwards, curving south-west to a 0.78 m wide terminal on the south-east side. Just before the terminal it abutted a very shallow gully (30041), 6 m long and up to 0.8 m wide, which curved from the east, but again no stratigraphical relationship could be determined. Beyond the terminal there was a 2.4 m-wide entrance causeway, then a narrower ditch (30051), up to 0.47 m wide and 0.25 m deep with steep sides and a flat base, which continued for a further 8 m to the south corner. Although truncated beyond this point by the Phase 3 recut (30055) of the south-western ditch, traces of the phase 1 ditch on the south-west side (30470) were recorded at its mid-point (section 30384).

Apart from two residual post-Deverel-Rimbury sherds and small quantities of fired clay and animal bone from the north-east side of the enclosure, all the remaining finds—predominantly late Iron Age pottery—came from along the front.

Phase 2

The ditch on the north-east side of the enclosure was recut (30045), and although this not evident at its shallow north-west end, it was visible at the ditch's midpoint (section 30453), where the recut followed a slightly straighter line than the original ditch, cutting its inside edge. The recut, which was 0.6 m wide and up to 0.42 m deep with steep sides and a flat base, was also evident at the enclosure's east corner, where it turned to the south-west some 1.6 m short of the Phase 1 corner, continuing to a 0.7 m wide terminal (30513) on a line over 1 m north-east of the Phase 1 terminal. Beyond the terminal was a 2.2 m-wide entrance causeway, then a further 4.8 m length of ditch (30048), c 0.5 m wide and 0.4 m deep with steep sides and a concave base. There was then a second 0.5 m-wide gap, beyond which another length of ditch (30050), with a similar profile, continued to the enclosure's south corner, where it was truncated by the Phase 3 recut of the south-western ditch. It is unclear whether the narrow gap represented an entrance; the main entrance, however, was even more off-centre than in the earlier phase. These ditches, forming the front of the enclosure, were some 2 m inside the line of the Phase 1 ditch. The south-west side of the enclosure was also shortened, but any other evidence for change along this side during this phase had been destroyed by the Phase 3 recut.

It is unclear whether the outer ditches along the front of the enclosure remained in use in Phase 2 (and Phase 3). That they did is suggested by the fact that in Phase 3 (below) the enclosure's side ditches extended as far as the outer ditches. This would have created a narrow corridor along the front of the enclosure with staggered main entrance, and the narrow gap lying between the corridor and the main part of the enclosure. If the enclosure was used for some form of stock management, these

features may have facilitated the control, movement and segregation of animals.

In most of the excavated sections two ditch fills were recorded, and while all the animal bone came from towards the south-western end of the enclosure, this area produced little of the pottery, the distribution of which was weighted to the north-east.

Phase 3

On the north-east side, the Phase 1 and 2 ditches were replaced on the outside by an approximately parallel ditch (30043), which in places cut the earlier ditches' outer edges. This, too, abutted ditch 30080 at a right angle, and again the stratigraphical relationship was unclear, the ditch being severely truncated at this point (section 30252). The ditch, which was up to 1 m wide and 0.21 m deep with a shallow concave profile, was truncated by ploughing also at its south-east end, some 10.8 m from ditch 30080, but traces of it were visible for a further 2 m up to gully 30041. There was no evidence of change along the south side in this phase, although the terminal of the Phase 2 ditch south-west of the narrow entrance gap was cut by a small pit (30049).

On the south-west side, however, much of the Phase 1–2 ditch had been recut (30055). Although there was no direct evidence at its north-west end (section 30551), the ditch, where it abutted ditch 30080, did cut the fills of that ditch, a recut of ditch 30080 extending at least a further 6 m along the back of the enclosure (visible in sections 30398 and 30379). There was, however, direct evidence of a recut 3 m south-east of the intersection (section 30384), and the recut also truncated the lower fill of Phase 2 ditch 30050. The recut was up between 0.42 m and 1.4 m wide and between 0.2 m and 0.45 m deep with moderate to steep sides and a flat base.

In some of the truncated sections only single fills were recorded, while in the deepest and widest section (30551) three fills were recorded. Most of the finds, including 71% of the pottery (by weight), 83% of the fired clay and 85% of the animal bone came from a single section in the middle of the north-east side (30448).

The only features within the enclosure were the small pit (30049) cutting the end of ditch 30050, and a 3.7m long gully (30053) running front to back towards the rear ditch, and to the left of centre. The pit was 0.7 m by 1.28 m wide and 0.24 m deep with moderately steep sides and a concave base, but produced no finds. The gully, which was up to 0.55 m wide and 0.23 m deep with steep sides and a concave base, may represent an internal division within the enclosure. It contained nine sherds (24 g) of middle to late Iron Age pottery and three fragments (6 g) of animal bone.

If ditch 30080 continued on its alignment to the north-east it is likely to have intersected with ditch 30011, which ran NW-SE across the east end of the excavated area. This ditch was associated with a series of parallel ditches and gullies abutting it from the south-west (30012, 30015 and 30020), but not crossing it, suggesting that they were internal longitudinal divisions within the larger enclosed field, probably associated with the small enclosure. Ditch 30011 also had evidence of being recut. At its intersection with ditch 30015 it truncated feature 30312.

Feature 30312 (Fig. 3.129). This feature was partially exposed in the base of ditch 30011, at its

intersection with ditch 30015, with the result that its full form was not determined. The feature, as exposed, was 1.13 m wide and 0.6 m deep, but only 0.28 m long along the line of the ditch. It had moderately steep sides and a flat base, and was truncated by ditch 30011. While it is possible that it was a pit, predating both ditches, its appearance suggests that it was the north-western terminal of an original ditch cut running from the south-east. Its three fills produced no finds.

Ditch 30011. This ditch was recorded for 31 m spanning the excavation area. In one of the three excavated sections (30306), where it truncated feature 30312, there was evidence that it had been recut, the ditch in both phases having a similar profile, with moderately steep sides and a wide flat base. The earlier cut was over 1 m wide and 0.45 m deep, the recut being shallower (0.37 m) but wider (1.74 m). The earlier ditch was stratigraphically associated with one (30016) of a series of parallel ditches to the west, aligned perpendicular to it. Up to three fills were recorded in the ditch, all producing substantial quantities of late Iron Age pottery, with, in comparison, relatively small quantities of animal bone, fired clay and other finds. The most northerly excavated section of ditch 30011 (30156) also produced a quantity of Central Gaulish fine ware with a date range of AD 150–250 (111 sherds, 261 g) from its lowest and upper fills. It is possible that this material dates to the ditch recut (although this was not recognised in this section), providing a clue to the continued activity on the site in the early Roman period.

Three smaller ditches ran perpendicular to ditch 30011 on its south-west side, although only at the two to the south-east (30015 and 30025) was there any surviving stratigraphic relationship. At both intersections a cut of ditch 30011 truncated the fills of the smaller ditches. The fill of ditch 30015 was indistinguishable from the fill of ditch 30011, both being truncated by the later recut of the larger ditch. The fill of ditch 30012 was also cut by ditch 30011, and although no recut was evident at this location it is possible that such a recut could have completely truncated the original ditch.

Ditch 30012. Ditch 30012 was recorded for some 15 m, running south-west from its intersection with ditch 30011, and bending slightly to the south (possibly matching the bend on ditch 30080), before continuing beyond the excavation area. It was up to 1.08 m wide and 0.55 m deep with moderately steep sides, flat to the north-west and convex to the south-east, and a narrow flat base. Late Iron Age pottery came from both its fills. There was a small pit (30013) with a charcoal rich fill, but no finds, on its north edge.

Ditches 30015 and 30025. Parallel to ditch 30012 and some 7–8 m to the north-west were two lengths of ditch on the same alignment, separated by a gap of 6.7 m. Both ditches had steep sides and flat bases, with a maximum width of 0.85 m and depth of 0.39 m. Ditch 30015 abutted ditch 30011, and was stratigraphically associated with larger ditch's originals cut. It ran south-west for some 7 m to a rounded terminal. Ditch 30025 ran from a matching terminal for a further 10 m before curving slightly to the west and continuing beyond the excavated area, although it was not observed in the modern ditch 3 m south of the excavation area. The

widely spaced terminals appear to represent the entrance into a larger subrectangular enclosure located in the corner formed by ditches 30011 and 30080

Ditch 30020. Parallel to, and some 13 m north-west of ditch 30015, were three lengths of gully, 0.3 m wide and just 0.06 m deep, probably a very truncated ditch. They had an overall length of 8.7 m, running south-east from close to ditch 30011, having probably originally intersected with it.

There was a range of other features within the large bounded area, including the possible foundation trench (30330) of a roundhouse, and a series of pits. In most cases there was no stratigraphic evidence to determine their relationship to the surrounding ditches or the enclosure. The projected line of the roundhouse trench on its west side, however, would have impinged on two of these features, a shallow spread of material (48032) and a large pit (30035), suggesting that not all these features were associated.

Curvilinear gully 30330. The 8 m length of gully (30528) described the southern part of an arc of a circle c 10 m in diameter immediately east of the east corner of enclosure 30284. To the west the gully was recorded up to, but not beyond, an approximately N-S ditch (30028), but at the east it ended at a terminal representing the south side of an east facing entrance. There was no trace of the gully north of the entrance. The gully survived up to 0.42 m wide and 0.12 m deep, with generally moderately steep sides and a concave base. Its single fill produced two sherds of late Iron Age pottery and part of the possible fired clay loomweight (object 30902).

There was a pair of circular features 1.7 m apart, some 0.8–1.0 m outside the gully (30023 (Fig. 3.130) at the north and 30024 (Fig. 3.131) at the south). The edge of feature 30024 aligned closely on the gully terminal. Both were approximately 1 m in diameter and 0.5 m deep with vertical sides and flat bases, containing three and four fills respectively. Their similarity in form and their position in relation to the gully terminal, raise the possibility that they were large postholes forming a short entrance porch to the roundhouse. However, no such porch features were found in any of the other suggested roundhouses, either on this site or any of the other A120 sites, and it seems more likely that they were pits, possibly associated with the series of pits to the west (below). Pit 30023 produced a few sherds of middle to late Iron Age pottery, while pit 30024 produced a large quantity (725 g) of late Iron Age to early Romano-British pottery. Both contained small quantities of fired clay and animal bone.

To the west and south-west of the roundhouse, and arranged around the eastern corner of the enclosure, were three large pits (30035, 30039 and 48036), and a spread of dark soil (48031) producing a large quantity of finds. A north-south ditch (30028) cut the spread.

Pit 48036 and spread 48031. The 1.1 m-diameter pit impinged on the projected line of the roundhouse's foundation trench. It was overlain by an irregular spread of dark brown soil, measuring 3.4 m by 4.8 m and up to 0.03 m thick, and produced substantial quantities of late Iron Age/early Romano-British pottery (1150 g), as well as fired clay, burnt stone, animal bone and worked flint. The spread slumped into the top of the pit forming its

upper fill (48034). Both features were cut, and bounded to the east, by ditch 30082.

Pits 30035 (Fig. 3.132) and 30039 (Fig. 3.133). These two large subcircular pits were both around 2 m in diameter and 0.6 m deep, with five and four fills respectively, containing similar material, including pottery with a date range of late Iron Age to early Romano-British, fired clay, animal bone and flint. Pit 30039 also producing a 1st-century AD copper alloy brooch (object 30903) very similar to that in pit 30039 (object 30901).

Ditch 30028. This very straight ditch ran approximately north/south for some 32 m across the excavated area, on a different alignment from the other main ditches. It was up to 0.9 m wide and 0.4 m deep with steep sides and a flat base, although it was severely truncated towards the north. It produced only small quantities of late Iron Age to early Romano-British pottery

Running parallel to ditch 30080, some 16 m to the north-west, was the southern arm of a ditch (30093) which, in the centre of the site, turned at an approximate right angle to the north-west. The area between by these two ditches, narrow to the south and widening to the north, formed another spatial unit. In addition to the possible middle Iron Age roundhouse 41856 (above), and adjacent rectilinear gullies, this area contained a number of late Iron Age features.

Ditch 30093. The southern section of the ditch ran south-west to north-east for some 30 m, then turned at a right angle towards the north-west. This northern section was recorded for a further 30 m curving slightly towards the north. The ditch, which was up to 2 m wide (although wider at the corner) and 0.95 m deep, had moderately steep straight sides and a flat base, and appears to have filled up through natural processes, up to seven fills being recorded. There were suggestions of a possible recut on the inside of the corner. The finds, including pottery, fired clay, burnt stone and animal bone, were relatively evenly distributed along its length, and while there were similar quantities of late Iron Age and late Iron Age/early Romano-British pottery, the latter was found almost exclusively in the upper fills of the ditch. The upper fill also contained two sherds (184 g) of Dressel 1B amphora. At the north the ditch was cut by early Iron Age curvilinear gully 30106, and was in turn cut by ditch 30096 and, on its outside edge at the corner, a shallow undated pit (30095).

Immediately north-east of ditch 30093 was a series of linear and rectilinear gullies, two of which (30100 and 30101, above) may have been of middle Iron Age date. Gullies 30097 and 30098, however, produced exclusively late Iron Age to early Romano-British pottery, and although gully 30097 produced only a small quantity, its alignment parallel to late Iron Age ditch 30093 appears to confirm the date. The replacement and rebuilding in the same location, although with slightly different alignments, of a number of rectangular structures from at least the middle Iron Age to the late Iron Age points to some continuity in the organisation of activities on the site. There were also, in the same area, two pits (30099 and 30105) and a spread of material (30079).

Gully 30097. This gully was aligned approximately NW-SE, lay and parallel to ditch 30093, separated from it be a gap 2.3–2.7 m wide. It was truncated at both ends, but towards the centre was up to 0.7 m

wide and 0.2 m deep with moderate to steep sides and a flat or concave base. At its north end it cut curvilinear gully 30106, and was in turn cut by pit 30105 and ditch 30096.

Gully 30098. This gully, immediately north-east of gully 30097, but on a slightly different alignment, represent parts of three sides of a possible rectangular structure. Both ends were truncated by ploughing and it was not possible to determine whether either of these represented terminals. The long, south-west side was 10.7 m long and the short, south-east, side was 4 m long. The gully, which was up to 0.64 m wide and 0.22 m deep with steep sides and a flat base, may represent the beamslot for a rectangular building. As well as pottery it produced relatively small quantities of fired clay, animal bone and worked flint.

Spread 30079. This homogenous layer of dark brown soil, up to 0.16 m thick and measuring 5 m by 3 m, contained large concentrations of burnt flint, as well a six sherds of late Iron Age pottery, and fired clay.

Pits 30099 and 30105. Pit 30099 was 1.4 m in diameter and 0.2 m deep, and produced no finds, while pit 30105, which cut gully 30097, produced pottery of late Bronze Age to late Iron Age date, as well as fired clay, animal bone and a small quantity of slag. It measured 1.3 m by 1.65 m and was approximately 1 m deep, its base being below groundwater level.

Cutting across ditch 30093 and three of the gullies to its north-east was a very straight ditch (30096), similar to ditch 30028, but on a slightly different alignment.

Ditch 30096. This ditch was recorded running NE-SW for over 50 m continuing beyond the excavated area to both the north and the south. It was up to 0.7 m wide and 0.4 m deep with moderate to steep sides and a flat or concave base.

Some 35 m north-west of ditch 30093, and parallel to it, was another ditch aligned NE-SW spanning the excavated area (30134). The two ditches defined a further possibly enclosed block of land within which were a number of features.

Ditch 30134 (Fig. 3.134). This ditch was aligned NE-SW and was recorded over a distance of 36 m spanning the main excavation area. However, it was not recorded in the trench on the north side of the haulage road, and it is possible that it turned sharply towards the south-east as ditch 30126 (below).

In section 48006, at the intersection with ditch 30131, there is the suggestion that the ditch represents the recutting of an earlier ditch (/48018/48022), truncating all but one (48019) of the earlier ditch's fills, fill 48018 being indistinguishable from the fill of ditch 30131. However, there were no similar indications in the other excavated sections.

Ditch 30134 varied between 1.3 m and 2 m in width, and was up to 0.6 m deep, with moderate to steep sides and a flat base, sections 30469 and 48006 being wider due to shallow steps on their east and west sides, respectively. Apart from a dump in section 30469 of mixed burnt waste including charcoal and cereal grain, the ditch appears to have filled up through natural processes, with up to ten fills recorded, incorporating late Iron Age to early Romano-British pottery (including imported fine wares) and animal bone from the nearby settlement activity represented by roundhouse 30144 (below). The ditch was subsequently cut by two large pits (30507 and 30575).

Running south-east for 15 m from ditch 30134, at close to a right angle, was a smaller ditch (30131). It was truncated at the south-east by a modern field boundary ditch.

Ditch 30131. Due to uncertainty as to the existence of an earlier ditch on the line of ditch 30134, the stratigraphical relationship between ditch 30131 and 30134 is unclear. The intersection of these two ditches suggests that ditch 30131 may have been contemporary with the earlier ditch (48018), their respective indistinguishable fills (48005 and 48019) being truncated by the later recut. There was also no relationship established at the south-east end, the ditch having been truncated at that point by ploughing and a modern field drain.
The ditch varied in profile, being wider and deeper (up to 0.88 m wide and 0.3 m deep) with steep sides and up to three fills to the west of the later pit (30132) which cut it, and narrow and shallower (0.4 m by 0.1 m) to the east. It produced a small quantity of pottery ranging in date from the late Bronze Age to the late Iron Age, as well as fired clay, animal bone and worked and burnt flint.
To the east of ditch 30134 on the northern side of the excavated area there were three lengths of gully, all continuing to the north. Their spatial relationship suggests that they are associated although they have been are assigned to the late Iron Age on the basis of a single sherd from gully 30124.

Possible structure 30124 and gully 30128. Two lengths of slightly curved gully (30124 at the east and 30587 at the west) both ended at the south in rounded terminals, 3.4 m apart, probably representing the south facing entrance of a subcircular structure, possibly oval in shape and of uncertain diameter. The gully was up to 0.5 m wide and 0.2 m deep and had moderately steep sides and a flat base. Gully 30128, to the immediate south-west and of similar dimensions, turned at an angle to the north-east before ending at a terminal in front of the structure entrance.
Gullies 30587 and 30128 were both cut by ditch 30126, which ran south-east from the edge of the excavated area. If projected northwards, 30126 would have intersected with ditch 30134, and may have been part of the same feature.

Ditch 30126. This ditch ran south-southeast for 8.7 m from the northern edge of the excavation, on a line almost parallel to the northern end of ditch 30093. It was cut at the south by a modern field drain and was not recorded to its south. It varied in profile, being up to 1.25 m wide and 0.47 m deep, but had generally moderately steep sides and a flat base. Up to four fills were recorded, producing relatively small quantities of mostly late Iron Age pottery, fired clay and animal bone.

Ditch 30126 was in turn cut by a shallow pit (30567), one of a broad group of ten possibly associated pits spread over some 32 m south and south-east of structure 30124, in the area bounded to the east by ditch 30093. The majority contained variable quantifies of pottery, most of it of late Iron Age to early Romano-British date, as well animal bone and fired clay.
Pits 30110, 30113, 30114/30455, 30116, 30117, 30119, 30129, 30559, 30567 and posthole 30118. The most north-easterly of these, pit 30110, was 0.86 m in diameter and 0.37 m deep with moderate to steep sides and a flat base. The

very dark grey soil filling most of the pit producing almost 3 kg of late Iron Age/early Romano-British pottery, as well as three sherds (110 g) of imitation Gallo-Belgic platter.

A number of the pits were tightly grouped and overlapping, and at least five of them had a linear arrangement matching the orientation of the surrounding field boundary ditches. Pit 30559, which was at least 1.35 m wide and 0.3 m deep but contained no finds, was cut to the north-east and south-west by pits 30116 and 30117 (Fig. 3.135). These were oval in plan (c 0.9 m by 1.35 m, and 0.7 m by 0.45 m, respectively, and c 0.4 m deep). The main fill of pit 30116 produced middle Iron Age and late Iron Age/early Romano-British pottery, almost 0.5 kg of fired clay, burnt sandstone, charcoal, animal bone and a glass bead (object 30905). Similar finds, but in smaller quantities came from pit 30117.

Just over 1 m to the north-east was a small pit (or possibly posthole) (30114), 0.5–0.6 m in diameter and 0.5 m deep, with a large undressed stone place on its base. It was cut on its south-west side by pit 30455. Pit 30113, a further 4 m north-east on the same alignment, was 0.75 m in diameter and 0.25 m deep. Along with 23 sherds (191) of late Iron Age grog-tempered pottery, including a pot base possibly deliberately placed on the base of the cut, were four sherds (71 g) of an imitation Gallo-Belgic platter and a fragment of samian. The linear arrangement of these features is of uncertain significance.

The largest of this group of pits (30119), to the west of the linear group, was 1.55 m in diameter and 0.5 m deep with moderately steep concave sides and base. It contained a naturally accumulated fill, most of the finds—late Iron Age to Romano-British pottery (including two sherds of imitation Gallo-Belgic platter), fired clay, animal bone and shell—coming from lower fills. Pit 30567, which cut ditch 30126, was 0.6 m by 1 m wide and 0.17 deep, with a shallow concave profile and a single fill producing 11 late Iron Age sherds. There were two other smaller features in this area: an undated 0.4 m diameter posthole (30118) and a shallow pit, 0.7–0.8 m in diameter producing a single fragment of late Iron Age pottery.

Towards the western side of this bounded area, there were three pits apparently deliberately located over the centres of infilled ditches 30131 and 30134.

Pits 30132, 30507, and 30575 (and 30571). Pit 30575 cut an earlier undated pit (30571) located immediately south-east of ditch 30134, which in turn cut the shallow late Bronze Age feature 30573 (Fig. 3.134). It was over 2.2 m in diameter and 0.8 m deep with moderately steep sides and an irregular base. Nine fills were recorded, most of them accumulating naturally, although one layer (30582) included a dump of hearth debris. Other layers produced between them 290 g of late Iron Age pottery and a small quantity of animal bone. Some 4.5 m to the south-west, cutting the same ditch, pit 30507 (Fig. 3.136) produced only a single late Iron Age sherd and a small quantity of animal bone from the middle of its three naturally accumulating fills. The pit was almost 1 m in diameter and 0.6 m deep with moderately steep concave sides and a flat base.

In contrast, pit 30132, cutting ditch 30131 (Fig. 3.137), had four fills, all containing finds and representing at least two episodes of deliberate backfilling. As well as pottery, animal bone and fired clay, the pit also produced an iron buckle (object

30906), two other pieces of iron (objects 30907 and 30914) and slag.
If ditch 30134 continued to the south-west it would probably have intersected at a near right angle, some 8–9 m outside the excavation area, with a pair of parallel ditches (30226 and 30227) aligned north-west/south-east recorded at the south-west. These ditches, which were less than 1 m apart, may have formed two sides of another enclosed field.

Ditches 30225, 30226 and 30227. The southern of the parallel ditches (30226) was 1.3 m wide and 0.55 m deep with moderately steep sides and a slightly concave base (Fig. 3.138). Two fills were recorded, the earlier containing a sherd of residual post-Deverel-Rimbury pottery, the upper containing late Iron Age pottery, fired clay and animal bone.

Ditch 30227 (Fig. 3.138), with similar dimensions, had steep sides and a wide concave base, its finds including also a number of pieces of possible briquetage from the lower and upper of its three fills.
A wider ditch (30225) (Fig. 3.139) with the same orientation, was recorded 4 m to the north-west (in a small trench excavated outside the main excavation area). Although it is likely to represent a continuation of the line of either of the parallel ditches, each would have had to have shifted off their line in the intervening space. The profile of ditch 30225, which was 1.75 m wide and 0.6 m deep with a moderately steep south-west side and a shallower and stepped north-east side, suggests that it may represent the convergence of the two ditches, although no intercutting was visible in the section.

The position of the middle Iron Age roundhouse (48205) in the angle formed by these ditches suggests that there may have been some relationship between the boundaries and the roundhouse. However, the ditch was just 3 m in front of the roundhouse entrance, and a larger area in front of the entrance might be expected. In contrast, the entrance of the late Iron Age roundhouse represented by penannular gully (30144) was 7.5 m from the ditch.

Penannular gully 30144. This feature was 10.1 m front to back internally and 10.4 m side to side, but flattened on its northern side, and had a 3 m wide entrance gap to the south-southeast. The gully was up to 0.74 m wide and 0.3 m deep with, around much of its circuit, moderately steep sides and a flat base. In most sections two fills were recorded. Although no traces of posts were recorded in the base of the feature, it is likely that the gully represents a wall trench rather than a drainage gutter.
Most of the finds from the gully, which included middle/late and late Iron Age pottery, fired clay, animal bone and burnt stones, came from the northern half of the circuit, towards the back of the structure (96.8% of the pottery being recovered from a c 10 m length of the gully around the north-west 'corner'); no contemporary finds came from the sections flanking the entrance. Interestingly, a pair of quartz pebbles found in the gully north of the eastern terminal was in a comparable location to the four quartz pebbles in the northern terminal of the adjacent, earlier roundhouse.
In contrast to roundhouse 48205, where 74% (by weight) of the pottery was of late Bronze Age to middle Iron Age date, 99% of the

pottery from this structure was of late Iron Age date. The few sherds of post-Deverel-Rimbury pottery all came from the south-west arc of the gully, closest to the earlier roundhouse.

There was no evidence of internal posts. The only feature recorded within the circuit was a small pit (30145) on the east side inside the entrance. This was 0.45 m wide and 0.16 m deep, but it produced no finds and cannot be definitely associated with the roundhouse. As the structure was recorded immediately against the north edge of the main part of the site, it was not possible to determine if its non-circular shape was due to the presence of some substantial pre-existing feature or building to its north. There was only a small pit (30147) containing no finds.

There was a range of features distributed around roundhouse 30144 indicating activity probably associated with the structure, including included a spread of material (30210) to the south-west (Table 3.8). None was closer than 2.4 m to the roundhouse gully.

Spread 30210. Immediately to the south-west of the roundhouse was a large irregular spread of material, approximately 10 m north to south and 5 m east to west and up to 0.4 m thick, producing late Iron Age pottery, fired clay, animal bone and burnt flint, burnt stone and slag. Its southern end impinged on the north side of the early Iron Age roundhouse 48025 (although no stratigraphic relationship was recorded).

Pit 30139 (Fig. 3.140). This large subcircular pit, 2.1 m by 2.5 m wide and 0.56 m deep, with shallow sides and a flat base, may be associated with the three large pits to the south and east. The upper of its two fills produced 314 g of late Iron Age/early Romano-British pottery, as well as fired clay and shell. There was an undated posthole (30138) immediately to its north.

Features 30142, 30147, 30190, 30202, 30218 and 30220. Only two of the six other small features in this area were datable (30142 and 30218), and three (30147, 30190 and 48202) produced no finds. It is possible that some of the small undated features recorded within the earlier roundhouse (above) could possibly be associated with the same activity.

Related reports: Finds: flint, prehistoric pottery, Roman pottery, fired clay, metalwork, worked stone, worked bone, glass (CD/Chapter 4); Animal bone (CD/Chapter 6); Environmental: charred plant remains (CD/Chapter 7).

Bramble Lane (SITE 23; Fig. 3.141)

Site 23 is on a relatively steep east-facing slope overlooking the Stebbing Brook 600 m to the east (TL 66495 22320). The site has been under regular cultivation. A concentration of post-medieval pottery was located during fieldwalking with a scatter of building material to the south. Two trenches were subsequently excavated within an area 50 m by 40 m. The natural deposits exposed in the trenches consisted of chalky boulder clay. These were overlain by clay silt subsoil up to 0.52 m thick (possibly a relict ploughsoil but perhaps also derived from hillwash) in turn sealed by a modern ploughsoil 0.23 m thick.

Undated

A single undated pit was recorded with both trenches showing a large amount of tree root disturbance.

Pit 23015. A single circular pit measuring 0.3 m deep by 0.9 m wide was excavated. It contained a burnt clay and charcoal fill (23014) within which were 20 very worn and fragmentary pieces of fired clay weighing 26 g. A single environmental sample showed good preservation of charcoal in which Quercus sp was present.

Blatches (SITE 24; Fig. 3.142)

The site lay on a relatively flat strip of arable land on the southern side of the modern lane leading to Blatches Farm (TL 65725 22370). Fieldwalking carried out in 1990 by Essex County Council revealed a scatter of medieval pottery. The ground at c 73 m OD shows a slight slope down to the north-east, into the Stebbing Brook Valley. The underlying geology of the area is chalky boulder clay, overlaid by silty clay subsoil, possibly a relict ploughsoil, but more probably colluvial in origin.
Archaeological features were cut into this deposit, and sealed by a modern ploughsoil/topsoil. Generally the cut features displayed a sharp break of slope in profile, indicating a significant degree of truncation, presumably caused by modern ploughing. Such truncation appeared to be more severe towards the southern part of the site, although the topsoil was of a uniform depth.
Apart from three linear ditches of possible late Iron Age/early Roman date most of the archaeology dates to the medieval period and is associated with a small farmstead. The medieval phasing is based upon stratigraphic relationships (where present), artefactual dating and spatial relationships. The definition of features, and the clarity of layers in comparison with the natural subsoil was in some areas poor, inevitably reducing the confidence in the interpreted stratigraphic relationships. Therefore the distinction between phases 15.3 to 15.5 in particular is open to question.

Period 10: Late Iron Age/early Roman

A small quantity of residual late Iron Age and early Roman pottery was recovered.

Period 15: Medieval

Phase 15.1: 12th–13th century

The earliest features were the intermittent and truncated remains of two parallel gullies, approximately 6 m apart, oriented NW-SE and located in the north-eastern corner of the site.
Gully 1181 forming the southerly of the two averaged 0.5 m wide and 0.3 m deep, with a V-shaped profile. The northerly ditch was not excavated, but on plan appeared to be of similar width. Two sherds of 11th- to late 12th-century pottery were recovered, along with two sherds of residual 1st/2nd-century Roman pottery.

Phase 15.2: 13th century

The Phase 15.1 ditches were superseded by an arrangement of approximately parallel E-W gullies (1179, 1180, 1182, 1174) emerging from the east side of the site and running into a N-S ditch 1175 (Fig. 3.143). The northerly gully extended further west as gully 1399. All the gullies averaged 0.45 m in width with a shallow V-shaped profile. Ditch 1175 was up to 0.6 m wide and 0.6 m deep, again with a V-shaped profile. Very few finds

were recovered from any of these features.

Phase 15.3: 13th century

The E-W gullies of Phase 2 were abandoned, although the N-S boundary was redefined, broadly on the same line, as ditch 1183 (Fig. 3.143), which averaged 0.7 m wide by 0.6 m deep. This formed the eastern side of a rectangular enclosure, the west and south side of which were defined by ditch 1190.

Ditch 1190 (Fig. 3.144): The N-S arm of this ditch measured up to 3 m across, with a depth averaging 0.8 m. Up to three fills were identified in the excavated sections, which produced quantities of coarse medieval pottery and a number of degraded fragments of fired clay, identified as 'cob'. Ditch 1190 turned east at a point near the southern edge of the site, and continued to the east, but with a much shallower depth. The ditch appeared to cross the eastern boundary of the enclosure 1183. No clear relationship was seen between these two ditches, leading to the conclusion that they were contemporary.
In the northern part of the enclosure area a spread of small stones (1352) was identified, overlying the natural and apparently representing a laid surface.

Building
Within the enclosure formed by 1183 and 1190, and partially overlying surface 1352, was a group of features defining the footprint of a rectangular building measuring approximately 10 m W-E by 5 m N-S. The long sides of the building were defined by two beamslots.
Beamslots 1320 and 1321. The northern slot (1320) measured 9 m long, up to 0.5 m wide and between 0.1 and 0.2 m deep with steep sides and a rounded base. The single silty clay fill (1133/1076/1135) produced varied quantities of charcoal inclusions and lumps of fired clay. The southern slot (1321) measured approximately 8 m long and was of similar sectional profile as 1320, although up to 1 m wide and 0.65 m deep. The single fill of the slot (1078/1113) was a dark grey silty clay containing quantities of charcoal and fired clay, and animal bone fragments.

?Beamslot 1142: The east end of the building appeared to be defined by a very indistinct linear soil mark (1142) up to 0.1 m deep, possibly the vestige of beam slot.
West wall: the west wall of the building (1413) was represented by a short linear feature (1044, possibly a double posthole) and three postholes (1146, 1148 and 1036). The linear feature was up to 0.2 m deep; the three postholes were no more than 0.1 m deep. Postholes 1146 and 1148 were set either side of the terminus of a curving gully (1081), measuring 3 m long, 0.6 m wide and 0.1 m deep, which extended to the north edge of the southern wall beamslot 1321.

Fenceline
The line of postholes (1413) forming the west wall continued to the south as a possible fence line comprising postholes 1038, 1040, 1042, 1192 and 1197. Two further small postholes (1157 and 1161), situated slightly to the south-east, appear to belong to this structure. All these postholes were between 0.15 m and 0.30 m in diameter and between 0.1 m and 0.2 m deep.

Other associated features
Gully (1322) was identified immediately to the south of

beamslot 1321, measuring approximately 7 m long, 0.8 m wide and up to 0.2 m deep. The west end terminated clearly at the posthole line 1413; the east end was indistinct, possibly truncated by modern activity, The profile of the gully was steep-sided and flat-bottomed, particularly in the western part. The gully contained a dark grey silty clay 1074/1084/1107/1151, which produced quantities of charcoal, pottery, bone and fired clay.

Pit 1391: a large oval pit measuring up to 1.8 m in diameter and 0.4 m deep was identified to the south of the building footprint. The pit displayed steeply sloping sides and a round base, and contained a single silty clay fill (1296/1299). Pottery, bone and fired clay were recovered, and large inclusions of redeposited natural were noted.
Feature 1200: a single large subcircular feature, measuring 0.46 m in diameter and 0.34 m deep, was identified 3.5 m south of pit 1391. No finds were recovered from it, and it is likely that it represents a natural feature such as a tree throw hole.

Phase 15.4: 13th century

There is some evidence, in the disposition of the other linear features in this Phase, that the central part of the L-shaped enclosure ditch (1190) was retained, or at least a boundary of some sort was retained along the line of the ditch. There is evidence that the enclosure ditch to the east (1183) went out of use as its fill is cut by an oval pit (1390) measuring 2.45 m x 1.3 m x 0.28 m deep. The light brown silty clay fill (1098/1100) of this pit contained a large quantity of fired clay, along with pottery and animal bone, suggesting the demolition of the Phase 3 building.

Ditch 1408 (Fig. 3.145): a N-S oriented ditch was partially revealed at the western edge of the site, averaging 1.9 m wide and 1.25 m deep. There was some evidence of a recut, but only one sherd of coarse medieval pottery was recovered from the fills of the excavated sections. An associated enclosure was defined against the east side of ditch 1408 by two ditches (1406 and 1407). Both averaged 0.9 m wide x 0.45 m deep; a small assemblage of medieval pottery was recovered from their silty clay fills.

Ditch 1398 (Fig. 3.144). To the east of the terminus of 1406, a curving ditch (1398) extended for approximately 35 m to cut ditch 1190 at the northern edge of the site. Ditch 1398 averaged 2 m wide and 0.4 m deep. In the angle formed by 1407 and the west end of 1398 a large group of intercutting pits was identified (1401).

Pits 1401. The group consisted of five pits (1304/1383, 1314, 1317, 1370 and 1386). They varied in plan from subcircular to irregular, and were all between 1.0–1.4 m wide and 0.6–1.2 m deep. The basal fills of each pit were generally redeposited natural and devoid of finds. Only the upper fills contained artefactual evidence. The pit group was sealed by a layer of friable silty clay (1302), up to 0.3 m deep, with flint and chalk inclusions. No finds were recovered from this layer.

Ditch 1392 (Fig. 3.145). Approximately 18 m south of the curving ditch 1398, a parallel ditch (1392) extended from the southern part of ditch 1190 towards the western baulk for a distance of approximately 32 m. Ditch 1392

varied in width from 1.2–2.1 m, and in depth from 0.43–0.65 m. Finds from the fills included medieval pottery and animal bone, concentrated near to western terminus of the ditch. A possible extension westwards of this ditch was recorded as feature 1402, measuring 8 m long, although it was not excavated. A short, U-shaped gully (1393), 6 m long x 0.4 m wide x 0.35 m deep, was identified against the southern edge of the site, parallel with, and approximately 6.5 m from feature 1402. A soil mark recorded west of the gully may represent an associated posthole, although it was not excavated. The gully fill produced quantities of pot, fired clay, animal bone and oyster shell, particularly from its upper layer (1034/1028).

Pits and postholes. Between ditches 1392/1402 and 1398/1406 were a number of pits (1409, 1363, 1405, 1119 and 1329). The depths of these features varied from 0.4 m to 0.75 m. Pit 1409 produced significant quantities of pot, bone and fired clay, as did pit 1405, situated a short distance to the east. Three possibly related postholes (1089, 1095 and 1097) were also identified. Two further pits (1400 and 1224) were located just to the north of ditch 1398. The larger of the two (1400) measured 2.4 m long x 1.2 m wide x 0.85 m deep, with near vertical sides and a flat base. The three fills produced a small assemblage of pottery, bone and oyster shell.
A single isolated pit (1390) was identified in the eastern part of the site, cutting Phase 3 ditch 1183 and Phase 2 ditch 1175. Significant quantities of fired clay and pottery were recovered from its fill.

Phase 16.1: 14th century

Again the middle part of the N-S boundary represented by ditch 1190 appears to have been retained. No features of this phase were identified to the east. To the west, the Phase 4 ditches extending from 1190 were backfilled and a new arrangement of ditches established. It is not clear if any or all of the ditches near the west side of the site (1406–8) were also retained.

Ditches 1394 and 1403. The line of the southerly of the two Phase 4 W-E ditches (1392) was approximately redefined by ditches 1394 and 1403, linked by ditch 1404. Significant quantities of pottery, fired clay, oyster shell and bone were recovered.

Ditch 1188. A broadly parallel ditch (1188) extended for an equal length (approximately 24 m) from the boundary defined by 1190. Again, its fill produced quantities of pottery, bone and fired clay.

Ditch 1397. A further ditch was identified, oriented NW-SE, and extending from the line of 1190, across the capped pits (1401) of Phase 4, and into the northern baulk. Although ditch 1397 was linked to 1188 by a short ditch (1395), and appeared to be contemporary, there was notable absence of finds from its fills.

Related reports: Finds: flint, Roman pottery, medieval pottery, fired clay, metalwork, worked stone (CD/Chapter 4); Animal bone (CD/Chapter 6); Environmental: charred plant remains (CD/Chapter 7)

Stebbingford (SITES 25/26)

The site at Stebbingford Farm, NGR TL 6745 2250, situated on the east side of the Stebbing Brook Valley was investigated in 1993 by Essex County Council and subsequently published (Medlycott 1996). The site was first identified through aerial photography and subsequently fieldwalked. A light scatter of prehistoric flint flakes and burnt flint as well as some Roman and post-medieval pottery were collected. Three evaluation trenches were excavated through the cropmarks, two revealing medieval ditches containing 10th- to 13th-century pottery and structural daub (Medlycott 1992). The third trench located a post-medieval field boundary.
On the basis of the first two trenches an area of approximately 1 ha was excavated encompassing the cropmark complex, as the area lay within the boundaries of the new A120 road line. The excavations revealed a mid 12th- to mid 14th-century farmstead comprising four buildings, a yard, field system and horticultural area. A nearby palaeochannel containing peat deposits was also sampled; the lower fills were of early post-glacial (Mesolithic) date (c 8000–6000 BC).

Stebbingford Farm (SITE 51; Fig. 3.146)

In April 2002, a few archaeological features were recorded to the south of the present A120, in the southern part of the proposed new carriageway. The features were within a 482 m2 area centred on NGR TL 567495 222500, and lay at 67.3 m OD in the north and 65.6 m OD in the south within a gentle slope down to the south. The natural geology comprised boulder clay with patches of gravel and calcareous material in places.

Period 15: Medieval

The site lay to the immediate east of Sites 25–26 (Stebbingford Farm) (see above) and the present features are undoubtedly a continuation of the medieval farm settlement recorded earlier.
The features included two north-south ditches (33001 and 33011) a large, shallow pit (33005) and a large spread of cultural material (33012). A small assemblage of 12th- to 14th-century pottery, animal bone, shell and fired clay were recovered from ditch 33001 and pit 33005.

Related reports: Animal bone (CD/Chapter 6).

Stebbingford Farm borrow pit (SITE 52; Fig. 3.147)

Whilst archaeological work was ongoing along the A120 an additional site designated to be a borrow pit required archaeological evaluation. The site of the proposed borrow pit was to be located at land between the new A120 and the Old Stane Street to the immediate east of Stebbingford Farm (NGR centred TL 6750 2205). A total 21 trial trenches representing 5% of the area to be disturbed were excavated. The geology is chalky boulder clay mixed with patches of silt, sands and gravels. Overlying the natural deposits are patches of colluvium overlain by 0.15–0.25 m thick silty clay subsoil. Trenches 2, 3, 6–14, 18 and 20 all contained no archaeological deposits.

Period 6: Late Bronze Age

Two large circular pits were exposed in the southern end of evaluation Trench 5. The northernmost was

quarter-sectioned. A single sherd of flint-tempered late Bronze Age pottery and two flint flakes were retrieved indicating low-density late prehistoric activity.

Period 7–8: Early to middle Iron Age

A gully identified at the east end of Trench 16 (1613) continued into Trench 17 where it appears as a gently curving feature visible throughout the larger part of the trench (1706/1704). It contained fifteen sherds of sand-tempered early to middle Iron Age pottery, one patinated flint flake and 10 small pieces (28 g) of featureless fired clay.

Period 10: Late Iron Age-early Roman

The junction between two ditches was revealed in the west end of Trench 16 (1605/1608). A NNW-SSE orientated ditch was also seen in the eastern end of Trench 15 (1504). This feature cut the fills of a WSW-ENE aligned ditch but may be partly a re-establishment of the earlier feature as this turns south at the point of the junction. The trench was widened to clarify the relationships. Seven sherds of grog-tempered late Iron age/early Romano-British pottery and two sherds of sandy early-middle Iron Age pottery were retrieved from the fills of the later ditch with one fragment of amorphous fired clay.
A single NE-SW orientated ditch was revealed in Trenches 19 (1904) and 21 (2104). Excavation in Trench 21 produced a single potentially residual sherd of grog-tempered probable late Iron Age pottery. This feature ran parallel and close to the A120 and may represent an infilled roadside ditch of Roman or post-Roman date. The light fills and lack of artefactual material suggests it is not likely to be associated with the medieval farmstead.

Periods 15–16: Medieval

Ditches were exposed in Trenches 1 and 4 but were not excavated. Two linear features were revealed in Trench 1: a NW-SE orientated ditch to the west of the trench (103) and a N-S aligned ditch to the centre of the trench (105). Both features were cut into boulder clay and overlain by the colluvium/plough disturbed subsoil. Both features align with a double-ditched trackway revealed in the 1993 medieval farmstead (Sites 25/6). Another ditch was located in Trench 4 (403), which aligned with a large enclosure ditch also investigated in the 1993 excavations.

Related reports: Finds: flint (CD/Chapter 4).

Greenfields (SITES 27/28; Fig. 3.148)

Sites 27 and 28 were evaluated under the same name (Greenfields) and site code. Site 27 lay immediately north of Greenfields House on a slight west-facing slope at 79 m OD, midway between the small valleys of the Stebbing Brook and the River Ter. Greenfields House itself dates back to the 15th century. Site 28 was situated at the highest point between the Stebbing Brook to the west and the River Ter to the east at around 82 m OD. The low hill has views of open countryside on all sides. The site covered 3.88 ha at NGR TL 6843 2277.
The underlying geology comprised chalky boulder clay overlain by dark reddish brown silty clay subsoil and a stony mid brown clay silt relict

ploughsoil. Overlying this was the modern ploughsoil up to 0.38 m deep. The sites had been under regular arable cultivation.

A scatter of prehistoric finds including pottery was recorded during fieldwalking in 1990 at Site 28 whilst a concentration of medieval and post-medieval finds were highlighted at Site 27. During the evaluation a number of linear features were recorded, three of them producing post-Deverel-Rimbury pottery. During the subsequent excavation, however, these were shown to be largely geological in nature.

Periods 5–8: Middle Bronze Age to middle Iron Age

A large subrectangular feature (1057), interpreted as a glacial pingo (a depression formed by the melting of buried ice), appears to have had some local, possibly symbolic, significance. It was a focus for a range of activities from the middle Bronze Age into the Roman period, including 9th to 8th century BC metalworking in the form of fragments of clay moulds used in sword manufacture, a late Bronze Age cremation burial, and crop-processing and other domestic-type activities suggested by a series of pits and postholes.

Hollow 1057 (Fig. 3.149), pits 1068 and 1072 and posthole 1077. The hollow, probably a natural pingo, was subrectangular in plan and measured approximately 13 m by 20 m at the top. It was 1.85 m deep with irregular sides getting steeper towards the concave base.

Within the feature, a small pit (1072) cut the natural on the south-eastern side of the hollow (1057). It was at least 0.8 m long (being truncated to the south-west by, but not recorded in, evaluation trench 2802), 0.7 m wide and 0.17 m deep, with very gently sloping sides and a flattish base. Its 0.1 m thick primary fill (1076) was overlain by a 0.05 m thick layer (1073) containing 13 sherds of middle Bronze Age pottery (including globular urn sherds) and 144 small fired clay mould fragments.

The primary fill of the hollow was very compact chalky boulder clay (1060), 0.2 m thick, similar to the natural although mottled orange and grey in colour. It produced Deverel-Rimbury (52 sherds) and post-Deverel-Rimbury pottery (7 sherds), including fine wares (some possible globular urn sherds), 60 fired clay mould fragments, nine pieces of animal bone and a flint flake.

A possible subcircular posthole (1077) cut the primary fill. It measured 0.22 m by 0.25 m and 0.15 m deep, with steep sides and a flat base, and its fairly loose silty clay fill (1078) produced six sherds of post-Deverel-Rimbury pottery, 37 fired clay mould fragments, six very freshly struck flint flakes, a piece of animal bone and three pieces of burnt flint.

The posthole was sealed by a 0.6 m thick layer of clay (1061) filling the lower part of the hollow. It appears to represent deposition over a considerable length of time, producing 78 sherds of middle Bronze Age to middle Iron Age date, as well as 105 fired clay mould fragments, three flint flakes, 33 pieces of animal bone and two pieces of burnt sandstone. The overlying five layers (1062–1066), with a combined thickness of 1.17 m, were all horizontally deposited and composed of silty clay gley soils, apart from 1063 which was a lens of sandy material on the SE edge of the feature. Layer 1062 contained a further 18 middle Bronze Age sherds and 32 post-Deverel-Rimbury sherds, and 157

fired clay mould fragments some of which appeared to join to fragments in layer 1061, as well as animal bone and flint. Layer 1063 and 1064 produced no finds, but 1065 and 1066 produced 75 and 69 sherds of pottery, respectively, of Iron Age to the late Roman period. Environmental samples were taken from all of these layers for pollen and mollusc analysis but proved to have no surviving plant remains.

Pit 1068, cutting the western edge of feature 1057, was suboval in shape measuring 0.93 m by 0.6 m. It was 0.58 m deep, with a steep-sided U-shaped profile. Its lowest fill (1069) was 0.19 m thick and was similar in composition to the natural, although softer, and produced one sherd of post-Deverel-Rimbury pottery, a fragment of fired clay and animal bone. Above it, fill 1070 was a 0.19 m thick layer of mid grey brown clay rich in charcoal flecks, which produced 14 sherds of early/middle Iron Age pottery and further animal bone. Environmental sampling produced one emmer/spelt spikelet and charcoal. Deposit 1071 formed the latest fill of pit 1068 and was composed of light grey-brown silty clay 0.23 m thick. This soil produced no artefacts but occasional small flecks of charcoal were recorded.

It is unclear whether pit 1068 cut or was sealed by the upper fill (1067) of the hollow. This was a 0.3 m thick layer of mid brown silty clay yielding a mixed assemblage of 52 sherds of pottery of middle Bronze Age to middle Iron Age date, as well as a fragment of ceramic building material, probably Romano-British.

A circular pit (1074), c 1.25 m in diameter and 0.2 m deep, on the shallow edge of the hollow close to its north-east side, contained a single post-Deverel-Rimbury sherd, and four sandy ware sherds of early/middle Iron Age date.

Other features at Site 28 such as a pit containing a complete middle Bronze Age vessel (1035), a late Bronze Age cremation burial (1048) and a cluster of pits and postholes c 10–20 m to the south and south-west, may have been deliberately located close to the natural feature. The recovery of crop processing waste from pit 1014 and feature 1024 suggests a domestic context for these features.

Pit 1035. This oval feature measured 0.74 m by 0.62 m and was 0.33 m deep, with moderately steep concave sides and a concave base. Its fill (1037) contained a single upright middle Bronze Age flint-tempered vessel (1036) (111 sherds, 429 g) the fill of which (1038) produced an irregular fragment of scrap copper alloy sheet (SF 4) (see Walton and Scott CD/Chapter 4 metalwork)..

Pit/posthole 1028. This feature was 0.65–0.7 m in diameter and 0.47 m deep, with vertical sides and a flat base. The 0.38 m-thick primary fill (1029) produced two sherds of middle Bronze Age pottery, seven pieces of animal bone and one piece of burnt flint. There were no finds from the upper fill (1030).

Cremation burial 1048. This circular pit was 0.48 m in diameter and 0.33 m deep with vertical sides and a flat base. Its single fill (1049) was a dark grey-black silty clay, up to 50% charcoal, which produced cremated human bone (1054 g) from an male aged c 25–40 years, together with four sherds of post-Deverel-Rimbury pottery, burnt flint and charred plant remains. It is uncertain whether this deposit represents an in situ cremation burial, or a dump of redeposited

pyre debris; the former interpretation is more likely given the quantity of bone present (McKinley CD/Chapter 5). The plant remains included weeds from cultivated or waste ground, grass stems possibly from the burning of hay and a few hedgerow fruit and nut remains, indicating either part of the tinder and fuel used in the pyre, or aspects of the rites accompanying the cremation.

Pit/posthole 1003. This subcircular feature was 0.56 m in diameter and 0.1 m deep with near-vertical sides and a flat base. Its 0.1 m-thick primary fill (1013) contained a pig's tusk. Overlying this in the centre of the cut was a 0.05 m-thick layer (1004) containing 132 sherds of post-Deverel-Rimbury flint-tempered pottery from a maximum of seven vessels (including fine wares), and seven sherds of sandy-tempered fine ware of early Iron Age date. The layer also contained charcoal and three pieces of burnt flint.

Pit 1014. This oval feature measured 1.3 m by 1.1 m, and was 0.31 m deep with moderately steep sides and a concave base. The 0.1 m-thick primary fill (1015) contained 89 sherds of post-Deverel-Rimbury pottery, a copper alloy fragment, seven flints (including two flakes and a broken blade) and five pieces of animal bone, as well as charcoal, burnt flint, burnt stone and fired clay. Further pieces of burnt flint and stone were found in the 0.17m-thick upper fill (1018).

Pit 1016. This subcircular pit was 0.5 m in diameter and 0.24 m deep with moderately steep sides and a narrow flat base. Its single fill (1017) contained nine sherds of post-Deverel-Rimbury flint-tempered fine ware, a flint flake and 12 pieces of animal bone.

Feature 1024. This small subrectangular feature measured 0.72 m by 0.35 m, and was 0.05 m deep with moderately steep sides and a slightly concave base. Its single fill (1025) produced 15 sherds of middle Bronze Age and 4 sherds of post-Deverel-Rimbury pottery.

Posthole 1033. This feature was 0.21–0.23 m in diameter and 0.25 m deep with vertical sides and a flat base. Its single fill (1034) produced five sherds of post-Deverel-Rimbury pottery and a piece of burnt stone.

Posthole 1050. This feature was 0.18–0.2 m in diameter and 0.29 m deep, with vertical sides. Its single fill (1051) produced three sherds of post-Deverel-Rimbury pottery.

Pit 1039. This circular pit was 1 m in diameter and 0.21 m deep, with shallow to moderately steep sides and a flat base. The primary fills (1042 and 1043), lying against the sides of the pit, were overlain by a 0.12 m-thick layer (1041) which produced four sherds of post-Deverel-Rimbury pottery (and a residual middle Bronze Age sherd), and an upper fill (1040) containing burnt clay, charcoal, a further nine small post-Deverel-Rimbury and a piece of animal bone

Hearth 1019. This subrectangular feature, measuring 0.63 m by 1.15 m and 0.06 m deep, was probably a hearth. It contained a number of large pieces of charred wood and produced charred grain of emmer/spelt wheat and hulled barley, as well as some chaff. All the burnt material, which included fired clay and burnt animal bone, was in the lower fill (1020), which

also produced 131 sherds of post-Deverel-Rimbury pottery (along with five sandy ware sherds). This layer was covered by redeposited subsoil (1021).

Pit 28022. Part of a large pit, at least 3.4 m wide and 0.9 m deep was recorded at the north end of evaluation Trench 4, less than 3 m south of the pingo. It had steep concave sides and a flat base. It contained six fills, from which 14 flints and pottery of unspecified date were recovered.
A number of other small features, most of them in the same general area of the site, contained no finds, but some at least area likely to represent contemporaneous activity (Table 3.9 Greenfields: summary of other undated features).

Period 11: Early Roman

The upper fills of the pingo, 1057, produced 16 sherds (109 g) of early Roman pottery from the evaluation (contexts 28035/28049/28050). A further 279 sherds of pottery with associated ceramic building material, animal bone, fired clay and burnt stone was recovered during the excavation of the upper layers.

Related reports: Finds: flint, prehistoric pottery, Roman pottery, metal working debris (CD/Chapter 4); Human bone (CD/Chapter 5); Animal bone (CD/Chapter 6) Environmental: charred plant remains, charcoal, pollen (CD/Chapter 7)

Straits Farm (SITE 29; Fig. 3.150)

Three evaluation trenches were excavated at NGR 6921 2289. The natural deposits consisted of silty clay natural, which was overlain by a modern plough soil. No archaeological features or any finds were encountered.

Graunts Court (SITES 30–32; Fig. 3.151)

A total of twenty trenches were excavated in this area centred at NGR TL 70450 22425, eight at Site 30, seven at Site 31 and five at Site 32. Fieldwalking had identified three separate concentrations of flints. No archaeological features or deposits were encountered in any of the trenches. No further finds were retrieved. The conclusion is that any traces of sites may have been lost to plough truncation.

Period 18: Modern

A modern field boundary ditch aligned E-W was revealed in Trench 8 and a similar ditch aligned N-S was identified in Trench 2.

Valentine Cottage (SITE 53; Fig. 3.152)

In June 2002 an archaeological excavation was carried out on land c 120 m west of the River Ter, to the west of Rayne Roundabout. The site lay at 71.2 m OD to the west, dipping gently down to c 70 m OD to the east as the Ter valley was encountered. The site comprised two areas either side of a safety corridor left due to overhead power lines, which were centred on NGR TL 570706 222344 for the west area and from TL 570774 222319 to 570824 222315 for the east area. Together these comprised an excavation area of 736 m2.
The features recorded in the western area included at least four large postholes, a large pit and at least three Romano-British ovens.

The east terminal of a curvilinear ditch was also recorded. In the eastern area two large quarry pits contained Romano-British ceramic building material, fired clay and 1st-century AD pottery. Both quarry pits continued further to the south, beyond the carriageway corridor. A large possible well-like pit of Roman date cut the east end of one quarry pit, but was not fully excavated due to groundwater ingress.
A small assemblage of prehistoric worked flint of Mesolithic, early Neolithic and Bronze Age date was collected from a 25 m by 16 m stripped area immediately east of the western excavation area.

Phase 11.1 Early Roman

The Western Area

Excavation in the western area revealed a number of dispersed features with little dating evidence and few stratigraphic relationships. However, the small amount of pottery that was recovered suggests that all the activity dates broadly to the early Roman period. Clustered in the northern part of the site, close to the northern limit of excavation was a group of pits (40001, 40200, 40204, 40206 and 40207). Of these 40001 was not excavated. Pit/ditch 40207 contained a small amount of identifiably early Roman pottery. In the south-eastern corner of the site was a group of three dumbbell-shaped ovens (40012, 40014 and 40227) which contained no finds. Cutting one of these ovens (40014) and probably post-dating all three was a large amorphous pit (40217), the upper fill of which contained a small amount of pottery broadly dateable to the Roman period. Lying to the north-east of the ovens was a second cluster of pits/postholes (40005–40010), none of which were excavated.

Pit 40200 (Fig. 3.153) was circular in plan and funnel-shaped in profile, the sides sloping down gently at first and then more steeply to a very flat base. It was 1.05 m in diameter and 0.47 m in depth. The fill (40202) comprised orange clay with occasional fragments of charcoal. Cutting into the fill was a shallow irregular recut (40201), 0.13 m in depth, filled by a black loamy soil with occasional fragments of charcoal. There were no finds from either fill.

Pit 40206 was an oval pit measuring 0.5 m in length by 0.25 m in width and 0.25 m in depth. In profile it was U-shaped having steep sides and a gently rounded base. The pit fill (40205) comprised a sandy clay with occasional inclusions of flint gravel. There were no finds from the fill.

Pit 40204 was subcircular in plan and dish-shaped in profile, being shallow with near vertical sides and a flat base. It measured 0.44 m in diameter by 0.12 m in depth. The single fill comprised mid grey sandy clay with occasional inclusions of small fragments of flint gravel. There were no finds.

Ditch 40207 (Fig. 3.154) (Fig. 3.155) was a short section of linear ditch, or a large oval pit. It was 1.4 m in length by 0.84 m in width and 0.3 m deep. In profile the feature was U-shaped having steep, slightly convex sides and a gently rounded base. The single fill consisted of grey loam with occasional fragments of stone. The fill contained nine sherds of early Roman pottery, including seven grog-tempered sherds and some worked flint.

Oven 40012 (Fig. 3.156) was dumbbell-shaped in plan and U-shaped in profile. It was orientated NE-SW and measured 2.42 m in length by 0.77 m in width and 0.43 m in depth on average. The primary fill (40225) lay unevenly along the base of the feature and was 0.09 m thick on average. Overlying this in the southern and middle part of the feature was a secondary fill (40224) between 0.47 and 0.2 m thick. This was in turn overlain at the northern end by a tertiary fill (40223) 0.33 m thick. None of these fills contained any finds.

Oven 40014 (Fig. 3.157) was dumbbell-shaped in plan, orientated NW-SE. It measured 0.38 m in width by 0.18 m in depth. The basal fill (40247/40244), which occupied the lower 0.06 m of the oven, comprised a reddish brown sandy-silty-clay with frequent inclusions of charcoal flecks. Overlying the basal fill and occupying the upper 0.12 m of the oven was a secondary fill (40245/40248) comprising a dark grey silty clay, with occasional small calcareous inclusions. Neither fill contained any finds.

Oven 40227 (Fig. 3.158) was dumbbell-shaped in plan and orientated NW-SE. In profile it was U-shaped, having concave sides and a rounded base. It was 2.68 m in length by 0.76 m in width and 0.35 m in depth. The inside of the feature was lined with a 0.05 m thick layer of red/orange burnt clay (40229) with occasional inclusions of charcoal. Overlying this was a fill of grey loam (40228) containing occasional fragments of stone and charcoal flecks. There were no finds from this feature.

Pit 40217 was irregular in plan and saucer shaped in profile. It measured 2.42 m in diameter by 0.34 m in depth. The primary fill (40218) was of a light yellow-brown silty clay with occasional inclusions of rounded flint fragments and charcoal flecks; it was 0.11 m thick. A secondary fill (40225), which may have represented slumping from the ancient topsoil, occupied the northern corner of the pit and displayed a steep inclination down from the northern edge. Overlying the slumped material was a horizontal layer of dark brown silty clay (40219), 0.17 m thick, with occasional fragments of flint and occasional charcoal flecks. Lying above this was a layer of light yellow-brown silty clay 0.10 m thick containing occasional rounded flint nodules and occasional charcoal flecks. Sealing these layers was an upper fill of dark grey silty clay, 0.12 m thick, with occasional inclusions of rounded flint fragments, occasional charcoal flecks and occasional lumps of reddish clay. The upper fill contained seven sherds of pottery dateable broadly to the Roman period and some animal bone.

The Eastern Area

Excavation in the eastern area revealed a cluster of features containing a relatively substantial assemblage of pottery. Two large amorphous quarry hollows (40017 and 40214/40240) lay in the southern part of the excavation, running under the section defining the southern limit of the site. Of these 40017 was not excavated. Following the silting up of these features a curvilinear ditch and a well (40212 and 40238) were cut through quarry hollow 40214/40240. All the pottery from these features was early Roman in

date and this may indicate that the hiatus between the silting up of the quarry hollows and the digging of the other features was short lived. Alternatively it may be that the pottery from the stratigraphically later features was residual and originally derived from quarry hollow 40214/40240. In this case the later features may well have been substantially younger than the quarry hollows. A tree throw hole (40216) may have been stratigraphically earlier than ditch 40212 and quarry hollow 40214/40240 but also contained early Roman pottery.

Quarry hollow 40214/40240 was irregular in plan and saucer-shaped in profile, having steep concave sides and a flat base. It measured 18 m in length by 4 m in width and 0.47 m in depth on average. The single fill (40239/40213) comprised a grey brown silty clay with occasional charcoal flecks and gravel. The fill contained frequent Roman ceramic roof and floor tile and 24 sherds of early Roman pottery.

Ditch 40212 (Fig. 3.159) was curvilinear in plan and orientated NE-SW. In profile it was V-shaped with steeply sloping sides and a gently rounded base. It measured 2.7 m in length by 0.6 m in width and 0.53 m in depth. The basal fill (40212) was yellow silty clay with occasional charcoal flecks, which occupied the lower 0.05 m of the ditch. Overlying this the secondary fill (40210) was dark grey silty clay with occasional charcoal flecks; it was 0.3 m thick. The upper 0.16 m of the ditch was occupied by a mid brown silty clay (40211) with occasional inclusions of gravel. Sixteen sherds of early Roman pottery and some ceramic building material were found in the middle fill.

Well 40238 (Fig. 3.160) was subrectangular in plan and funnel-shaped in profile, having steeply sloping sides which narrowed towards the base. It measured 1.5 m in length by 1.2 m in width and was at least 1.35 m in depth. The well was not completely excavated due to its depth, but the lowest fill in the excavated sequence was reddish brown silty clay some 0.12 m thick (40237). Sealing the primary fill in the western corner of the well and displaying a steep inclination down from the western edge was a mid grey silty clay with occasional charcoal flecks (40236), up to 0.45 m thick. Overlying this in the eastern corner of the well and displaying a steep inclination down from the eastern edge was a reddish brown silty clay with occasional charcoal flecks (40235); it was 0.3 m thick at its thickest. Infilling above these apparent dumps of material were three layers of silty clay (40234, 40233 and 40232) varying in colour from grey to yellow brown with inclusions of occasional charcoal flecks, and all displaying a gently concave profile. These layers were 0.63 m thick in total. Sealing these layers and forming the penultimate fill of the well was a light grey silty clay (40231), 0.45 m thick, with occasional fragments of gravel. Overlying this but not completely sealing the well was a layer of yellow-brown clay with occasional fragments of gravel, 0.95 m in width by 0.15 m thick. An assemblage of 12 sherds of early Roman pottery and some CBM was recovered from the two lower fills. Layer (40232) also produced 12 sherds and some CBM. Fill 40233 contained 26 sherds and further CBM.

Undated

Tree throw hole 40216 was curvilinear in plan and V-shaped in profile, having steeply sloping sides and a slightly rounded base; the eastern side was slightly irregular. It measured 0.84 m in length by 0.3 m in width and 0.11 m in depth. The single fill was a mid grey silty-clay and contained eight sherds of early Roman pottery.

Related reports: Finds: flint, Roman pottery, (CD/Chapter 4); Animal bone (CD/Chapter 6).

Rayne Roundabout (SITES 33–34; Fig. 3.161)

Site 33 lay immediately south of the A120 and Rayne Roundabout (NGR: TL 71130 22300) at approximately 68 m OD. The topography formed a natural shallow valley with the ground sloping south-east and south-west towards the River Ter. The natural geology of the site consisted of boulder clay (context 109). It had been overlain by a number of both alluvial (104, 106, 108) and colluvial (102, 103, 105, 107) deposits, sealed by a thin silty clay subsoil, possibly a relict ploughsoil (101), 0.2 m deep. This was in turn overlain by a clay loam ploughsoil (100) up to 0.6 m deep, but on average 0.3 m deep. The site had been recently cultivated and though there were areas of truncation natural formation processes had preserved features and deposits reasonably well.

Previous excavations of the roundabout site (Medlycott 1990) and further to the east (Smoothy 1989) identified the site of a Roman settlement located some 500 m to the south of Stane Street. Fieldwalking recovered a dense concentration of Roman period material at Site 33 with a lesser concentration at Site 34. The survey area was located in a gentle south-west slope overlooking the River Ter which ran some 75 m to the south-west. The ground was slightly undulating with a linear hollow running up through the site from the River Ter through to the modern roundabout. Site 33 comprises that part of the site to the west of the trackway leading to Fentons Farm; Site 34 lay to the east. The entire site had been under regular cultivation. A gas main ran through its central part and this was evaluated as a separate exercise.

Ten evaluation trenches were investigated on Site 33 during 2000. Trenches 3301, 3302, 3307, 3309 and 3310 did not contain archaeological features or deposits. A further three trenches (3401, 3402 and 3403) were opened on the east of the road (Site 34), but did not reveal any archaeological features. The survey area was 1.6 ha in total area. In 2001 excavations commenced, and comprised two main excavation areas, along with a trench to assess the TRANSCO pipeline area.

The TRANSCO pipeline trench was orientated NE-SW, and was 91 m in length, 2 m wide. Approximately 12 m from the northern end of the trench riverine deposits were noted, plus an increase in waterlogged remains (contexts 2015–2017). The natural consisted of boulder clay (1046/2006) which was overlain by 0.20–0.25 m of topsoil.

Period 10: Late Iron Age/early Roman

Features in the western area of excavation

Gully 348: a curving gully located close to the northern edge of the

site and cut into the natural boulder clay. It was seen to run for approximately 8 m NE-SW, and 2 m NW-SE. A further 8.5 m stretch had been truncated by linear ditch 344. Interventions 174, 193 and 201 were excavated through the gully. In profile the sides were concave and slope gently, the base was mostly flat. It was 0.58–0.75 m wide and 0.13–0.16 m deep, and contained a single fill (175/194/202) of grey-brown silty clay with sparse to moderate amounts of gravel. A total 125 g of pottery was recovered, mostly dated to the late Iron Age/early Roman period, ceramic phase (hereafter CP) 10.1–11.1.

Gully 172: at the junction between gully 348 and ditch 344, a N-S orientated gully (172) was recorded. It had steep sides and a concave base, and contained a single fill (173) of light grey silty clay. Ditch 344 had also truncated it, but the relationship with 348 was not ascertained.

TRANSCO pipeline trench

Gully 1031, orientated NW-SE, was located in the centre of the trench, between early Roman pits 1044 and 1023, and may have been contemporary with them. It was 0.48 m wide and 0.17 m deep, and was seen for a length of 0.8 m before being truncated by a modern land drain. It had moderately to steeply sloping sides and a flat base, and contained a single fill (1032) of dark greyish brown silty clay with rare flint pebbles and charcoal flecks, with 25 sherds (271 g) of late Iron Age/early Roman pottery (CP 9.2–10.1).

Period 11: Early Roman

Features in the western area of excavation

To the immediate south of curving gully 348 a series of three large parallel linear ditches were found running NW-SE across the north-east corner of the excavation area. The most southerly ditch, 350, was the earliest, and appears to have been replaced on two occasions by ditches 344 and 345. The replacements were recut slightly further north each time, and may date up to the middle of the 2nd century. The ditches are likely to represent large drainage ditches, linear boundaries or enclosures.

Ditch 350 (Fig. 3.162) (Fig. 3.163) (Fig. 3.164) contained a large assemblage of pottery (736 sherds, 8.5 kg) that dates from the around the conquest period up to c AD 60–70. Grog-tempered pottery accounted for 67% of the total weight of sherds from this ditch, small quantities of late Iron Age/early Roman traded continental fine wares were also present. The ditch was seen for a length of c 30 m, and was an average of 4 m wide and up to 1 m deep. Three interventions were excavated through the ditch, contexts 137, 139 and 259, each containing up to seven fills. The sides of the ditch were moderately to steeply sloped and slightly convex in parts. The base appeared flat towards the east (intervention 137), but was not reached in the western intervention, 139, due to time constraints and the level of the watertable. Excavation of the central intervention, 259, revealed a much more irregular base, with two linear depressions creating small channels beneath the watertable, 1.1–1.2 m wide and 0.12–0.15m deep, adjacent to the sides of the ditch (section 130). This left a slightly raised strip in the

centre of the base. As they were not seen elsewhere in the ditch, it would seem likely that they represent irregularities in profile, rather than purposeful channels. It is also possible that the base was incompletely excavated due to the level of the water, and the raised area may represent a patch of hard natural.

The primary fill of the ditch (silting episode 1) consisted of a loose dark grey silty clay with organic remains such as roots, and sparse to moderate quantities of flint gravel. It filled the two depressions seen in the base of intervention 259 (contexts 278 and 336), the lowest fills of intervention 137 (contexts 140 and 134), and context 142 in intervention 139. These deposits were seen to a maximum depth of 0.54 m (intervention 137).

The secondary deposits in the ditch were not uniform across its length. However, several broad layers could be distinguished. A thick layer of gravel (silting episode 2) overlaid the primary silts in the centre of the ditch (context 335) and was up to 0.17 m thick, thinning to 0.06 m in the west of the ditch (context 155), and disappearing towards the east. The gravel was sealed by a deposit of greyish brown silty clay with yellowish-red mottling and flint gravel seen throughout (silting episode 3, contexts 274/275; 164 and 166). A deposit of dark silt with abundant charcoal fragments and organic remains overlaid these contexts (also silting episode 3). In the east it spans the width of the ditch (context 128). However it peters out further west, and in both the western and central interventions it is only a thin lens seen on the northern side of the ditch (contexts 338 and 165). Here it is overlaid by another deposit of mottled silty clay. In the east the burnt deposit is partially overlaid by a gravel tip line (context 138), suggestive of an episode of bank erosion.

The final secondary fills consisted of one or two layers of bluish silty clay which represent alluvial silting (episode 4, contexts 279, 255, 126 and 127). The tertiary fill (episode 5, contexts 280 and 125) was a loose mid brown clayey silt that had been seen in a number of areas across the site, and allocated group number 355.

A possible recut was noted in intervention 139, and could also be suggested by the charcoal rich lens, which ends abruptly in interventions 259 and 139, plus the presence of the two channels in the base of 259. However, a single sequence of fills is shown in intervention 137, perhaps suggesting that only the western part of the ditch had been cleaned out at some point, or that a recut was simply not noticed in intervention 137.

Gully 351 (Fig. 3.162) (Fig. 3.163) (Fig. 3.164): the eastern part of the ditch had been slightly truncated by gully 351 (intervention 281). Gully 351 ran parallel to ditch 350, and was seen further north as intervention 114. The gully ranged from 0.60–1.04 m wide and 0.24–0.32 m deep, the wider area seen in intervention 114. It had moderately sloping sides and a flat base, and contained a single fill of alluvial silts with a small amount of early Roman pottery. The central area of the ditch had been truncated by a land drain and feature 277, not seen in plan. The west end of the ditch had been cut through by gully 167, a steep-sided feature with a rounded base, 0.45 m wide and 0.43 m deep. It contained three fills of alluvial silts that appeared to have infilled rapidly; the lowest fill was waterlogged and the upper fills showed a moderate amount of

mottling. The phasing of these gullies is uncertain.

Ditch 345 (Fig. 3.162) (Fig. 3.163) ran across the western area of excavation for c 27 m. It was located 1.4–1.8 m to the north-east of ditch 350 (early Roman), and immediately south of ditch 344 (early to mid Roman). Both ditches 345 and 350 had been cut into alluvial layers 272 and 273, 0.22 m and 0.3 m respectively. Interventions 227 and 238 were excavated through the ditch. It was 1.7–1.8 m wide and 0.46–0.52 m deep, with moderately sloping sides and a fairly flat base. The ditch contained two fills (239/270/271), the primary fill was a bluish grey silty clay, 0.24 m thick, with rare charcoal flecks and flint gravels distributed throughout. It was very similar in composition to the underlying alluvial layer. The secondary fill was brownish grey in colour with yellowish red mottling and flint gravels. The boundary between the fills was quite diffuse in intervention 238, they were therefore allocated a single context number (239). Only 22 sherds of pottery were recovered from the ditch, including 12 sherds from a Hadham reduced ware bowl/jar, and three grog-tempered sherds. This would suggest a date from the late 1st to early 2nd centuries (CP 11.2 onwards).

Features in the eastern area of excavation

Ditch 376 was located c 1.5 m to the east of ditch 375, and was approximately parallel to it. Three interventions had been excavated through the ditch: 354, 360 and 366. It was 19 m long, 0.54–0.7 m wide and 0.09–0.18 m deep. The slope of the sides varied from gentle to quite steep, and the base was flat. The primary fill was greyish orange clay with a moderate amount of gravel, but was only seen in one intervention (context 355). The main fill (256/361/365/378) was friable dark greyish brown clay with a common amount of gravel and a small amount of early Roman pottery (CP 11.1). Undated pit 357 and a modern land drain had truncated the ditch.

Pit 379 was described as ovular in shape, 1.56 x 1.28 x 0.59 m, with almost vertical sides and a flat base. It contained a thin layer of primary silting (380), overlaid by a deposit of greyish brown clayey silt (381) with 38 g of early Roman pottery (CP 11.1). It was not drawn in plan, and its location is therefore uncertain.

TRANSCO pipeline trench

Feature 1016 (Fig. 3.165) was not clearly visible in plan, and its full extent could not be discerned, although it appears to have been a pit. It contained a single fill (1017) of orange brown clayey silt with rare chalk and charcoal flecks, sparse flint gravel and six sherds (11 g) of early Roman pottery (CP 11). It had been cut by ditch 1057 (intervention 1007). The relationship between 1016 and ditch 1003 (also truncated by 1057) was not clear. The boundary with modern feature 1018 (see Post-medieval and modern section) was also rather diffuse.

Gully 1029 was located to the immediate south of two unphased ditches near the centre of the trench, 1025 and 1042. It was orientated ESE-WNW, 0.72 m wide and 0.25 m deep, with moderate concave sides and a concave base. It contained a single fill (1030) of dark greyish brown silty clay with a sparse amount of gravel inclusions,

and 11 sherds (64 g) of early Roman pottery (11.1).

Pit 1044 and pit 1023. Circular pit 1044 (Fig. 3.166) was discovered in the centre of the pipeline trench. It was 0.64 m wide and 0.16 m deep, with shallow concave sides and a concave base. It had been cut into the natural and contained a single fill (1045) of dark greyish brown silty clay with 31 sherds (481 g) of early Roman pottery, and a 2nd-century copper alloy pin.

Pit 1023 (Fig. 3.167) was located c 2.5 m to the SSW of pit 1044. It appeared to be circular in plan, although a modern land drain had truncated its eastern side. It was 0.81 m in diameter and 0.17 m deep, with gentle concave sides and a flat base. It contained a single fill (1024) of dark greyish brown silty clay with a sparse amount of flint gravels and rare chalk flecks plus 20 sherds (112 g) of early Roman pottery (CP 11.1). Both pits contained similar fills and showed a broadly similar profile.

Evaluation trenches

Feature 33062 was located in Trench 3303, against the western baulk in the eastern area of excavation. It was 1 m in diameter and 0.25 m deep, and contained fills 33064 (primary) and 33063 (secondary), with 41 sherds (372 g) of early Roman (CP 11) pottery and an iron latch-lifter. Since it had been obscured in plan by standing water in the trench, its full extent was not discernible, and it may have been a pit or NE-SW ditch terminus. The feature had been sealed by layer 33047, a deposit of orange-brown clay silt. It may also have been sealed by two deposits (33043 and 33048) containing rich charred plant remains and c 0.5 kg of late Roman pottery (CP 13), also overlaid by 33047.

Period 11–12: Early to mid Roman

Features in the western area of excavation

Ditch 344 (Fig. 3.162) (Fig. 3.163) was the most northerly of the three ditches, and appeared to be the latest in date. The pottery assemblage from the ditch was small, consisting of 44 sherds. It was mostly early Roman in date but included a mid Roman dish form and a fairly large proportion of residual grog-tempered pottery. Four interventions were excavated through the ditch: 122, 176, 226 and 203. These sections showed the feature to be 1.6–1.8 m wide and 0.28–0.5 m deep, with moderately sloping sides and an irregular base. It contained two fill; the primary fill (204/261/123/177) was a grey silty clay with sparse flint gravels, while the secondary fill (267/124/178) was browner in colour, with yellowish red mottling. Ditch 344 cut gully 348 and feature 272, and impinged on adjacent ditch 345, although the stratigraphic relationship was unclear. Ditches 344 and 345 cut small pit 260 (not seen in plan). This pit was circular in profile, 0.4 m wide and 0.38 m deep, with moderate concave sides and a rounded base. It contained two fills (268 and 269), both grey silty clay with yellowish-red mottling and sparse gravel. Two sherds of grog-tempered pottery (CP 9.2–10.1) were recorded from the primary fill. The redeposited pottery noted in ditch 344 may originate from this or other earlier features.

Features in the eastern area of excavation

Ditches 265 and 266 crossed the entire width of the trench, and formed a trackway leading to the River Ter. Three interventions were excavated through ditch 265 (241, 235 and 207) (Fig. 3.168). It was 0.8–0.9 m wide and 0.23–0.35 m deep, with moderately sloping sides and a wide flat base. It contained a single fill (262/246/206 respectively) of grey silty clay with orange mottling, and a moderate amount of rounded gravels and pebbles, but no pottery.

Ditch 266 (Fig. 3.169) was located 7.5 m to the east of ditch 265. Three interventions were excavated through the ditch, 243, 237 and 213, with a possible recut, 215, noted in the latter, containing 12 g of early to mid Roman pottery (CP 11.2–12.1). It had a very similar profile and dimensions to ditch 265. It contained a comparable single fill (contexts 212, 247, 242) with 63 g of Roman pottery.

A layer of friable mid brown sandy silt with abundant rounded gravels overlay both ditches, and produced 354 g of mid Roman pottery (CP 12.1–12.2). The ditches were therefore sealed before AD 210. The deposit varied in thickness from 0.03–0.06 m and extended for approximately 13 m. Over ditch 265 it was recorded as contexts 240/234/205, and over 266 as contexts 205/236/263. The deposit appeared to be riverine in origin, and had been sealed by the topsoil. Modern land drains cut both ditches 265 and 266.

Period 12: Mid Roman

Features in the eastern area of excavation

Ditch 293 was located close to the northern baulk at the eastern end of the excavated area. It ran on a NE-SW orientation for c 20 m, but had been truncated at both ends by ploughing. Two interventions were excavated through the ditch: 283 at the northern end, and 285 at the south. The ditch was 0.85–1.05 m wide and 0.13–0.18 m deep, with shallow concave sides and a slightly rounded base. It contained a single fill (284/286) of orange brown silty clay with a rare amount of gravel and 243 g of mid Roman pottery (12.1–12.2).

Period 12–13: Mid to late Roman

TRANSCO pipeline trench

Ditch 1060 was orientated NE-SW, and had been disturbed to the west by a modern land drain. Three interventions were excavated through the ditch: 1011 at the northern end, 1051 in the centre, and 1013 at the southern terminus. It was a maximum of 0.8 m wide and 0.4 m deep. The profile showed quite steeply sloping sides and a flat base. It contained two fills, the lowest recorded as group 1061, a dark mottled yellowish brown silty clay with sparse flint gravels, 0.14–0.30 m thick (contexts 1058, 1059, 1015). The primary fill contained 6 sherds (25 g) of mid to late Roman pottery (12.2–13.3). It had been overlain by fill group 1062, a dark grey silty clay with rare charcoal flecks, 0.16–0.28 m thick (contexts 1012, 1052, 1014). This secondary fill contained 52 sherds (578 g) of mid to late Roman pottery (CP 12–13).

River channel deposits 2015. At the southern end of the pipeline trench a river channel was recorded (not shown in plan). A slot was excavated through the channel, revealing a width of 1.5 m and depth of 0.5 m. It had been filled by a layer of natural silting, context

2015, which contained four sherds (13 g) of mid to late Roman pottery.

Period 13: Late Roman

Features in the western area of excavation

Gully 343. Towards the east of the area, two intercutting curvilinear gullies (183 and 185) were truncated by the northern baulk, and formed group 343. Gully 183 was 0.33 m wide and 0.07 m deep, with shallow concave sides and a rounded base. Gully 185 had more steeply sloping sides and a pointed base, and truncated 183. Both contained a single fill (184 and 186 respectively) of grey-brown silty clay with a sparse amount of gravel. A total 594 g of late Roman pottery (CP 13) was located in 185.

Features in the eastern area of excavation

A group of intercutting pits and tree throw holes were seen against the northern baulk. The relationships between these features were not ascertained. The largest pit, 244, was rectangular in plan, 2.5 x 1.5 x 0.8 m, with steeply sloping sides and a flat base. It contained a single fill (245) of grey-brown clay silt with a moderate amount of gravels and pebbles, along with 878 g of late Roman (CP 13.3) pottery.

Pits 229 and 250 were circular in plan with bowl-shaped profiles. Pit 229 was 0.7 m diameter and 0.2 m deep; pit 250 was 1.4 x 0.3 m. Both contained a single fill (230 and 251 respectively), which was very similar to the pit 244 fill, although pit 250 contained a greater concentration of stony inclusions, particularly towards the base of the fill. Pit 229 produced 396 g of late Roman pottery (CP 13.2).

The remaining features in this area were rather ephemeral, with irregular shapes and profiles, and as such may represent tree throw holes or other such natural features. They had a maximum diameter of 1 m and depth of 0.3 m. Feature 248 was adjacent to the pits, but features 257, 181, 187 and 191 appeared to be in an approximate north to south alignment, possibly representing an old tree line. All contained a single fill (258, 182, 188, 192 respectively) of grey brown silty clay with a moderate amount of gravels, pebbles and sparse charcoal flecks. Feature 181 contained 338 g of late Roman pottery (CP 13.2–13.3), and feature 187 contained 146 g of mid to late Roman pottery (CP 12.2–13.3). These fills appear to be indicative of rapid infilling during silting episodes.

Deposits in infilled stream valley. The two sets of trackway ditches (265/266 and 143/146) flanked a broad, linear hollow that ran NE-SW across the eastern area of excavation. This was identified as a stream valley, associated with a former tributary of the River Ter, which had been used as a dumping ground for refuse generated by the nearby settlement. This debris may have originated from the settlement located to the north-east (Smoothy 1989), which was occupied until the early 4th century. Interestingly, no late Roman pottery was recovered from the latest ceramic phase.

Two slots were excavated through this hollow, revealing a series of layers. The extent of the deposits was uncertain, but they would appear to span the width of the excavation trench, and sections revealed they infilled an area approximately 11–17 m wide, and up to 0.8 m deep. A number of context numbers were given to each layer in the valley, and have here

been grouped into layers numbers. The lowest deposit is layer 1, the upper deposit layer 5. Upper layers 3, 4 and 5 contained pottery securely dated to AD 260–360.

The lowest deposit was context 200 (layer 1), c 0.8 m wide and 0.10–0.16 m thick, a dark grey brown silty clay with abundant (80–90%) gravels and some larger flint inclusions that tended to decrease in size towards the base of the deposit. This appears to be the same as context 233 seen further to the south-east, beneath ditch 143. Context 200 was overlain by context 199 (layer 2), up to 3.5 m wide and 0.26 m deep, a dark grey sandy silt with some reddish mottling. It contained abundant gravels (80–90%) plus some larger flints and 40 g of Roman pottery (CP 21). It was the same as context 224, seen beneath ditch 143, which contained 411 g of mid Roman pottery (CP 12.1).

Context 199 was overlain by context 156 (layer 3), a grey-brown silty clay with a very common amount of gravel and pebble inclusions. It was up to 0.25 m thick, and 8.3 m wide (NW-SE). This deposit extended eastwards for 4.2 m beyond ditch 143, as contexts 222, 223 and 197. In total, the deposit contained 5.4 kg of late Roman pottery (CP 13.1–13.2), along with a number of small finds.

Context 156 was overlain by context 150 (layer 4), an orange-brown silty clay with a sparse to moderate amount of gravel. It was seen for approximately 6 m NW-SE and was up to 0.27m thick. It had been truncated by ditch 146, and then continued to the south-east for a further 6 m as contexts 219, 161, 220, 221 and 297. In total this layer produced 1.7 kg of late Roman pottery (CP 13.1–13.2). Layer 4 was overlaid by context 149 (layer 5), a mid orange-brown silty clay with rare gravel. It was up to 0.27 m thick and contained 1.4 kg of late Roman pottery (CP 13.1–13.2).

A further slot was excavated through the deposits c 20 m to the south, where the natural feature in which the deposits had built up was allocated feature numbers 332 in the south-east and 328 in the north-west. At the south-eastern end of the section they were truncated by feature 318 (see Post-Roman section) and ditch 143 (intervention 314). On the south-eastern side of this feature two alluvial deposits of bluish grey silty clay were seen (contexts 310 and 311); upper deposit 311 contained animal bone, a lead object, an iron object, and 1.2 kg of late Roman (CP 13.1) pottery. They were overlain by two further deposits (312 and 313) of orange-brown silty clay, containing 15 g of mid Roman pottery. These deposits may relate to contexts 233 (layer 1) and 224 (layer 2) recorded to the south (see above).

To the north-west of feature 318 a similar sequence of deposits was excavated. The lowest deposit was a gravel-rich layer (322 and 329), 0.1m thick, which may be the same as layers 1 or 2 in section 124. Context 322 produced 267 g of mid to late Roman pottery (CP 12.3–13.3). It had been overlain by brown-grey silty clay with common gravels (contexts 323 and 330), 0.12–0.18 m thick, which may be the same as layer 3 in section 124. A thin lens of gravel was also seen immediately above context 330. This layer may be the same as context 156 (see above). Above the layer 3 deposits lay contexts 324 and 218, a silty clay with sparse gravels that probably equates to layer 4. Context 218 produced 1.67 kg of late Roman pottery (CP 13.1–13.2) plus a possible fragment of a copper alloy cable armlet (3rd to

4th century in date). Context 198 was recorded as the final fill in feature 328 but is not shown in section. It contained 1.2 kg of late Roman pottery (CP 13), and may represent the same silting as layer 5.

TRANSCO pipeline trench

Ditch 1003 (Fig. 3.165). At the northern end of the trench ditch 1003 was recorded, aligned NE-SW. It was c 9 m long, up to 0.8 m wide and a maximum of 0.35 m deep. Both terminals of the ditch were recognised within the trench. The profile was steep sided with a flat base. Three interventions were excavated through the ditch, 1005 at the northern terminus, 1009 towards the centre, and 1050 towards the south. It contained a single fill, allocated group number 1004 (contexts 1010, 1049 and 1006), a firm greyish brown clayey silt with occasional flint gravels and pebbles. 675 g of late Roman pottery was recovered from the ditch. It had been truncated by ditch 1057 (intervention 1007), and truncates probable ditch 1016.

Ditch 1057 (Fig. 3.165) truncated ditch 1003, and was seen on its western side, although was slightly unclear in plan and may have been a replacement for the earlier ditch. It was orientated NE-SW, up to 0.7 m wide and up to 0.22 m deep, with quite steep sides and a fairly flat base. Three interventions were excavated through the ditch: 1007, 1021 and 1041. Context 1054 (filled by 1055) may represent the southern terminus of the ditch, creating a total length of c 10.5 m. The ditch contained a single fill, group 1056 (contexts 1008, 1040 and 1022), a grey-brown clay silt with rare chalk flecks and sparse flint gravels and pebbles. The deposit appeared to be quite mixed, possibly with the topsoil and subsoil or underlying features. It contained 11 sherds (80 g) of mid to late Roman pottery (CP 12.2–13.3), probably residual.

Evaluation trenches

Trench 3303. Gully 33031 was orientated NW-SE. It was 1.1 m wide and 0.4 m deep, and had moderately sloping sides and a flat base. It contained three fills (33033, 33032 and 33049) of grey-brown silty clay with seven sherds (71 g) of Roman pottery. It had been cut into layer 33047, which overlay a late Roman deposit (33043). It was adjacent to parallel gully 33050. This gully was 0.8 m wide and 0.2 m deep, but was similar in profile to 33031, and contained two fills (33051 and 33052) of grey-brown silty clay. Both ditches were sealed by 33045, an extensive deposit (10 x 6 x 0.5 m) of dark brown clay silt with 23 sherds (333 g) of late Roman (CP 13) pottery. The subsoil then sealed this layer. The ditches may be the same as gully 339 in the western area of excavation.
In the south of Trench 3303 machining had removed a possible ditch, 33053. It was recognised in section and appeared to cut through layer 33045. It was recorded as c 5 m wide and 0.7 m deep, and contained two fills of silty clay (33055 and 33054). The ditch was seen again 9 m to the west as feature 33067, and was here filled by 33068, and overlain by possible occupation layers 33069, 33070 and 33071. The latter context contained eight sherds (207 g) of late Roman (CP 13.1–13.2) pottery. Gully 33065 ran alongside ditch 33067, and contained a single fill (33066), which mostly represents erosion of the sides. Layer 33070

overlay this too. Features 33053, 33067 and 33065 were not recorded in plan.

Trench 3305 was located at the western edge of the hollow running across the site, that contained the late Roman deposits commented on above. Removal of the topsoil and subsoil in this trench revealed a layer (33035/33036) of orangey brown silty clay that contained 100 g of mid Roman pottery (CP 12.1) and 443 g of late Roman pottery (CP 13) respectively. It is probably the same as the late Roman deposits seen in the excavation of this area. Two tests pits were excavated to investigate further. The eastern test pit revealed the deposit overlay a natural layer of fresh, angular flint cobbles. The western test pit located a NE-SW ditch, 33046, cutting through the deposit. The ditch was heavily truncated and is not shown in plan. As it cuts through the deposit it is not thought to relate to ditch 266.

Periods 11–13: Roman (not assignable to subphase)

Features in the eastern area of excavation

Ditch 375 (Fig. 3.170) was located in the west of this area. It ran for c 28 m NE-SW, and extended out of the trench at both ends. Three interventions were excavated through the ditch, 353, 362 and 367. It was 0.54–0.78 m wide and 0.32–0.35 m deep, with moderate to steeply sloping sides and a flat to concave base. It contained two fills. The primary fill (352/363/370) was a brownish grey silty clay with a high humic content, 0.06–0.18 m thick, containing sparse flints gravels and 259 g of Roman pottery. Part of the fill was beneath the watertable, and it seemed to have built up from south-eastern side. The secondary fill (371/364/377) was mostly greyish black silty clay with some yellowish red mottling and a sparse to moderate amount of gravel, plus occasional larger stones.

Ditch 372 ran WNW-ESE, perpendicular to ditch 375, and was truncated by it. Only a small area was seen in the excavation. It was 0.4 m wide and 0.13 m deep, with gently sloping sides and a flat base. The lower fill (373) was 0.05 m thick, and consisted of a compact mid greyish orange clay with sparse gravels. It was overlaid by (374), a friable dark grey/black silty clay, 0.08 m thick, with sparse gravels and four sherds of early to mid Roman pottery (CP 11.1–12.2).

Pit 368, an isolated subrectangular pit was located approximately 9 m east of ditch 376. It was 0.9 m x 0.46 m and 0.21 m deep, with steep sides and a flat base. It contained a single fill (369) of friable dark grey silty clay with a very common amount of gravel, an iron nail and a small amount of Roman pottery.

TRANSCO pipeline trench

Ditch 1027, feature 1037 and pit 1039 (Fig. 3.171) ran E-W across the trench, to the south of ditch 1060, and disappeared under both baulks. It was c 0.85 m wide and 0.4 m deep, with quite steep, slightly convex sides and a concave base. It contained two fills. The primary fill (1035) was 0.1 m thick, a firm mid grey brown silty clay with a common amount of chalk flecks, plus sparse flint pebbles and cobbles, which appear to have been deposited quite rapidly after the feature was cut. The secondary fill (1028) consisted of a firm deposit of dark brownish grey silty clay with sparse chalk and charcoal flecks,

plus flint gravels and pebbles. It was 0.29 m thick and appeared to derive from the topsoil and subsoil. It contained 21 sherds (109 g) of undiagnostic Roman pottery.
The southern side of ditch 1027 truncated feature 1037. The feature had also been truncated by pit 1039 and only the flattish base was still visible. It contained a single fill (1036) of mid brown silty clay, 0.11 m thick, with sparse flint pebbles and cobbles, producing 3 sherds (7 g) of grog-tempered pottery (CP 9.2–10.1).

Pit 1039 was oval in plan, with steep sides and a rounded base of slope to a flat base. An area of c 1.1 x 1 m was seen in the trench, but the south-eastern side of the pit was not seen due to the limit of excavation. It contained a single fill (1038), a dark brown silty clay with sparse chalk flecks and gravels, 0.18 m thick.

Pit 1033 was a small shallow pit excavated close to pit 1039. It was bowl-shaped in profile, with shallow concave sides and a concave base. It was 0.9 m wide and 0.2 m deep, but the length had been truncated by the modern field drain running adjacent to the north-western baulk. The pit contained a single fill (1034) of orange brown silty clay with rare gravel and 4 sherds (22 g) of Roman pottery.
Gullies 1025 and 1042. Both 1025 and 1042 were seen to run ESE-WNW across the trench, and were truncated to the north-west by a modern land drain. Gully 1025 had quite steep and slightly convex sides, with a sharp break of slope to a narrow, flat base. It was 0.5–0.65 m wide and 0.26 m deep, and contained a single fill (1026) of brownish grey loam, with sparse flint and chalk fragments and four sherds (22 g) of Roman pottery.
Gully 1042 was very slight, only 0.36 m wide and 0.08 m deep. It had gently sloping sides and a concave base, and contained a single fill, 1043, yellowish brown silty clay with rare charcoal flecks.

Post-Roman

Features in the eastern area of excavation

Ditches 146 and 143. Approximately 15 m to the east of trackway ditch 266 two further parallel ditches were excavated, orientated NE-SW. Both have been cut into late Roman deposits 150 and 156 (see 'late Roman deposits' above).
Ditch 146 traversed the width of the site, and was 1.40–1.66 m wide and up to 0.48 m deep. It had moderately to steeply sloping sides and a slightly rounded base, and had been truncated by a modern land drain. It contained two fills. The primary fill (147) was 0.27 m thick, a friable grey brown silty clay with rare flint gravels. This was overlain by (148), an orange brown silty clay with rare flint gravels and 10 g of Roman grey ware pottery.
Intervention 325 may also be part of this ditch. It was not readily visible in plan, but showed a similar profile, although was slightly larger, 1.8 m wide and 0.53 m deep. Its fills showed a moderate amount of reddish mottling, and contained 146 g of mid to late Roman pottery (CP 12–13).
Ditch 143 was not readily visible in plan. However excavation indicated a width of 1.05–1.3 m, and 0.3–0.7 m depth. The sides were moderately to steeply sloped with a flat base. Two to three fills were seen in the ditch. The primary fill (145/315) was a dark silty clay, 0.12–0.22 m thick, with rare gravels and moderate charcoal inclusions near the north-eastern edge. This

was overlain by layer 296, a deposit of light yellow-brown clay, 0.1 m deep, containing with 107 g of Roman pottery. This was in turn sealed by 144, a dark silty clay deposit, 0.17 m thick, with sparse gravels and rare larger stones and a moderate amount of woody/organic inclusions. Two further fills were seen in the northern, deeper part of the ditch, contexts 316 and 317, both silty clay deposits with sparse gravels. No diagnostic pottery was recovered from the fills. The ditch had been cut into contexts 313, 179 and 180, which may be fills of a pre-existing ditch or just a depression. The latter two were deposits of dark silty clay with rare gravels, and 16 g of mid to late Roman (CP 12–13) pottery. The ditch is thought to be modern, or a modern recut of an older feature.

Feature 318 had been cut into the late Roman deposits infilling the stream valley. It was unclear in plan (and is therefore not illustrated), and could not be classified by feature class. It had been truncated by a land drain and was located between ditches 143 and 146. In section it was seen to be 1.14 m wide and 0.44 m deep, with steep straight sides and a flat sloping base. It contained three fills. The primary fill (319) was up to 0.2 m thick, a yellow-brown clay silt with sparse gravels and 57 g of late Roman pottery (Phase 13). This was overlain by 320, 0.08 m thick, a very similar deposit with 107 g of Roman pottery. The final fill (321) was a yellowish grey clay silt with rare gravel, 0.23 m thick. It is likely that the feature is post-Roman in date, and the pottery recovered is residual.

Period 18: Post-medieval/modern

Features in the western area of excavation

A number of modern land drains and drainage gullies were seen crossing the western area of excavation, several of which were excavated where they crossed archaeological features. These included features 129, 132, and feature groups 341 and 342.

Features in the eastern area of excavation

Ditches 294, 295 and 110. At the eastern end of excavation two intersecting ditches were excavated, 294 and 295. Both ran across the entire width of the trench, c 47 m in length. The former was orientated NNW-SSE and was stratigraphically earlier. It was excavated as interventions 159 and 289. Ditch 294 was orientated NE-SW, and had shallow sloping sides and a concave base. It contained a single fill (160/290) of orange brown silty clay with a sparse amount of gravel and a single sherd of Roman pottery.

Ditch 295 contained interventions 157 and 112. The sides were moderately sloped, with a shallow shelf at the top of the slope on the western side. It was up to 2.6 m wide and 0.6 m deep, and contained a single fill (158/113) of orange-brown silty clay with sparse gravels. This ditch probably dates to the post-medieval period.

Ditch 110 was located on the eastern side of ditch 295, running NNE-SSW for 15 m before being truncated by the eastern baulk. It was 0.95 m wide and 0.2 m deep with moderately sloping sides and a shallow V-shaped base. It contained a single fill (111) of yellowish brown silty clay with rare

gravel. It was probably a modern land drain.
Linears 209 and 217. Modern features allocated context numbers in this area comprise ditches 209 and 217.

TRANSCO pipeline trench

Modern disturbance. To the immediate west of ditches 1003 and 1057 an area of modern disturbance was seen, resulting from field drains or service pipes. It was recorded as contexts 1020, 1047 and 1019. The deposit was extremely mixed, composed of lumps of dark brown silty clay, orange brown clay and brownish yellow silty clay which appeared to result from mixing of the topsoil, natural and the fills of truncated features. The deposit appeared to fill a linear feature recorded as interventions 1048 and 1018 (Fig. 3.165). This feature was very irregular in plan but appeared to be aligned NE-SE. The profile was also irregular, but the sides were mostly moderately sloped, and the base was undulating and undercut on the south-eastern side.
Ditches 2010, 2013 and 2018, and gravel deposit 2012. Ditch 2010 was a modern linear ditch running NW-SE across the southern part of the trench, 1.7 m wide and 0.6 m deep. It contained a single fill (2011) of greyish brown silty clay. To the immediate south ditch 2018 was seen to run parallel to 2010. This ditch was not clear in plan, and in section appeared to be quite shallow with concave sides and base, 0.46 m deep. It contained a single fill (2019) of greyish brown clayey silt, with a sherd (20 g) of early Roman pottery (CP 9.2–11.1). Both ditches had been truncated by a land drain, and appeared to cut through deposit 2012, a layer of yellowish brown silty clay with a common amount of gravel and six sherds (34 g) of early Roman pottery (CP 11.1). This layer was seen to extend for 6.1 m and was 0.18 m thick, and may represent some kind of surface. Spatially, ditches 2010 and 2018 would appear to be related to post-medieval features 129 and 132 in the western area of excavation, or possibly gully 339.
Ditch 2013 was not clearly visible in plan and has not been illustrated. It appeared to be cut into layer 2012 and contained a single fill (2014) of mid yellowish brown silty clay with a sparse amount of gravel.

Undated

Features in the western area of excavation

Linear 170 runs NNE-SSW from ditch 344 and gully 348 to the northern baulk. The sides were fairly steep, and the base pointed, creating a broad V-shaped profile. It was 0.53 m wide and 0.27 m deep and contained a single fill (171) of dark orange-brown clay with sparse amounts of gravel and three sherds of Roman pottery. A layer of gravel was seen on top of the western side of the fill. The relationship with features 344 and 348 was not recorded. The profile of the ditch suggests it may be post-medieval or modern in date. However this could not be confirmed.

Gully 340. In the north-eastern corner of the site linear gully 340 (excavated as context 195) was seen running NE-SW for 1.5 m, but was truncated by the northern baulk. It was 0.76 m wide and 0.14 m deep, with gentle concave sides and a flat base. It contained a single fill (196) of mid brown silty clay with rare chalk flecks and

sparse gravel. No pottery was recovered from the fill.

Gully 339 (excavated as context 136) was located beneath gully 340, and truncated by both the northern and eastern baulks. A length of c 5.5 m was seen in the excavation area, aligned NW-SE. It was 0.55 m wide and 0.1 m deep, with shallow concave sides and a flat base. It contained a single fill (135) of yellow-brown clay silt with a rare amount of gravel, which was very similar to the natural.

Ditch 119 extended from the western baulk. It was c 22 m in length and orientated ESE-WNW. It was c 0.8 m wide and 0.23 m deep, with moderately sloping sides and a flat base. It contained a single dark silty deposit (121) with a noticeable quantity of organic material. It appeared to have been truncated to the south by tree throw hole 118.

Pit 115, an isolated feature, was discovered c 10 m south of the terminus of ditch 119. It was circular in plan, c 1 m in diameter and 0.33 m deep, with steep convex sides and a flat (slightly sloping) base. The primary fill (116) represented redeposited natural and was seen only on the western side of the pit. This was overlain by 117, a dark grey-brown sandy clay with common gravels and sparse charcoal flecks. No finds were recovered from the feature.

Features in the eastern area of excavation

Pit 357 truncated early Roman ditch 376. It was subcircular in plan, 0.3 m wide and 0.15 m deep. It was steep sided with a concave base, and contained a single fill (358) of dark greyish black clay with a moderate amount of gravel and charcoal flecks. It had been overlaid by a spread (359) of dark grey clay with a sparse amount of charcoal. This spread covered an area 1.1 x 0.9 x 0.04 m, and also overlay part of the ditch.

Linear 287 was not drawn in plan or section, but may relate to two ditches running NW-SW in the south-west corner of the excavation area, at right angles to ditches 265 and 266. It was described as having concave shallow sides and base, and was 0.44 m wide and 0.15 m deep. It contained a single fill (288), a mid reddish brown silty clay with very common gravels, with bone but no pottery. It was cut into two riverine deposits. The upper layer (291) was a dark orange-brown silty clay, 0.05–0.17 m thick, with a sparse amount of gravel and 359 g of mid Roman (12.1–12.2) pottery. This overlay layer 292, a dark orange-brown silty clay with abundant gravels (80–90%), but no pottery.

TRANSCO pipeline trench

Gully 2000 was seen running for c 2 m from the western baulk on a NNE-SSW alignment. It was quite ephemeral, 0.38 m wide and 0.07 m deep, with shallow sloping sides and a concave base. It contained a single fill (2001) of orange-brown silty clay. The southern end of the gully was excavated as context 2002 (filled by 2003), although it was not certain if this represented the terminal of the gully or the point of truncation by modern features.

Feature 2004. Just south of gully 2000 a subcircular feature was excavated. It was irregular in profile and contained a single sterile fill, and was probably a natural feature.

Feature 2007 was a NE-SW orientated linear which was very irregular in plan and depth. The excavated section was 0.62 m wide and 0.08 m deep and contained a fill (2008) of greyish brown silty

clay with abundant (80%) flint gravel.

Evaluation trenches

Trench 3306. At the eastern end of the trench a dark linear deposit filled feature (33039). It appeared to be aligned NE-SW, and had steep sides and a flat sloping base. The lowest fill, 33038, consisted of a layer of gravels, overlaid by 33037, orange clay sand. It is not certain if this feature represents a ditch or a periglacial feature. It was overlain by silty clay layer 33042.

Ditch 33030 was located at the western end of the trench, but was not seen in plan as the feature was underwater. It contained a fill of clayey silt (33028), and had been sealed by colluvial deposit 33022, 0.2 m thick. This deposit contained 523 g of mid Roman pottery (CP 12.2), animal bone and smithing slag, but also post-medieval pottery suggesting that the deposit may have been formed later than the Roman period.

At the western end of the trench a machine cut extension located two features not seen in plan. Context 33018 appeared to be a small pit, and contained a single fill (33017) of clay silt. Context 33020 was a NE-SW aligned ditch, with moderately sloping sides and a rounded base, 1.9 m wide and 0.7 m deep, and contained two fills of clay silt, the upper (33019) containing 68 g of Roman pottery (CP 21) and a quernstone fragment.

Trench 8. In Trench 8 two ditches ran approximately at right angles to each other: 33009 and 33012. Ditch 33009 was orientated NE-SW, and was 0.7 m wide and 0.25 m deep. It had been filled by 33011 and 33010, both mid brown silty clay. The upper fill contained 14 g of Roman pottery (CP 21). Ditch 33012 was larger, 3 m wide and 0.95 m deep, and orientated NNW-SSE. It contained four fills. The primary fill (33016) was a brown-grey silty clay, overlain by a similar deposit (33015). The upper two fills were more mid brown in colour: contexts 33014 and 33013. The top fill contained 3 g of Roman pottery. A modern land drain had truncated ditch 33012.

Not located

A large linear ditch, orientated NW-SE was drawn in section (number 132) but not in plan, and its location could not be discerned. It was substantial in size, 6.7 m wide and 0.85 m deep. The SW side was slightly convex, the NE side slightly concave, and the base was wide and flat. It had been cut into a series of alluvial deposits (382–6), and contained four fills (389, 390–2) of grey clay with rare gravel. The third fill (391) contained a dump of charcoal located at the south-western end, and the fourth fill (392) showed evidence of reddish brown mottling. The SW end of the ditch had been overlaid by a thin tertiary fill of grey silty clay (context 394). No finds were recovered from the ditch.

Related reports: Finds: flint, Roman pottery, ceramic building material, fired clay, metalwork, worked stone, worked bone (CD/Chapter 4); Animal bone (CD/Chapter 6); Environmental: charred plant remains, pollen, insects, molluscs (CD/Chapter 7).

Rayne (SITE 35)

Fieldwalking only.

Fenton's farm (SITE 36)

Fieldwalking only

West of Panners Roundabout (SITE 54; Fig. 3.172)

Archaeological excavation was carried out on land adjacent to the present A120 road, c 1 km to the west of Panners Roundabout, Braintree, from NGR TL 573067 221814 to 573144 221797. The excavation area was 900 m2 in extent, 80 m long and 14 m wide. The site lay within what was originally arable land at the very top of the 'batter slope' of the earlier A120 road, at a height of 76 m OD in the west, sloping gently down to the east to 74.6 m OD. The natural geology comprised mid yellow-brown silty clay (boulder clay) with rare rounded gravel inclusions.
Several features were recorded, all 3rd to 4th century AD in date. A shallow hollow, c 15 m wide, was recorded in the centre of the site. This hollow was aligned NW-SE and was filled in the western part by a large spread of dark grey, gleyed, silty clay containing Romano-British pottery.
In the west a wall gully belonging to a subrectangular structure was recorded. A second L-shaped gully (44008) from a possibly similar subrectangular structure was recorded to the immediate west. A small segment of curvilinear eaves-gully was recorded in the very south-west of the site. A curvilinear enclosure gully/ditch in the very east of the site was cut by a short section of another curvilinear ditch/gully feature.

?Pre-Roman

Two tree throw holes were found, one situated towards the western end of the site (44006), the other at the far eastern end (44038). Both features were cut by later Roman enclosures.

Tree throw hole 44006 (Fig. 3.173) was irregular plan and profile. It measured 2.24 m N-S by 1.7 m E-W and 0.33 m in depth. The primary fill (44045) occupied the bottom southern corner and displayed a steep inclination down from the southern edge of the tree throw hole. It comprised mid orange-brown silty clay with occasional inclusions of flint and charcoal flecks. Above this, lying horizontally, was a layer of pale greyish brown silty clay with occasional inclusions of flint (44046). The fill did not contain any finds.

Tree throw hole 44038 (Fig. 3.174) was irregular in plan and profile. It measured 1.7 m x 1.7 m in plan and 0.31 m in depth. The fill of the tree throw hole (44039) comprised a layer of light grey silty-clay with occasional inclusions of chert, occasional chalk fragments and occasional charcoal flecks. No finds were recovered.

Phase 11.1: Early Roman

Ditch 44064 was an L-shaped ditch which ran NE-SW for a distance of 3.5 m and then turned to the north-east to run under the section defining the northern limit of the excavation. In total the ditch measured 4.2 m in length by 0.50–0.65 m in width and 0.21 m in depth. In profile it was U-shaped, displaying a gentle western edge sloping down to an irregular base with a steeper, slightly concave eastern edge. The single fill (44065) consisted of pale grey silty clay with frequent inclusions of orange/brown clay mottles, occasional charcoal flecks and occasional subangular flint. A single

rim sherd from a late 1st- to early 2nd-century AD jar was recovered from the fill.

Ring ditch 44000/44002 (Fig. 3.175) was curvilinear in form and ran under the sections defining the limit of excavation to the north and south. It was partially exposed in two sections, one of 6.5 m and the other of 8.5 m, and was 0.72 m in width by 0.23 m in depth on average. The ditch was U-shaped in profile with steeply sloping sides and a rounded base. A single recut was seen in one of the three interventions excavated through this ditch (44030) and this exhibited a similar profile. The single fill (44034/44032/44052) was yellowish brown silty clay with occasional inclusions of chalk, flint and chert and more frequent orange-brown silty-clay mottles. The fill of the recut (44031) comprised pale greyish-brown silty clay with abundant orange-brown silty clay mottles, occasional angular flint fragments and occasional charcoal flecks. The original ditch fill contained no finds, however the fill of recut 44030 contained several sherds of pottery that could be dated only to the Roman period.

Phase 13.1–13.2: Late third to early-middle fourth century AD

By the late 3rd century both ring-ditch 44000/44002 and ditch 44064 had silted up and gone out of use. At the eastern end of the site a linear ditch (44001) cut the earlier ring-ditch and terminated just inside the area formerly enclosed by it. At its eastern end ditch 44001 ran under the section defining the eastern limit of the excavation. At the centre of the site a large amorphous natural hollow, 44004, that may have been in existence for some time began to silt up, incorporating a substantial assemblage of late Roman pottery in the process. To the west of the hollow and cutting tree throw hole 44006 was an amorphous pit (44043).

Pit 44043 was irregular in plan and in profile. It was 0.94 m in diameter and 0.19 m in depth. The single fill comprised a mid greyish brown silty clay with inclusions of occasional angular flint and occasional charcoal flecks. An assemblage of 28 sherds of late 3rd century to early-middle 4th- century AD pottery came from the fill.

Hollow 44004 (Fig. 3.176) was irregular in plan and saucer-shaped in profile, having a flattish base with gently sloping sides. It measured 10.5 m in length by 9 m in width and 0.26 m in depth. In section 44040 the basal fill (44042) comprised a pale grey silty clay with inclusions of occasional charcoal flecks, occasional fragments of flint and frequent mid orange brown clay mottles. Lying above this the secondary fill (44041) comprised a dark grey silty-clay with inclusions of occasional angular flint and occasional charcoal flecks. The upper fill contained a relatively substantial assemblage of 33 sherds of late 3rd- to mid 4th- century AD pottery.

Ditch 44001 (Fig. 3.177) (Fig. 3.178) was linear and orientated NW-SE. It was 5 m in length and 0.59 m in width by 0.27 m in depth on average. The ditch profile was U-shaped having steeply sloping concave sides and a rounded base. The primary fill (44037/44050) occupied the lower third of the ditch and displayed a relatively sharp inclination down from the south-western edge. It comprised a

yellowish brown silty clay with occasional inclusions of flint and chert. Lying immediately above this and occupying the upper two thirds of the ditch, the secondary fill (44036, 44049) comprised a dark greyish brown silty clay with occasional inclusions of flint and chert and frequent inclusions of charcoal. Five sherds of Rettendon ware dating to the late 3rd to early 4th centuries, along with ten sherds dateable only to the Roman period were found in the fills.

Phase 13.3: Late fourth century AD

A horseshoe-shaped enclosure ditch (44007), its open end facing north-east, was situated towards the western end of the site, just to the south of the northern limit of excavation. It was accompanied by an oval pit (44053/44056) which lay just to the south-east of its northern terminal, within the entrance to the enclosure. Both features contained assemblages of 4th-century pottery but the enclosure ditch contained a greater quantity of later material, including the neck of a distinctive Lower Nene Valley face flagon.

Enclosure ditch 44007 (Fig. 3.173) (Fig. 3.179) (Fig. 3.180) was horseshoe-shaped in plan and measured 12.96 m in length. The open end of the horseshoe faced north-east. On average the ditch was 0.46 m wide by 0.14 m deep. In general the ditch was U-shaped in profile with a slightly rounded base and steeply sloping sides. The single fill (44047/44062/44067/44069) comprised a firm mid grey silty clay with occasional inclusions of flint and charcoal flecks and frequent pale grey clay mottles. A substantial assemblage of 52 sherds of Roman pottery, including the complete rim of a face flagon dating to the second half of the 4th century AD and some material dating more generally to the late 3rd and 4th centuries AD, was recovered from the ditch fill.

Pit 44053/44056 (Fig. 3.181) was oval in plan and U-shaped in profile having a steep western side sloping down to a flattish base and a more gently sloping eastern side. The pit measured 1.38 m in length by 0.78 m in width and 0.22 m in depth. The basal fill (44058/44055) lay against the sides of the pit where it had been deposited by weathering and comprised soft malleable pale yellowish brown clay with occasional inclusions of flint and frequent pale grey clay mottles. Overlying this and occupying the upper four fifths of the pit was a secondary fill (44054/44057) of grey silty clay, with occasional inclusions of rounded flint fragments and charcoal flecks. The upper fill contained an assemblage of 25 sherds of Roman pottery, including much material dating to the 4th century AD.

Phase 17/18: Post-medieval/modern

After the Roman period there appears to have been little activity on the site until the post-medieval or modern periods. A substantial post-medieval/modern drainage ditch ran across the eastern end of the site from north to south and various land drains criss-crossed the site from east to west and north to south, cutting the Roman features.
Ditch 44015 was a linear ditch 13.5 m in length by 3 m in width. It was not excavated.

Undated

There were two features which could not be phased in the absence of either finds or a stratigraphic relationship with other features. These comprised a ditch terminal (44059/44063) situated towards the western end of the site, which ran under the southern limit of excavation, and a pit (44016) situated at the western end of the site towards the section marking the northern limit of excavation.

Ditch terminal 44059/44063 was a curvilinear ditch terminal 3 m in length. It was orientated SE-NW but curved around to the south-west at its eastern end where it ran under the section delimiting the edge of the excavation. It averaged 0.52 m in width by 0.11 m in depth. In profile it was U-shaped having concave sides and a flat base. The single fill comprised a mid grey silty-clay with inclusions of flint, chalk and some charcoal. No finds were recovered.

Pit 44016 was irregular in shape, measuring approximately 2 m by 2 m. It was not excavated.

Related reports: Finds: flint, Roman pottery, metalwork, worked stone (CD/Chapter 4); Animal bone (CD/Chapter 6).

Chapter 4 The Finds

Introduction

Overall the quantity of finds recovered from the A120 sites is relatively low. Of the 47 sites investigated through excavation, finds were recovered from 38 separate sites (amalgamated site numbers counted as one site; see Table 4.1). Assemblages vary in size from very small groups (eg Hoblongs Brook, Stone Hall, Fanns Wood) to substantial, well-stratified assemblages from large-scale excavation (Table 4.2). The largest assemblages, both of largely Romano-British date, came from Strood Hall (Sites 9/44) and Rayne Roundabout (Sites 33/34). No finds were recovered from Frogs Hall (West) (Site 4) and only worked flint from Takeley Church although numerous finds have been documented from other investigations at the latter site (see CD/Chapter 2, Appendix 2).

The date range of the assemblage overall is Mesolithic to post-medieval, although the emphasis is on the later prehistoric (1st millennium BC) and Romano-British periods. Small groups of worked flint and one small deposit of early Neolithic pottery constitute the only evidence from the early prehistoric period; nearly every site yielded at least one piece of struck flint. For the later prehistoric period, the range of material types is limited, but the overall ceramic assemblage provides a good sequence from middle Bronze Age to late Iron Age; also of note from this period is a small group of ceramic mould fragments from bronze-casting, found at Greenfields (Site 27/28). Significant assemblages of Romano-British date were recovered from Rayne Roundabout (Site 33) and, in particular, Strood Hall (Site 9), the latter including a group of cremation burials with accompanying grave goods. No artefactual material was recovered dating to the Anglo-Saxon period. Small assemblages, mainly ceramic, represent the medieval period from settlement sites at Blatches (Site 24), Stebbingford Farm (Site 51) and kilns west of the River Roding (Site 40).

Pottery was the most prolific find from the sites, and provides in many cases the primary (or only) dating evidence for individual sites. Coins were restricted to just eight examples, all from Strood Hall. Other categories of material include worked flint, ceramic building material, fired clay, metalwork, worked stone, worked bone and glass and these are reported on below by the individual specialists. Most sites produced fragments of ceramic building material but only two, Strood Hall and Rayne Roundabout, produced assemblages of any note. Many of the other pieces are of post-Roman date and are not reported on in detail. A detailed list of all finds can be found in the site archive. The following reports focus on the more significant artefacts excluding material of post-medieval origin.

Flint

by Kate Cramp

Introduction and quantification

A total of 866 struck flints and 112 pieces of burnt unworked flint (1.024 kg) were recovered from the various evaluations, excavations and watching briefs conducted along the route of the A120 trunk road (Table 4.3). The assemblage represents, in varying proportions, a long period of human activity spanning the Mesolithic, Neolithic and Bronze Age. Most of the material, however, can probably be attributed to the later end of this range.

Assemblages of reasonable size were recovered from pit 2141 (Strood Hall), subsoil layer 21016 (West of Ongar Road) and pit 13002 (West of Stone Hall). These can be dated to the early Neolithic, mid/late Neolithic and late Bronze Age respectively, thus providing a valuable chronological sequence of technological development.

Methodology

All the flints within the assemblage were individually examined and assigned to a category according to debitage, core or tool type. Cores/core fragments were further classified by platform and removal type; complete specimens and tested nodules were individually weighed. The condition and degree of cortication was noted for each artefact, along with evidence of burning, breakage and use. Dating was attempted throughout. The flints were individually numbered and recorded in order to facilitate revisiting the material and appending further data at a later stage. Bulk records were used for burnt unworked flint, which was quantified by piece and by weight. The data was entered directly on to an MS Access database.

The results of this initial assessment informed the selection of certain assemblages for further analysis. The assemblages from pit 2241 (Strood Hall), pit 13002 (West of Stone Hall) and subsoil layer 21016 (West of Ongar Road) were consequently subjected to technological, metrical and refitting analyses. A sample of the flint from pit 2241 was also examined for microscopic traces of use-wear.

The technological analysis involved recording butt type (after Tixier et al. 1980, fig. 47), termination type (Cotterell and Kamminga 1987), hammer mode (eg Onhuma and Bergman 1982) and the extent of dorsal cortex. The classification of flake type used Harding (1990) with slight modification. The presence or absence of platform edge abrasion and dorsal blade scars were also recorded. Metrical analysis was performed on all complete pieces, and required taking the maximum length, breadth and width measurements of a specimen to the closest millimetre (after Saville 1980). Attempts to find refitting or conjoining flints were made throughout the analysis.

Low-power use-wear analysis was performed on a randomly selected sample of flints from pit 2241 in order to confirm the initial observation that much of the flake material from this feature had not been used. This analysis was based on the results of research by Tringham et al. (1974), Cotterell and Kamminga (1979), Odell (1981), Odell and Odell-Vereecken (1981), Mallouf (1982), Akoshima (1987) and Brown (1989). A total of

55 flints (50% of the assemblage excluding chips) was examined for use-wear using a binocular microscope at x 20 magnification. Where a used edge was encountered, the pattern of damage was classified according to material density (soft, medium or hard) and action type (scraping, cutting/whittling or boring).

Raw material

For the most part, the raw material employed for the manufacture of the flintwork appears to have been a derived flint of a good knapping quality. These pieces are characterised by a thick, fresh cortex and a fine-grained, homogenous interior of a mid or dark brown colour. The nodules may have been obtained from the boulder clay or perhaps from superficial deposits of chalk flint.

A slightly smaller but nonetheless substantial proportion of the raw material was provided by gravel flint sources. A thin, abraded and stained cortex, usually yellow-brown in colour, distinguishes these nodules; the interior is often affected by thermal fractures and cherty inclusions that may have had an adverse effect on knapping success.

The presence of several pieces with a particularly thick, clean, chalky cortex implies that some of the nodules were recovered from deeper deposits. Mined flint may have come from Grimes Graves in Norfolk, or perhaps further afield from mines known in Sussex, such as Angmering and Cissbury (Kemble 2001, 49–50). It is probable that closer sources were more regularly exploited, however.

The use of bullhead flint, which occurs at the base of the Reading beds (Dewey and Bromehead, 1915; Shepherd 1972, 114), is represented by two flakes. Significantly, both pieces were recovered from layer 40249 (Valentine Cottage); it is therefore conceivable that they derive from the same knapping sequence.

The assemblages

Site 1: Takeley Church

A total of eleven struck flints and two fragments (2 g) of burnt unworked flint were recovered from the evaluation (Table 4.4). The struck assemblage is in poor condition and consists largely of unretouched flakes. A single blade was also recovered (context 1105), along with one tested nodule (context 1578). Whether or not the flint scatter relates to evidence of Neolithic tree clearance at the site remains speculative. The material is chronologically undiagnostic and, given its condition, is likely to be redeposited.

Site 2: Warish Hall

The excavation produced an assemblage of four struck flints (Table 4.4), including one multi-platform flake core (87 g) of probable chalk flint origin from pit 79 (context 81).

Site 3: Fanns Wood

A single tertiary flake was recovered from the excavation (Table 4.4).

Site 5: Frogs Hall East

The excavation produced one bladelike flake and one unclassifiable core (Table 4.4). The

core (44 g) exhibits several flake and bladelet removals, which have been taken from multiple platforms with the occasional use of platform edge abrasion. The slightly rolled condition of the piece suggests that it has been redeposited.

Site 6: Little Canfield Hall

An assemblage of 26 struck flints and one flint hammerstone (341 g) was recovered from the evaluation and excavation (Table 4.4). Most of the flints are in poor condition, exhibiting damaged edges and rolled surfaces consistent with their ploughsoil derivation. A small number of flints are particularly fresh and, in a small number of cases, may represent recent plough-struck flakes. Several flints are corticated and appear blue-white in colour.

The assemblage is dominated by flakes (17 pieces), most of which have been struck using hard-hammer percussion. Two of the bladelike flakes exhibit an unusually heavy cortication and were probably struck using a soft hammer. One of the flakes from the ploughsoil (context 6001) possesses an area of heavy battering on the dorsal surface and was probably struck from a hammerstone. The ploughsoil also produced one core fragment in rolled condition and one tested nodule. The only retouched tool from the site, an edge-retouched flake, was recovered from the same deposit. The subspherical hammerstone from context 1011 (ditch 1010) has been very heavily used, with battering and pecking covering the entire surface (Fig. 4.1.1). The quality of the flint suggests a chalk flint origin; it is possible that it was made on a reused flake core or underwent some initial flaking to rough-out the form.

Technologically, the majority of the assemblage probably dates to the Neolithic or Bronze Age. It is possible that the soft-hammer bladelike flakes with their heavier cortication are earlier pieces, although dating must remain very speculative given the largely residual status of the assemblage and the absence of diagnostic types.

Site 7: Stone Hall West

An incomplete multi-platform flake core (44 g) was recovered from context 7005 during the evaluation (Table 4.4).

Site 8: Stone Hall East

A single undiagnostic flake was retrieved from context 8001 during the evaluation (Table 4.4).

Site 9: Strood Hall

The evaluation and excavation at Strood Hall produced the largest assemblage from the A120 route, a total of 241 struck flints including 36 chips (Table 4.4). A further nine pieces (53 g) of burnt unworked flint were thinly spread across five contexts. The assemblage includes a sizeable collection of early Neolithic flintwork (143 pieces), which was recovered from pit 2241 and is discussed separately below.

The remaining assemblage (100 pieces) was sparsely distributed across the site, with few contexts producing more than a single flint and none exceeding six pieces. This component is heavily dominated by debitage, with the retouched element restricted to two edge-

retouched flakes from ditch deposits 1560 and 1674.

A well-used hammerstone (414 g) was recovered from pit 1734 (context 1739). Much of the material is chronologically undiagnostic, although a broad later Neolithic or Bronze Age date would be consistent with the flake-based character of the assemblage. One possible exception is the single platform blade core (97 g) from context 1300, which may represent an earlier industry.

Pit 2241

An assemblage of 143 struck flints, including 35 chips, was recovered from two deposits within pit 2241 (Table 4.5). The material is in fresh condition and, is most closely aligned with an early Neolithic flintworking tradition in technological and morphological terms.

The raw material employed for the manufacture of the flintwork appears to have been a derived flint of a good knapping quality, perhaps procured from the boulder clay or from surface deposits of chalk flint. Most of pieces exhibit some degree of cortication, which ranges from a light mottling to a more noticeable surface discoloration.

The assemblage is composed entirely of unretouched types and is dominated by flakes, most of which are small, thin and regular in form. Blades, bladelets and bladelike flakes are well represented by 24 pieces (23% excluding spall). This figure is securely within the range predicted for early Neolithic assemblages (Ford 1987, 79). The results of the metrical analysis reveal a tendency for narrow removals (Fig. 4.2.1). Many of the flakes exhibit dorsal blade scars, indicating that they belong to a reduction sequence that included the production of blades. Platform edge abrasion is present on several pieces (Fig. 4.2.2), reflecting a careful knapping strategy aimed at the controlled detachment of flakes. Where it can be determined from bulb morphology, most flakes have been struck using soft-hammer percussion (Fig. 4.2.3).

The initial assessment of the flintwork suggested a low incidence of use-wear, which was confirmed by a more detailed examination using low-power microscopy. The analysis of a randomly selected 50% sample of the assemblage (excluding chips) revealed a comparatively low number of utilised flakes: of 51 assessable pieces, only 15 (29%) display detectable traces of use (Fig. 4.2.4). Within this utilised group, use-wear incurred by cutting/whittling contact materials of a medium density is most common (Fig. 4.2.5). The highest incidence of use was noted among burnt pieces (Fig. 4.2.6), suggesting that many flints were discarded in a fire following use. There is a high degree of burning within the assemblage as a whole (39 pieces or 27%), a characteristic commonly seen in Neolithic pit assemblages. Many pieces are broken (86 pieces or 60%).

A distinct knapping element is implied by the presence of 35 chips, one rejuvenation flake and five pairs of refitting flakes from contexts 1516 and 1519 (Fig. 4.1.2–6). The majority of the flakes are tertiary removals. Only two preparatory flakes were recorded, suggesting that the decortication of nodules took place elsewhere. A single burnt core (130 g) was

recovered from the pit, which was aimed at the production of flakes using multiple platforms. Some platform edge abrasion is present in places.

It remains uncertain whether the material represents an in situ early Neolithic assemblage, or the redeposition of an early Neolithic assemblage in a late Bronze Age feature. The fresh condition of the assemblage indicates the minimum of post-depositional disturbance and its technological coherence implies that any intrusive contribution made by flintwork of a later date is negligible.

Site 11: Highwood Farm

An assemblage of 19 struck flints was recovered from the excavation (Table 4.4). The material is thinly spread across eleven contexts and is generally in fresh condition. Most pieces are uncorticated or lightly corticated.

The assemblage is largely composed of unretouched flakes (13 pieces) and chips (five pieces). The majority of flakes are thick, broad and squat in form and have been struck using hard-hammer percussion, traits consistent with later prehistoric industries. A single bladelike flake, possibly struck using a soft percussor, was recorded from the natural (context 110502). This piece may derive from an earlier industry, but as an isolated find cannot be confidently dated.

Site 14: Hoblongs Brook

A single bladelike flake in good condition was recovered from the excavation (Table 4.4). The flake exhibits extensive platform edge abrasion and was probably struck using a soft hammer. Some use-wear is present on the left-hand edge.

Site 16: Chelmer River

Two struck flakes and 12 pieces (89 g) of burnt unworked flint were retrieved during the evaluation (Table 4.4).

Site 17: Clobbs Wood

A single broken flake was recovered from the excavation (Table 4.4).

Site 17a: North of Clobbs Wood

The excavation produced a small assemblage of five struck flints (Table 4.4), including four undiagnostic flakes. One single platform flake core (139 g) was recovered from the natural (context 170604).

Site 18/19: Clobbs Cottage/Grange Farm

A total of four struck flints were retrieved during the excavation (Table 4.4). The assemblage includes two flakes and one bladelike flake, none of which is chronologically distinctive. Context 180305 (pit 180306) yielded a slender, soft-hammer blade, which has been obliquely truncated at the distal end (Fig. 4.1.7). This piece is most likely to be of Mesolithic date, and is thus considerably earlier than the middle Bronze Age feature from which it was retrieved. While it could be an accidental inclusion, it is possible that it was curated and deliberately deposited in the pit. Such a practice is suggested by the evidence from the nearby Stansted site, where a number of Mesolithic and Neolithic flints occur together with later flintwork in a middle Bronze Age waterhole.

Site 20: Grange Lane

An assemblage of 16 struck flints and a single piece (28 g) of burnt unworked flint was recovered during the evaluation (Table 4.4). The material was thinly scattered across ten contexts and consists largely of unretouched flakes and chips. One retouched flake with inverse retouch on the left-hand edge was recovered from ditch terminus 1034 (context 1036). No diagnostic types were recorded.

Site 22: Throes Farm

The excavation produced two undiagnostic struck flints, including one retouched flake from context 152 within ditch 153 (Table 4.4).

Site 24: Blatches

An assemblage of eight struck flints was recovered from the excavation (Table 4.4). The material is distributed across eight contexts and consists of seven unretouched flakes and one end-and-side scraper from the topsoil (context 1000). The scraper has been neatly retouched around the entire perimeter of a fine, broad tertiary flake and is subrectangular in shape. The quality of the retouch suggests that the scraper predates the Bronze Age, although on the basis of a single flint this remains rather tentative.

Site 27/28: Greenfields

A total of 63 struck flints and 14 pieces (146 g) of burnt unworked flint was produced by the evaluation and excavation (Table 4.4). The flintwork is thinly scattered across the site, with most contexts producing one or two pieces.

The assemblage shows a marked predominance of flakes (47 pieces), with a much smaller representation of blades, bladelets and bladelike flakes (seven pieces). Most of the flakes are hard-hammer struck and rarely exhibit platform edge abrasion. A number of chips and fragments of irregular waste are also present, along with two tested nodules from contexts 28017 and 28025. No formal core types were recorded.

The retouched component is limited to two retouched flakes. The example from context 1061 (cut 1057) has been made on a large chalk flint flake and is almost of backed-knife form, exhibiting discontinuous bifacial retouch along the left-hand edge.

Most of the flintwork probably relates to the period of late Bronze Age settlement on the site, although some of the more finely struck blades may belong to an earlier industry.

Sites 33/34: Rayne Roundabout

An assemblage of 41 struck flints and six pieces (95 g) of burnt unworked flint was recovered in the course of the evaluation and excavation (Table 4.4). The general condition of the flint is poor, with post-depositional edge-damage and rolling noted on the majority. Most contexts produced a single piece of flint, and no large concentrations of material were noted.

The assemblage is dominated by flakes (24 pieces), most of which have probably been struck using hard-hammer percussion. The frequency of hinge terminations and the absence of platform edge abrasion suggest a relatively crude and expedient method of flake

production. Two blades and two bladelike flakes were also recovered, along with three pieces of irregular waste and eight chips. No formal cores were identified, although one tested nodule of frost-shattered gravel flint was recovered from context 33014. Retouched tools are conspicuously absent, with the exception of a scraper on a non-flake blank from context 33032. This piece consists of a thermal fragment with abrupt retouch along one edge.

The assemblage forms a low-density scatter, which is probably largely if not entirely residual. General technological considerations suggest a later prehistoric date for the majority, although no diagnostic types were recovered to confirm this.

Site 37: Parsonage Lane

A total of 19 struck flints were recovered from ten individual contexts, the majority of which contained less than three flints (Table 4.4). No burnt unworked flint was retrieved. The material is in a mixed condition and, for the most part, probably represents redeposited flintwork of later Neolithic or Bronze Age date. A small number of pieces, including an opposed platform blade core (Fig. 4.1.8), may reflect earlier activity.

The assemblage is mainly composed of debitage and is dominated by flakes. A single retouched piece, consisting of a tertiary flake with an area of retouch on the right-hand edge, was recovered from context 7037 (posthole 7023).

Two cores are present, including one multi-platform flake core (77 g) from context 7096 (ditch 7094). The core has been neatly worked with minimal use of platform edge abrasion. The presence of numerous hinge and step terminated scars suggests that the flakes were detached using a hard hammer; it is possible that the core was abandoned due to the accumulation of these knapping accidents. An opposed platform blade core (47 g) was recovered from ditch terminus 7044 (Fig. 4.1.8). A series of bladelike flake removals have been taken down one face from opposite platforms with platform edge abrasion in places. The core has been rather crudely reduced and is of possible Mesolithic or Neolithic date.

Site 38: East of Parsonage Lane

A total of 26 flints were recovered from the site, some of which are in very fresh condition (Table 4.4). The material formed a thin spread across the area, with none of the thirteen flint-producing contexts containing more than four pieces. No burnt unworked flint was recovered.

The debitage component comprises 20 flakes, two pieces of irregular waste, one chip, one multi-platform flake core and one probable flake core fragment. Most of the flakes are thick, angular and hard-hammer struck. The multi-platform flake core (52 g) from context 8242 (postpipe 8109) exhibits rough platform edge abrasion, indicating that some care was taken during knapping.

A single retouched tool, a denticulated scraper, was recorded from ring gully fill 8244 (Fig. 4.1.9). The implement consists of a thick, irregular, hinge-terminated flake; a length of heavy, ragged edge-

retouch has been applied to the right lateral margin. The tool can be broadly dated to the Bronze Age. On technological and morphological grounds, it is likely that much of the debitage component also dates to this period. A small number of pieces were noted that may derive from an earlier industry, but nothing closely datable was encountered to confirm this.

Site 39: North of Frogs Hall Stables

A total of eight unretouched flakes were recovered from the site, six of which were concentrated within context 12023, fill of pit 12024 (Table 4.4). The assemblage from this deposit consists of a small cluster of debitage in a very fresh, heavily corticated condition. Most of the flakes are thick and irregular in form and, where it could be determined, had probably been detached using a hard hammer. A few utilised edges, but no retouch, was recorded within the group. Two or three of the flakes possess a very similar cortex; although they would not refit it is very likely that they derive from the same core. Although very few were recovered, the flints are consistent with a later Bronze Age industry, and are therefore in accordance with the pottery dates for the feature.

Site 40: West of River Roding

The site produced an assemblage of 16 struck flints (Table 4.4). The material was thinly spread across 11 contexts; the largest quantity was contained within spread 12132, which yielded four pieces. An additional 26 pieces (126 g) of burnt unworked flint was also recovered from kiln fills 12108, 12110 and 12117.

The assemblage is composed entirely of unretouched types. Flakes are the most commonly occurring category, represented by a total of ten pieces. Most are in poor condition. Blades and bladelike flakes are less numerous, represented by three and five pieces respectively.

No formal core types were identified from the site, although one tested nodule (86 g) was recovered from context 12122 (pit 12120). This piece consists of a gravel flint nodule from which a small number of flake removals have been attempted. It is possible that the piece was abandoned when thermal flaws were encountered.

A slight concentration of flintwork was noted in spread 12132, which contained two blades and two bladelike flakes. Two pieces possess platform edge abrasion and bladelike dorsal flake scars; all were probably struck using a soft percussor such as an antler hammer. Although residual finds in a later feature, these flints are in reasonably fresh condition and so are unlikely to have moved far from the point of their original deposition. The remaining assemblage formed a low-density spread across the site, probably representing a thin, residual scatter of mixed date.

Site 41: West of Stone Hall

An assemblage of 70 struck flints was recovered during the watching brief (Table 4.4). These derived from three contexts: 13007, 13008 and 13009. The vast majority of the assemblage (67 pieces) was retrieved from two deposits in pit 13002, which has been dated to the late Bronze Age (Table 4.6).

Pit 13002

The assemblage from pit 13002 is in a fresh condition and as such probably represents an undisturbed deposit in contemporary association with the late Bronze Age pottery from the feature. Most of the flintwork is uncorticated, although a light cortication was noted in association with the small number of probably residual pieces.

Technologically, the material is consistent with a flake-based, later Bronze Age industry (Young and Humphrey 1999, 232–3). Most of the flakes are large and squat in form (Fig. 4.3.1) and are often angular and irregularly shaped. The platforms tend to be large, plain, and with obtuse striking angles. Platform edge abrasion does not appear to have been an important part of the reduction sequence (Fig. 4.3.2). Where it can be determined, the majority of flakes have been struck using direct percussion with a hard hammer (Fig. 4.3.3).

The primary fill (context 13009) contained two complete flake cores, one of the single platform variety (Fig. 4.1.10) and one of multi-platform type. These weigh 76 g and 56 g respectively. The presence of cores and pieces of irregular waste suggests that the pit contains some knapping debitage. A number of related flakes were identified on the basis of visual similarities in flint type. Although no refits were found, this implies that elements of the same reduction sequence were deposited together. Given the absence of chips, the flintwork is more likely to represent a dump of knapping waste than an in situ knapping scatter. Very few of the flints are burnt (two pieces), as might be expected in an assemblage composed largely of knapping by-products.

The retouched component is limited to one piercer, inversely retouched on a robust secondary flake (Fig. 4.1.11). Despite the paucity of retouch, the presence of six flints with macroscopically visible use-wear gives the flintwork a domestic dimension; it is therefore unlikely that the assemblage consists exclusively of unused knapping waste.

Site 42: Stone Hall

An assemblage of 89 struck flints, including 21 chips, was recovered (Table 4.4). A further 38 fragments of burnt unworked flint weighing 442 g were retrieved in varying quantities from 12 contexts, the majority of which produced only small amounts. The general technological appearance of the flintwork suggests that most is probably contemporary with the Bronze Age activity on the site.

The struck component was thinly distributed across 25 contexts. Slight concentrations of material, rarely exceeding ten pieces, were noted in contexts 14087, 14167, 14207, 14208 and 14220. The assemblage is composed mainly of unretouched debitage, including 53 flakes, two bladelike flakes, two blades, one rejuvenation flake and two fragments of irregular waste. A further 21 chips were recovered, mainly through environmental sieving. A total of four cores and one tested nodule were identified, which range in weight from 30 g to 153 g. Most have been aimed at flake production using one or more platforms. A single edge-retouched flake (context 14209) and two scrapers (both context 14220) are also present, and macroscopically visible use-wear was noted on eleven pieces.

Site 43: West of Strood Hall

A total of 46 struck flints were recovered from the site (Table 4.4). The material is unevenly distributed across six contexts, with the largest assemblages deriving from pit 15013 (14 pieces), layer 15002 (nine pieces) and flint scatter 15022 (17 pieces). The material is generally in poor condition, suggesting that some redeposition has occurred.

The assemblage is composed entirely of debitage and cores, and is dominated by flakes (34 pieces). Most of these are thick, squat, angular removals and have probably been struck using hard-hammer percussion. A total of six cores were recovered. The majority have been directed at the production of flakes, involving one or more platforms and the occasional use of platform edge abrasion. Complete specimens range in weight from 31 g to 149 g with an average of 83 g. The broken Levallois flake core (36 g) from flint scatter 15022 can be dated to the mid/late Neolithic. The single platform blade core (68 g) from the same deposit probably derives from an earlier industry, although potentially represents a specialised or atypical later piece. Given the extremely poor condition of the flints from the scatter, however, it is most likely that they form a residual assemblage of mixed date.

In the absence of securely datable pieces, only a broad later Neolithic or Bronze Age date can be ascribed to the majority of the assemblage on the basis of the debitage. A date towards the end of this range would not be surprising, and as such the flintwork may relate to other evidence of later Bronze Age activity at the site.

Site 44: Strood Hall

A small assemblage of seven flints, thinly distributed across five contexts, was recovered from the site (Table 4.4). No burnt unworked flint was retrieved. The flintwork is largely undiagnostic, although the blade from context 16009 (ditch 16008) could be Mesolithic or Neolithic in date.

Other pieces of note include an unusually large tested nodule (617 g) and a neatly retouched end-and-side scraper, both from context 16010 (ditch 16008). The edge of the scraper exhibits heavy rounded use-wear, which probably results from prolonged soft-scraping activity. In places, the use-wear has been truncated by further retouch, indicating that the tool was resharpened in the course of use.

Site 46: Highwood Farm

The site produced an assemblage of three struck flints, all of which were retrieved from gully fill 18007 (Table 4.4). The incomplete multi-platform flake core (64 g), which appears to have shattered from a larger unit down a thermal fracture, exhibits a few hinge-terminated scars and was probably hard-hammer reduced; no platform edge abrasion was noted. None of the flints can be confidently dated and the small size of the assemblage limits further interpretation.

Site 48: West of Ongar Road

An assemblage of 53 struck flints and three pieces of burnt unworked flint (14 g) were recovered (Table 4.4). The majority of the struck flint was retrieved from subsoil layer

21016, which produced a total of 44 pieces discussed below (Table 4.7). The remaining flints (nine pieces) were thinly spread between five contexts and, with the exception of a Mesolithic burin from a modern feature (Fig. 4.1.12), are mostly undiagnostic.

Subsoil layer 21016

Of particular interest from the site is the assemblage recovered from subsoil layer 21016 (Table 4.7). The flintwork from the layer is in a fresh, uncorticated condition and is unlikely to have been significantly disturbed. A date in the mid or late Neolithic can be assigned to the material on technological and typological grounds.

The assemblage is dominated by debitage and marked by a high proportion of blades and bladelike flakes. Blade material is represented by 16 pieces, providing around 40% of the debitage total. This is unusually high for an assemblage of later Neolithic date (Ford 1987, 79) and may reflect a specialised aspect to the assemblage or, less convincingly, the inclusion of residual earlier flintwork. The results of the metrical analysis demonstrate the distinctly laminar character of the industry (Fig. 4.4.1). The flakes and blades show careful preparation and removal, and platform edge abrasion is visible on several pieces (Fig. 4.4.2). The hammer mode seems to have been mixed (Fig. 4.4.3).

Evidence that the assemblage contains a certain amount of knapping waste is provided by the presence of four complete flake cores, which range in weight from 45 g to 63 g with an average of 52 g. Diagnostic types include a very neatly worked Levallois core (53 g), which appears to have been abandoned before the last principal flake removal was made (Fig. 4.1.13). One small tested nodule (33 g) was also recovered from the layer.

The assessment identified numerous flakes of a similar flint type, suggesting that many derive from the reduction of a single core. Attempts to find refits were unsuccessful, however, implying that certain elements of the knapping sequence were removed and deposited elsewhere. The lack of chips argues against this being an in situ knapping scatter, although this may reflect sampling strategies rather than the genuine absence of knapping microdebitage.

The retouched component consists of two retouched flakes (Fig. 4.1.14–15) and one end-and-side scraper (Fig. 4.1.16). While not particularly chronologically distinctive, the tools are neatly retouched and consistent with a mid or late Neolithic industry. The high proportion of utilised pieces within the assemblage implies that some of the assemblage was deposited following various domestic activities. A total of 15 utilised pieces were recorded, a figure that would no doubt increase given a microscopic analysis. A single flint exhibits evidence of burning and further 11 flints are broken.

Site 49: Grange Lane

A small assemblage of three unretouched flakes and a single fragment (8 g) of burnt unworked flint was recovered (Table 4.4). The flints were thinly scattered across the site and are chronologically undiagnostic. All three pieces exhibit an exceptionally heavy

cortication; it is likely that this is the product of particular local soil conditions, as cortication is generally rare among other flint assemblages from the watching brief sites.

Site 50: East of Little Dunmow Road

A total of 48 struck flints were thinly spread across 29 individual contexts (Table 4.4). Most contexts produced a single flint; none exceeded five pieces. Context 48155 (hearth 30076) produced a single piece (29 g) of burnt unworked flint.

The material is in reasonable condition, with several contexts producing small quantities of fresh flintwork. Flakes dominate the assemblage (37 pieces) with very few blades or bladelike pieces represented. Three complete flake cores with an average weight of 87 g were recovered from ditch fill 30190, pit fill 48028 and pit fill 48034. A knapping refit was found between two flakes in ditch fill 30005 (ditch 30010). The presence of cores and refitting material provides limited evidence of knapping activity at the site. The retouched component consists of three edge-retouched flakes, which were recovered from ditch fill 30163, pit fill 30258 and pit fill 30369.

The flintwork is characterised by thick, squat pieces of debitage with wide, broad, unabraded platforms. Very few approach bladelike dimensions. These traits, along with the thin distribution of the flint, are consistent with an industry of later Bronze Age or Iron Age date (Young and Humphrey 1999, 232–3). It is therefore possible that some of the flintwork is contemporary with the Bronze Age and Iron Age activity on the site. A small quantity of earlier material was also isolated, including the core from context 48034, and may represent residual flintwork of Mesolithic or Neolithic date.

Site 51: Stebbingford Farm

A single broken flake was recovered (Table 4.4).

Site 52: Stebbingford Farm Borrow Pit

A total of three flakes were retrieved (Table 4.4). The flakes are undiagnostic and probably residual.

Site 53: Valentine Cottage

A total of 23 struck flints were recovered from three contexts (Table 4.4). The vast majority of flints (20 pieces) were recorded under object reference 40249 (unstratified). In general, the material is in very poor condition and probably represents redeposited flintwork of mixed date.

The assemblage is almost entirely composed of debitage and is dominated by flakes (14 pieces) with a smaller quantity of blades and bladelike flakes (four pieces). Two of the flakes represent the use of bullhead flint. The flintwork from finds reference 40249 includes three complete cores with an average complete weight of 43 g. Two of these have been aimed at the production of flakes; the smallest of the cores (23 g) exhibits a combination of flake and bladelet removals.

Two retouched pieces were recovered. The fill of posthole 40200 (context 40202) produced a retouched tertiary flake with a short length of abrupt retouch to the

distal end. A burnt end-and-side scraper, manufactured on a thick and angular secondary flake with a plunging termination, was recovered from object reference 40249.

No diagnostic types were identified and the condition of the material is such that it is almost certainly entirely residual. The varied technological appearance of the flintwork implies a mixed date, perhaps ranging from the Mesolithic to Bronze Age.

Site 54: West of Panners Roundabout

A single undiagnostic flake was recovered from context 44041, the fill of natural feature 44040 (Table 4.4).

Discussion

The flint assemblage attests to a prolonged period of human activity in the area, perhaps beginning in the Mesolithic and gradually increasing in intensity towards the later Bronze Age. The evidence from the flint thus confirms the general impression that pre-Bronze Age exploitation of the boulder clays was relatively limited compared to the extent of settlement during and after the Bronze Age.

The Mesolithic is represented by two diagnostic finds: an obliquely truncated blade from Clobbs Cottage/Grange Farm (Fig. 4.1.7) and a simple burin on a transverse break (Inizan et al. 1992, 77) from West of Ongar Road (Fig. 4.1.12). These pieces probably represent chance losses during occasional brief visits rather than sustained activity or occupation. As at Stansted, Mesolithic exploitation of the area seems to have been fairly limited.

Apart from the occasional isolated piece that cannot be confidently dated, the Neolithic is represented by a pit assemblage dating to the earlier half of the period from Strood Hall and a flint scatter of mid or late Neolithic date from West of Ongar Road. The flint assemblage from Stansted provides clearer evidence of Neolithic activity of both early and late date, including several pit assemblages and a scatter of diagnostic finds. The evidence from the A120 extends the distribution of Neolithic occupation westwards, but seems to show fairly dispersed activity in the area at this time.

Most of the flintwork from the A120 route seems to be later prehistoric in date and probably reflects activity of a domestic character. Large assemblages are generally rare in the later Bronze Age (Young and Humphrey 1999, 233) and this is certainly the case for the A120, where the flintwork tends to be thinly scattered across numerous contexts. The pit assemblage from West of Stone Hall is among the larger groups of flintwork of this date, and typifies the expedient, flake-oriented, hard-hammer reduction strategy seen incompletely in many of the other A120 assemblages.

The flint assemblage is unevenly distributed along the route of the A120, with some sites producing very small quantities of residual flint and others producing large, datable, in situ assemblages. In general, sites on the eastern half of the route (ie closer to Stansted) were more prolific in the quantity of flint produced. Of particular note are the assemblages from pit 2241

(Strood Hall), subsoil layer 21016 (West of Ongar Road) and pit 13002 (West of Stone Hall). These allow a useful opportunity to examine changes in technology from the early Neolithic through the mid/late Neolithic to the later Bronze Age.

The results of the metrical analysis show a distinct shortening and broadening of flake shape over time (Figs 4.2.1, 4.3.1 and 4.4.1). Platform edge abrasion, used to regularise the platform edge for the controlled and predictable removal of flakes, is seen to decline (Figs 4.2.2, 4.3.2 and 4.4.2), while the regular use of soft-hammer percussion is gradually replaced with the almost exclusive use of direct hard-hammer percussion (Figs 4.2.3, 4.3.3 and 4.4.3). The movement from blade to flake production and the gradual decline in knapping standards and expertise has been well documented elsewhere (eg Pitts and Jacobi 1979; Ford et al. 1984; 1987) and is usefully borne out by the analysis of the three assemblages from the A120 route discussed above.

Prehistoric pottery

by Rachel Every

Introduction

A total of 4239 sherds of pottery weighing 26,551 g was recovered from 27 sites along the route of the A120 improvements, including excavations and watching briefs. The assemblage ranges in date from the early Neolithic through to the middle Iron Age; two sites appear to show continuous activity at a significant level from the middle/late Bronze Age through to the middle Iron Age—Greenfields and Stone Hall (Table 4.8).

The overall condition of the pottery is fair to poor. There are very few reconstructable profiles, despite a number of probable single-vessel deposits being identified, and in general the material is fragmentary, with varying degrees of abrasion. Surface treatments (finger-smearing, wiping, smoothing and burnishing) do survive, but have in some cases been partially or wholly obliterated. The overall mean sherd weight is 6.2 g.

Methods of analysis

The entire prehistoric assemblage from the A120 route has been subjected to detailed analysis. Methods of analysis have followed the standard Wessex Archaeology recording system (Morris 1994), which accords with nationally recommended guidelines for the recording of prehistoric pottery (PCRG 1997). This focuses on detailed recording of fabric and form. On the basis of the dominant inclusion type the assemblage falls into four broad fabric groups: flint-tempered (group FL), sandy (group QU), calcareous (group SH) and

organic-tempered (VE). In addition, details of manufacture, surface treatment, decoration, evidence for use (residues and perforations) and vessel dimensions were recorded.

The main aims of the analysis can be summarised as follows:

- To characterise the range of fabrics types present (based on macroscopic inclusions) and to use this information to examine the evidence for local versus non-local production
- To characterise the range of vessel forms present and to assess any evidence for vessel function
- To set the assemblage within the local and regional context, and assess their significance to the site in terms of typology and chronology through examination of parallels from other published assemblages.

Fabrics

Twenty-seven separate fabric types have been identified, falling into four broad fabric groups based on dominant inclusion type: flint-tempered (Group FL), sandy (Group QU); shell-tempered (Group SH) and organic-tempered (Group VE). Fabric totals are presented in Table 4.9, and full fabric descriptions are given in Appendix 4.1.

Diagnostic sherds are not present for all fabric types, but there are sufficient identifiable vessel forms to enable at least broad dating for each type. The earliest fabric types can be fairly confidently identified as early Neolithic; these are all flint tempered (FL16) and could be from a single bowl. The sherds all derive from a single pit and were associated with in situ flint working. The next group of wares chronologically belong to the middle Bronze Age; these are also all flint-tempered and include both coarse wares and fine wares (FL1, FL4, FL7, FL11 and FL14). The frequency, size and sorting of inclusions within these fabrics is characteristic of the Deverel-Rimbury ceramic tradition of southern England, and such fabrics are widespread within the middle and Lower Thames Valley as well as in Essex.

The remaining nine flint-tempered fabrics, distinguished here on the basis of inclusion sorting (later coarse ware fabrics are generally less well sorted) and vessel wall thickness (later vessels are generally thinner walled), have been dated as late Bronze Age to early Iron Age although it would seem, from the composition of the various site assemblages, that the emphasis falls within the earlier part of this period. Fabrics FL9 and FL13 can be defined as 'fine wares' and fabrics FL3, FL5, FL6 and FL12 as 'coarse wares', while FL10, with well-sorted inclusions and better surface finish, appears to span both classes.

A note of caution should be sounded here, however. The distinction between some of these fabrics, particularly those containing better sorted flint inclusions (eg FL6 and FL10), and those assigned to the middle Bronze Age has not always been easy, and given the scarcity of diagnostic material it is possible that some undiagnostic sherds have been wrongly assigned to a date range. This may, of course, be a reflection of the local middle to late Bronze Age ceramic transition, in which fabrics and forms do not change drastically. It is indeed possible that there was some chronological overlap in the use of Deverel-Rimbury wares and

post-Deverel-Rimbury plainwares, and this is supported, for example, by a late radiocarbon date of 825±35 bc associated with Deverel-Rimbury sherds from a local assemblage at Braintree (Bond 1988, 36). Certainly it is the case with several of the A120 site assemblages (eg Stone Hall and Greenfields) that middle Bronze Age and late Bronze Age/early Iron Age types appear to occur together in the same contexts.

Associated with these flint-tempered fabrics in the post-Deverel-Rimbury repertoire are sandy fabrics, which increase in importance during the early Iron Age, gradually superseding the flint-tempered wares. By the middle Iron Age these sandy fabrics are predominant, augmented by a small proportion of shelly and organic-tempered fabrics.

Vessel forms

Neolithic

The Neolithic sherds are all undiagnostic plain body sherds, but by analogy with other such assemblages are probably bowls.

Middle Bronze Age

The middle Bronze Age assemblage consists largely of undiagnostic body sherds but, on the basis of fabric type, these can be broadly assigned to coarse ware (bucket/barrel urn: Fig. 4.5.1) and fine ware forms (globular urns) within the Deverel-Rimbury ceramic tradition. There is no evidence for decoration on any of the surviving vessels, although it is likely that the coarse ware urns would have carried finger-impressed decoration on rims and/or shoulders, while the fine ware vessels could have been tooled or incised. The correlation of vessel form to fabric type is given in Table 4.10.

Late Bronze Age/early Iron Age (post-Deverel-Rimbury)

Five vessel forms, four coarse ware and one fine ware, were identified within the late Bronze Age/early Iron Age assemblage. These are described below and correlated with Barrett's classification for post-Deverel-Rimbury vessels (Barrett 1980), and with the existing Essex type series for vessel forms (eg Brown 1988a, mf.3–7). The forms are limited to coarse ware jars and bowls, and fine ware bowls. There are no fine ware jars (Barrett's Class II), or cups (Class V). The correlation of vessel form to fabric type is given in Table 4.10.

1. Coarse ware shouldered jar (Barrett's Class I; Essex form D; Fig. 4.5.2–4)

Shouldered jars with straight-sided or convex body profiles, concave necks and everted or expanded rims, sometimes finger impressed.

2. Coarse ware bipartite jar (Class I; Essex form C; Fig. 4.5.5)

Bipartite jars with plain flat or internally bevelled rims.

3. Coarse ware bucket-shaped jar (Class I; Essex form B; Fig. 4.5.6–7)

Small to medium-sized, bucket-shaped vessels with simple upright or slightly inturned rims; some examples have fingertip or fingernail impressions on the rim.

4. Coarse ware convex bowl (Class III; Essex form H; Fig. 4.5.8)

Plain, convex vessels, with everted or expanded rim.

5. Fine ware angular bowl (Class IV; Essex form K; Fig. 4.5.9–10)

Burnished bowls, with angular shoulders and upright or flaring rims; one example decorated.

6. Fine ware short-necked carinated bowl (Class IV; Essex form K; Fig. 4.5.11)

A short-necked carinated bowl. Similar examples from Lofts Farm, Essex (Brown 1988a, fig. 16, 58); also recovered from the Stansted Airport assemblage (Brown 2004, fig. 36, 43).

In addition, a small number of vertical lugs (eg Fig. 4.5.12) indicate the presence of handled vessels. Vessels with lug handles are known from post-Deverel-Rimbury assemblages at Mucking (Barrett and Bond 1988, fig. 20, 6) and at Stansted Airport (Brown 2004, fig. 33, 38).

As for the middle Bronze Age assemblage, decoration is very scarce. Decorative traits are limited to fingertip and fingernail impressions on the rims of coarse ware vessels (types 1 and 3: eg Fig. 4.5.2 and 7), with a few examples of body sherds with vertical scoring, and tooling or incising on a few fine ware vessels (eg Fig. 4.5.9). Surface finish largely defines the class: fine ware forms are often burnished, while coarse ware forms are roughly smoothed or finger smeared. In eastern England the consistent use of scoring seems to have originated in the 5th or 4th centuries BC (Wilkinson 1988, 77), and scored vessels have been recorded from period II contexts at Little Waltham (Drury 1978, fig. 43, 37; fig. 42, 26) and at North Ring, Mucking (Barrett and Bond 1988, 28).

Middle Iron Age

A minimum of seven vessel types were identified, five jar and two bowl forms. Most if not all are likely to represent coarse storage and/or cooking vessels, with examples of burnt residues and sooting on the exterior. Forms have been correlated with the type series used by Drury (1978) to classify the Little Waltham assemblage (LW). The correlation of vessel form to fabric is given in Table 4.10.

7. Convex jar with inturned rim (LW form 15c; Fig. 4.6.14).

Identified in the Little Waltham period II (mid 3rd to late 2nd century BC) assemblage as Form 15c bowls with pointed, inturned rims (Drury 1978, fig. 53, 332).

8. Small shouldered jar with everted, internally bevelled rim (Fig. 4.6.15).

Similar jar forms were recovered from Little Waltham (Drury 1978, fig. 42, 6) dating from the mid 3rd century to 1st century BC. Rims may be decorated with fingernail or fingertip decoration (ibid. 54).

9. Slack-shouldered jar with upright or everted rim (LW form 3 or 4; Fig. 4.6.16–18)

Well-finished form. Similar examples were recorded at Slough House Farm (Brown 1998, fig. 97, 52) and at Little Waltham (Drury 1978, fig. 46f 125).

10. Convex jar with upright or everted rim (LW form 5; Fig. 4.6.19–22)

Well-finished form. Similar examples were recorded at Slough House Farm (Brown 1998, fig. 97, 52) and at Little Waltham (Drury 1978, fig. 46f , 125).

11. Necked jar with everted rim (Fig. 4.6.23)

Similar to form 12 at Little Waltham: an undecorated jar, with a distinct carination towards the centre of the body and a slight external bead on the rim (Drury 1978, fig. 53, 311). This dates from the mid 3rd to late 2nd century BC (period II).

12.Convex bowl (LW form 10A?; Fig. 4.6.24)
Hemispherical bowl with expanded rim. One example only, with scored decoration.

The middle Iron Age assemblage includes some burnished sherds, but the majority are smoothed and with limited decoration comprising fingernail impressions on rims and random scoring on bodies. Scored decoration appears on sherds from East of Parsonage Lane (gully 8212), Grange Lane (ditch 1123: Fig. 4.6.24) and East of Little Dunmow Road (pit 30105). Similar examples came from Little Waltham (Drury 1978, fig. 43, 37; fig. 42, 26) dating to period II. In eastern England, the consistent use of scoring seems to have originated in the 5th or 4th centuries BC (Wilkinson 1988, 77). These decorative traits have similarities with the comparable assemblages from North Ring, Mucking (Barrett and Bond 1988, 28) and Little Waltham (Drury 1978, 58).

Neolithic site assemblages

A group of sixteen sherds came from pit 2241 at Strood Hall (Site 9). The pit also yielded 143 flints in fresh condition. Such material is relatively rare in the region although could easily be missed as Bronze Age. No Neolithic pottery was recovered from the first episode of work at Stansted Airport (Havis and Brooks 2004, 13). Most evidence for Neolithic activity in Essex comes from the coastal areas and river valleys or from better-drained soils.

Middle Bronze Age site assemblages

A significant group of middle Bronze Age Deverel-Rimbury vessels was found at Stone Hall (Sites 7/42), with smaller groups from Greenfields (Sites 27/28), Strood Hall (Sites 9/43) and North of Frogs Hall Stables (Site 39). Eight other sites produced middle Bronze Age pottery in small quantities (see Table 4.11).

At Stone Hall, middle Bronze Age pottery came from a number of features spread across the site, forming several recognisable clusters. However, very few features contained only middle Bronze Age fabrics in significant quantities; in many instances these were mixed with late Bronze Age/early Iron Age fabrics and vessel forms. Of the features which produced 20 sherds or more, only two contained mostly or entirely middle Bronze Age sherds. These are feature 14074, within the central dense cluster of features (33 sherds, mostly middle Bronze Age, both coarse ware and fine ware (Fig. 4.5.1) but also including a few sherds of fabric FL3, including a fingernail-impressed shoulder, probably late Bronze Age); and pit 14122, at the north-west end of the trench (37 sherds, all middle Bronze Age fabric FL4, probably deriving from a single vessel).

Strood Hall yielded a small middle Bronze Age assemblage largely from two features: ditches 1031 (55 sherds) and 1037 (34 sherds). Neither group included diagnostic sherds. At Greenfields middle Bronze Age fabrics occurred alone only in a few contexts; most are

found with late Bronze Age sherds. This may be because the middle/late Bronze Age assemblage here is transitional. Late Bronze Age fabrics FL2 and FL6, where this is discernible, can have very similar vessel forms to the middle Bronze Age coarse wares, ie bucket-shaped vessels with upright or internally bevelled rims (eg from hearth 1019). One feature, which produced only middle Bronze Age sherds, was pit 1072, albeit in very small quantities—six coarse ware sherds (FL4) and seven globular urn sherds (FL7), all plain body fragments.

Discussion

Middle Bronze Age settlements in Essex remain elusive and are still mainly represented by sites with pits (Brown 1996, 26), and this appears to be the case for the A120 sites, although the recent work at Stansted Airport has revealed a middle Bronze Age settlement with roundhouse structures demonstrating that such sites do exist in the locality (Framework Archaeology 2004). Certainly the middle Bronze Age assemblage from the A120 route is a purely domestic one; there are no clear funerary associations (although cremated bone was associated with mixed middle/late Bronze Age context groups at Stone Hall; see below). Domestic use is confirmed by evidence of burnt residues and sooting on sherds from several sites.

The assemblage is largely in an abraded condition with very few diagnostic sherds, and it is therefore difficult to comment on differences between the sites. The major discernible difference is in the presence or absence of fine ware globular urns. These occurred in small numbers at five of the sites along the route: North of Frogs Hall Stables, East of Little Dunmow Road, Stone Hall, Grange Farm and Warish Hall. The small quantities, however, preclude any examination of potential differential deposition of fine- and coarse wares, such as has been observed, for example, within the middle Bronze Age settlement at Stansted Airport (Framework Archaeology 2004).

A large quantity of Deverel-Rimbury pottery has been recovered from sites in Essex, and the assemblage from the A120 route sites finds numerous parallels elsewhere within the county. While pottery of this date in Essex is largely known for the Ardleigh Group, characterised by the highly decorated vessels from the Ardleigh cemetery (Erith and Longworth 1960), recent work has highlighted differences between the Deverel-Rimbury ceramics of north and south Essex (Brown 1995; 1996). The A120 assemblage, with apparent lack of decoration, has closer affinities with the Central and South Essex material than with the Ardleigh Group, although the presence of globular urns would be more characteristic of the Ardleigh Group (these vessels are generally absent from assemblages in the south of the county). A date can be sought from other comparable assemblages of material. The date range for the Central and South Essex Deverel-Rimbury tradition is later than that for the Ardleigh Urns, ranging from 1680-1500 cal BC from Barling, with a later date of 1440–930 cal BC from Rook Hall (Brown 1995, 130–1).

Late Bronze Age/early Iron Age site assemblages

Twenty-two sites yielded late Bronze Age/early Iron Age pottery, four in significant quantity (see Table 4.12): Stone Hall (Sites 7/42), Grange Lane (Sites 20/49), Greenfields (Site 28) and Strood Hall West (Site 43). In three cases (all except Site 43) the late Bronze Age/early Iron Age assemblage marks a continuation of the ceramic sequence from the middle Bronze Age.

At Stone Hall, pottery came from a large number of features spread across the site, forming several recognisable clusters. Most of these contained either only late Bronze Age/early Iron Age fabrics, or a mixture of middle Bronze Age and late Bronze Age/early Iron Age fabrics. Of the features, which produced 20 sherds or more, the following warrant further comment:

14026 (cremation-related deposit, in NW cluster): 46 sherds, including 41 in coarse ware fabric FL3, probably from a single vessel (no rim).
14035 (relatively isolated feature in between the droveway and the dense cluster of features in the centre of the trench): 159 sherds, mostly from a single vessel in coarse ware fabric FL3 (no diagnostic sherds).
14074 (feature within central dense cluster): mixture of middle Bronze Age and late Bronze Age/early Iron Age, including middle Bronze Age fine ware vessel (Fig. 4.5. 1), and late Bronze Age coarse ware jar with fingernail impressed shoulder.
14099 (tree throw at SE end of trench, into which vessel had been placed, plus cremated bone): 141 sherds, mostly in coarse ware fabric FL3 (?all one vessel: type 2 bipartite jar: Fig. 4.5.6).
14116 (pit at NW end of trench, just to W of ditch 14103): 101 sherds in a mixture of middle Bronze Age, late Bronze Age/early Iron Age and middle Iron Age fabrics (see also below: middle Iron Age).
14152 (feature at SE end of trench): 69 sherds, nearly all in coarse ware fabric FL3, and including a lug handle (Fig. 4.5.12).
Feature 14018: 43 sherds, mixture of middle Bronze Age (coarse ware urn, lower part) and late Bronze Age (including type 4 convex bowl: Fig. 4.5.9).

Pottery from the roundhouse and its surrounding enclosure at Grange Lane is almost entirely middle Iron Age, with a little residual late Bronze Age/early Iron Age material. Only four features produced only late Bronze Age/early Iron Age material, and only one of these in any quantity: 268 sherds from pit 28010, one of the outlying features excavated during the watching brief, to the north-east of the roundhouse. This group comprised parts of at least three vessels in coarse ware fabric FL3 (two type 1 shouldered jars, and one with an upright, internally bevelled rim, probably a type 3 bucket-shaped vessel: Fig. 4.5.7). The other two features are pit 1128 (four sherds FL3, with residual middle Bronze Age), gully 1034 (three sherds FL10) and gully 1050 (one sherd FL10).

All of the late Bronze Age/early Iron Age pottery recovered from Strood Hall West (256 sherds) came from pit 15012, distributed throughout the various fills with the exception of the primary fill, which produced no finds. The flint-tempered fabrics were associated with a few sherds in sandy fabrics (QU2 and QU4) which suggests that the date range for this feature group lies later within the post-Deverel-Rimbury

sequence, and this is confirmed by the vessel forms, which include shouldered jars (type 1), one with finger impressed rim (Fig. 4.5.3), and fine ware bowls, one decorated (Fig. 4.5.10–11).

Just over one third of the sherds from Greenfields (256 out of total of 691) came from the 'pingo' (1057). Lower fills, from the primary fill (1060) upwards, and feature 1077, which cut the primary fill, produced flint-tempered fabrics (including a lug handle in FL10 from 1060). Secondary fill 1061 (which sealed feature 1077), and layers above, contained a mixture of late Bronze Age flint-tempered and early/middle Iron Age sandy ware vessels (see below), the upper fills also producing late Iron Age sherds. A reasonable quantity of pottery derived from hearth 1019 (136 sherds); apart from five sandy sherds (QU2), these are all in flint-tempered fabrics, and include four rims from post-Deverel-Rimbury coarse ware jars (types 2 or 3). Pit 1035 yielded 111 sherds, probably all deriving from a single vessel in coarse ware fabric FL6. Pit 1014 produced 89 sherds, including one upright rim (coarse ware jar of type 2 or 3).

Discussion

The fabrics and vessel forms seen here are generally characteristic of the post-Deverel Rimbury ceramic tradition, and the assemblage finds parallels at numerous other sites in the region, including Lofts Farm (Brown 1988a), Slough House Farm (Brown 1998), Springfield Lyons (Brown 1987), Mucking (Barrett and Bond 1988), and Stansted Airport (Brown forthcoming).

The predominance of flint-tempered wares in coarse ware jar forms, together with the low incidence of decoration, suggests that the majority of this pottery falls relatively early within the post-Deverel-Rimbury sequence, perhaps broadly contemporary with the assemblages from Broads Green and Springfield Lyons lower ditch silts (Brown 1988b; 1987), with a date range of perhaps 10th to 8th century BC. This would seem an appropriate date range for the assemblages from Stone Hall, Grange Lane and Greenfields. The group from Strood Hall West, however, would fit more comfortably within the later Darmsden-Linton style. A comparable, although much more extensive group, with a high proportion of tripartite and shouldered jars with decorated rims and/or shoulders, and fine ware bowls, was found at Stansted Airport, with an associated radiocarbon date of 518–384 BC (pit SCS 2187: Brown forthcoming). Other site assemblages are really too small to be more accurately dated within the post-Deverel-Rimbury sequence.

Due to the overall small size of the sample it is not possible to demonstrate any significant spatial patterning or differential deposition on any site. On three of the major sites (Greenfields, Grange Lane and Strood Hall West), the pottery came totally or largely from a single feature. On the fourth site (Stone Hall) pottery came from a series of pits and gullies, some of which were associated with cremation-related deposits. At none of these sites is the total extent of any associated settlement known.

Middle Iron Age site assemblages

Two sites produced significant quantities of middle Iron Age

pottery: East of Parsonage Lane (Site 38) and Grange Lane (Sites 20/49), with smaller groups from Highwood Farm (Sites 11/46), East of Little Dunmow Road (Site 50) and Greenfields (Site 28) (Table 4.13). One feature from Stone Hall (Site 42) also warrants brief comment.

At East of Parsonage Lane nearly all sherds derived from the roundhouse, represented by external ring gully 8106 and internal ring gully 8105, and its internal features. Pottery was concentrated in the south-eastern sector, particularly in the terminals of the ring gullies (132 + 25 sherds in northern terminals 8202 and 8247, 28 + 45 sherds in southern terminals 8212 and 8209). However, there was also quite a sizeable group from the western sector: 80 sherds in section 8292 (inner gully) and 110 sherds from section 8219 (inner gully). The group from section 8292 is likely to consist largely of sherds from a single vessel in QU7 (convex bowl), while the group from 8219 includes 100 sherds of fabric VE2, again likely to represent a single vessel (lower part only). Other groups are more mixed, but terminal 8202 (northern terminal, outer ring gully) includes 92 sherds (out of 132) of fabric VE1 (including an impressed rim, probably from a type 9 slack-shouldered jar: Fig. 4.6.17). Other vessel forms from the ring gullies include further shouldered jars (two examples: Fig. 4.6.16–17), convex jars with simple inturned rims (2 examples) and rounded jars with everted rims (two examples). There are five scored sherds.

Pottery was also recovered from features within the roundhouse: pits 8109 (four sherds), pit 8108 (five sherds) and posthole 8113 (two sherds). Only three sherds could be related to features outside the roundhouse (all from posthole 8102 of four-post structure 8265). There is not, therefore, the opportunity here to examine any differential deposition between roundhouse and other features such as external pits and ditches.

Pottery from Grange Lane derives from an enclosure (1041) and its recuts (1063, 1077, 1078, 1083, 1091), an internal roundhouse (represented by ring gully 1041), a few other internal pits and postholes, and some miscellaneous ditches, gullies and pits outside the enclosure to the north and east. No pottery came from features excavated to the west of the roundhouse during the watching brief.

The bulk of the assemblage came from the enclosure ditch (102 sherds), its recuts (200 sherds) and the internal ring gully (41 sherds). This pottery is all of a similar character and is mainly middle Iron Age (sandy, some shelly) with a little residual post-Deverel-Rimbury (flint-tempered). Diagnostic sherds from the enclosure ditch include type 10 rounded jars with everted rims (five examples: Fig. 4.6.19), type 8 shouldered jars with internally bevelled rims (two examples: Fig. 4.6.15), one type 9 shouldered jar (flint-tempered, probably LBA residual) and one type 11 necked jar (Fig. 4.6.23). From the internal ring gully came a shouldered jar and a shouldered jar with internally bevelled rim, plus four scored sherds, all in sandy fabrics. The highest concentrations of pottery came from the west to north-west section of the enclosure ditch: 25 sherds from terminal 1042 (although the northern terminal 1088 produced only a single sherd)

and 56 sherds from section 1058. The rest of the enclosure ditch was noticeably sparse in pottery. Pottery from the internal ring gully came only from the terminals (1122 and 1025).

Pit 1107, just inside the entrance to the south, contained 75 sherds, including two shouldered and two rounded jars (all sandy wares). Ditch 1123, to the east of the roundhouse, included a type 12 convex bowl with scored decoration in fabric QU7 (Fig. 4.6.24).

The small assemblage from East of Little Dunmow Road derived from a number of features spread across the site, including roundhouse gullies, ditches, pits and postholes. In none of these features did pottery occur in any significant quantity; the largest feature group comprises 28 sherds (pit 30099), and most features, even the roundhouses, produced less than 20 sherds. There is virtually nothing here that is closely diagnostic in terms of vessel forms, aside from one impressed rim, probably from a type 9 shouldered jar. The apparent intensity of occupation suggested by the number of excavated features is certainly not reflected in the size of the pottery assemblage.

At Highwood Farm pottery derived mainly from features in the western part of the site, from the complex of pits, curvilinear gullies and ditches. None of these features yielded large quantities of pottery; gullies 1065 and 1063 were relatively prolific (22 and 19 sherds respectively), with tree throw 1009 also producing 19 sherds. Four pits in the same area (110106, 1017, 1030, 1071) produced a total of 43 sherds, while the remainder of the assemblage occurred in very small quantities in various features. Very little middle Iron Age pottery came from the eastern part of the site (four sherds), although a further eight sherds of late Bronze Age/early Iron Age pottery from features in this area suggests a possible shift in the focus of activity across the site from east to west. The overall middle Iron Age assemblage from the site is quite homogeneous, with two fabric types (VE1 and QU6) overwhelmingly predominant, and only one identifiable vessel form (two type 10 convex jars from tree throw 1009), although one finger-impressed rim from pit 110106 could come from a type 9 shouldered jar. This homogeneity, and the relatively small quantity of pottery recovered from the site (132 sherds) could indicate fairly short-lived activity here.

Just over one third of the sherds from Greenfields (256 out of total of 691 sherds) came from the pingo (1057). Early/middle Iron Age pottery appears in the secondary pingo fills (eg 1061), in rounded jar forms (Fig. 4.6.20–22). Upper fills 1065 and 1066 both contained middle Iron Age sandy sherds (fabric QU7) mixed with late Iron Age grog-tempered fabrics. Feature 1068, cut into the top of the pingo, contained only middle Iron Age fabrics.

The assemblage from Stone Hall is largely of middle to late Bronze Age date (see above), but one feature (pit 14116, at the north-west end of the trench) produced, alongside flint-tempered fabrics (57 sherds), a significant amount of sherds in sandy fabric QU2 (44 sherds), including a type 7 convex jar (Fig. 4.6.14). Nineteen further sherds in sandy and organic-tempered fabrics were recovered, all in small numbers in features dominated by

middle/late Bronze Age flint-tempered fabrics.

Discussion

Sandy fabrics dominate the middle Iron Age assemblage, which is comparable, along with the range of vessel forms, with other assemblages of this period within Essex, the best-known example of which is from Little Waltham (Drury 1978). The assemblages from Stansted Airport and from Howell's Farm in the lower Blackwater valley are also comparable (Brown 1998; 2004). The presence of shell-tempered fabrics, however, albeit in very small quantities, is interesting. Shell-tempered fabrics were absent from Little Waltham, and generally seem to be confined to the south of the county, along the Thames estuary (Sealey 1996, 50).

In contrast to the preceding periods, pottery of middle Iron Age date derives largely from house structures (ring gullies) and their associated features, although there are interesting, and possibly significant differences between sites in terms of pottery deposition. At East of Parsonage Lane the roundhouse produced nearly all the middle Iron Age pottery from the site, a significant quantity (552 sherds), and this included at least two deposits of what appeared to be substantially complete vessels (primary refuse). In contrast, the roundhouse at Grange Lane was relatively unproductive (41 sherds), most of the pottery from that site deriving instead from the surrounding enclosure ditch (292 sherds). No deposits of single, substantially complete vessels were observed, context groups instead containing sherds from several incomplete vessels. Mean sherd weight does not differ significantly between roundhouse and enclosure ditch (6.8 and 7.2 g respectively). Meanwhile, although the site at East of Little Dunmow Road yielded an assemblage of reasonable size (240 sherds), this was spread in small quantities in a number of features across the site, no large groups being encountered at all. The pottery from this site was relatively abraded (mean sherd weight 5.6 g), suggesting that the pottery represents secondary rather than primary refuse.

Catalogue of illustrated sherds (Figs 4.5–6)

1. Middle Bronze Age bucket/barrel urn; fabric FL8. PRN 843/849, Strood Hall West (Site 43), context 15004/15005, pit 15012.
2. Late Bronze Age shouldered jar (type 1) with thickened, finger impressed rim; fabric FL12. PRN 879, Strood Hall (Site 43), context 15002, pit 15012.
3. Late Bronze Age shouldered jar (type 1); fabric FL3. PRN 919, West of Ongar Farm (Site 48), context 21005, pit 21007.
4. Late Bronze Age expanded rim from ?shouldered jar (type 1); fabric FL6. PRN 808, West of Stone Hall (Site 41), context 13009, pit 13002.
5. Late Bronze Age bipartite jar (type 2) with internally bevelled rim, fabric FL3. PRN 733, Stone Hall (Site 42), Obj. No. 14903, context 14167, feature 14099 (cremation-related?).
6. Late Bronze Age bucket-shaped jar (type 3); fabric FL3. PRN 940, Grange Lane (Site 49), context 28011, pit 28010.
7. Late Bronze Age bucket-shaped jar (type 3) with fingernail-impressed rim; fabric FL5. PRN 813, Strood Hall (Site 9), context 1373, posthole1179.

8. Late Bronze Age coarse ware convex bowl (type 4) with thickened rim; fabric FL5. PRN 681, Stone Hall (Site 42), context 14020, feature 14018.
9. Late Bronze Age fine ware carinated bowl (type 5) with incised decoration; fabric FL13. PRN 856, Strood Hall West (Site 43), context 15008, pit 15012.
10. Late Bronze Age fine ware bowl (type 5); fabric FL13. PRN 863, Strood Hall West (Site 43), context 15007, pit 15012.
11. Middle Bronze Age fine ware vessel; fabric FL7. PRN (Pottery Record Number) 693, Stone Hall (Site 42), context 14154, pit 14074.
12. Late Bronze Age lug handle; fabric FL6. PRN 922, Clobbs Cottage (Site 18), context 180305, pit 180306.
13. Early Iron Age carinated bowl (type 6); fabric QU4. PRN 912, West of Ongar Road (Site 48), context 21008, posthole 21010.
14. Early/middle Iron Age convex jar (type 7), fabric QU2. PRN 736, Stone Hall (Site 42), Obj. No. 14911, context 14207, pit 14116.
15. Early Iron Age shouldered jar (type 8) with internally bevelled rim, fabric QU7. PRN 954, Grange Lane (Site 20), context 1043, recut of enclosure ditch 1041.
16. Early/middle Iron Age slack-shouldered jar (type 9); fabric QU6. PRN 1190, East of Parsonage Lane (Site 38), context 8211, roundhouse 8206.
17. Early/middle Iron Age slack-shouldered jar (type 9); fabric QU7. PRN 1177, East of Parsonage Lane (Site 38), context 8207, roundhouse 8206.
18. Early/middle Iron Age slack-shouldered jar (type 9) with finger-impressed rim; fabric VE1. PRN 1187, East of Parsonage Lane (Site 38), context 8203, roundhouse 8206.
19. Middle Iron Age rounded jar with everted rim (type 10), fabric QU7. PRN 953, Grange Lane (Site 20), context 1043, recut of enclosure 1041.
20. Middle Iron Age rounded jar (type 10), horizontal tooling on neck; fabric QU7. PRN 1415, Greenfields (Site 28), context 1061, 'pingo' 1057.
21. Middle Iron Age rounded jar (type 10), horizontal tooling on neck; fabric QU7. PRN 1416, Greenfields (Site 28), context 1061, 'pingo' 1057.
22. Middle Iron Age rounded jar (type 10), horizontal tooling on neck; fabric QU7. PRN 1417, Greenfields (Site 28), context 1061, 'pingo' 1057.
23. Middle Iron Age jar with upright neck and everted rim (type 11), fabric QU7. PRN 971, Grange Lane (Site 20), context 1059, recut of enclosure ditch 1041.
24. Early/middle Iron Age convex bowl (type 12) with impressed rim, scored on body; fabric QU7. PRN 993, Grange Lane (Site 20), context 1124, ditch 1123.
25. Early/middle Iron Age convex bowl (type 12) with impressed rim; fabric VE1. PRN 1225, East of Parsonage Lane (Site 38), context 8248, ring gully 8250.

APPENDIX 4.1: Fabric descriptions

Neolithic

FL16 Moderate, poorly sorted, calcined flint, angular <6 mm. Moderately hard, sandy textured fabric, sparse iron oxides.

Middle Bronze Age

FL1 Frequent, poorly sorted, calcined flint, subangular <5 mm;

frequent mica; sparse liner voids <3 mm long.
FL4 Frequent, calcined flint <7 mm, subangular, poorly sorted; moderate mica and sparse iron oxides.
FL7 Frequent, well sorted, calcined flint <1 mm; sparse mica and iron oxides.
FL10 Frequent, well sorted, subangular, calcined flint <1 mm; mica.
FL11 Frequent, well sorted, calcined flint, subangular <1.5 mm; mica; sparse, subrounded quartz <0.5 mm
FL14 Frequent, subangular, calcined flint <2 mm, well sorted; mica.
FL 99 General prehistoric flint fabric (allocated for sherds that are too small to be allocated to other flint fabrics).

Late Bronze Age

Flint-tempered fabrics
FL2 Moderate, poorly sorted, calcined flint, subangular, <2 mm; frequent mica; moderate quartz <2 mm; moderate iron oxides.
FL5 Moderate, poorly sorted, patinated flint <3 mm; frequent mica; rare iron oxides.
FL8 Frequent calcined flint, subangular, <1 mm; mica; sparse iron oxides; well finished
FL 9 Frequent, subangular, well sorted, calcined flint <1 mm; mica
FL12 Moderate to frequent, subangular calcined flint <4 mm; mica; frequent quartz matrix <0.05 mm, subangular; rare quartz, subrounded <1 mm
FL13 Frequent, calcined flint <1 mm, subangular; frequent quartz matrix <0.5 mm, subrounded. Well finished; fine ware

Quartz-tempered fabric
QU5 Frequent, subrounded, quartz <0.5 mm; moderate, calcined flint, subangular <3 mm; sparse iron oxides <1 mm, subrounded

Organic-tempered fabrics
VE1 Frequent linear voids <5 mm long; moderate, subrounded, quartz <2 mm; sparse, calcined flint <1 mm

Early/middle Iron Age

Quartz- tempered fabrics
QU1 Frequent, subangular quartz <1 mm; frequent mica; moderate iron oxides <2 mm
QU2 Moderate to frequent, subrounded quartz <1 mm; moderate calcined flint, subangular <2 mm; moderate grog <2 mm, subangular; moderate mica and iron oxides, sub rounded <1 mm
QU3 Frequent, subangular grog <0.5 mm; moderate calcined flint, subangular <0.5 mm; sparse organic and mica; moderate quartz, subrounded <0.5 mm
QU4 Frequent, subrounded quartz <0.5 mm; moderate calcined flint <1 mm, subangular; rare unpatinated flint <7 mm, subangular; moderate linear voids <5 mm long
QU6 Moderate, subrounded quartz <1 mm; sparse organic <3 mm long
QU7 Frequent, subrounded, quartz <1 mm; rare, subangular, quartz <2 mm; sparse, subangular grog <2 mm; mica; frequent linear voids <2 mm long

Calcareous-tempered fabrics
SH1 Moderate shell (?fossil) fragments <3 mm, subangular; mica; sparse linear organic fragments <11 mm long; moderate iron oxides and quartz <1 mm, subrounded
SH2 Frequent shell (?fossil) fragments, subangular, <2 mm; frequent quartz, subrounded <0.5

mm; rare iron oxides <1 mm, subrounded
SH3 Frequent, curved shell (?fossil) fragments <2 mm; frequent quartz <0.5 mm, subrounded; sparse grog <5 mm, subangular. Well finished

Organic-tempered fabric
VE2 Frequent organic voids <5 mm long; sparse quartz <3 mm, subrounded in a fine quartz matrix

Late Iron Age and Roman pottery

by Edward Biddulph, Grace Perpetua Jones and Dan Stansbie with a contribution on the samian by Brenda Dickinson

Introduction

A total of almost 30,000 sherds, weighing over 220 kg, was recovered from 14 sites along the route (Table 4.14). Consistent recording methodology was applied to site assemblages. The pottery was sorted into fabric groups based on surface appearance and major inclusion types. Fabrics were identified using the series devised by the Essex County Council Field Archaeology Unit (ECC FAU), ensuring compatibility with other major Essex sites (Table 4.15). Detailed fabric descriptions have not been provided, but where possible reference has been made to the National Roman Fabric Reference Collection handbook (NRFRC; Tomber and Dore 1998), where comprehensive descriptions can be found. Fabric descriptions may also be found in the Chelmsford corpus (Going 1987).

Form typology follows Going's Chelmsford typology (1987, 13–54), supplemented by the Camulodunum (Cam) series (Hawkes and Hull 1947, updated in Bidwell and Croom 1999, 468–87) for the late Iron Age material. Throughout the report, occasional reference has been made to regional and international corpora, such as Young's Oxfordshire series (1977), Dragendorff's (Dr) (and other's) samian typologies (cf Webster 1996), and Dressel's amphorae types (cf Peacock and Williams 1986).

The pottery within each context was sorted into fabric groups, which were weighed in grams. Assemblages were additionally quantified by sherd count, minimum vessel count (MV) and estimated vessel equivalence (rim EVEs), both based on rims. Every individual database entry (usually a fabric group or an individual vessel, or, less typically, an intrinsically interesting sherd) was assigned an earliest and latest date. An earliest and latest date was then assigned to each context on the basis of the range of individual pottery dates. This enabled the recorders to identify well-dated contexts and so-called good groups, which were useful for illustration purposes and addressing questions of chronology and pottery supply. Ideally, a residuality-free, well-dated group had identical pottery date and context dates. In any case, a standard, hierarchical phasing scheme was applied. The late Iron Age and Roman phases were subdivided to allow close dating if necessary (Table 4.16). Sub-phases were based on Chelmsford ceramic phases (Going 1987). The phasing scheme was also applied to the stratigraphic analysis.

Format of report

In the following section detailed pottery reports are presented for the main recovered collections from East of Little Dunmow Road (Site 50), Strood Hall (Sites 9, 43), Rayne Roundabout (Sites 33–4), Parsonage Lane (Site 37), Greenfields (Sites 27/28), Valentine Cottage (Site 53) and West of Panners Roundabout (Site 54). Short summaries are given for the much smaller groups recovered from Warish Hall (Site 2), Frogs Hall East (Site 5), Highwood Farm (Site 11), Clobbs Wood/North of Clobbs Wood (Sites 17/17a), Clobbs Cottage/Grange Farm (Site 18/19) and Blatches (Site 24).

East of Little Dunmow Road (Site 50)
by Edward Biddulph

Introduction

The excavation yielded a total of 2841 pottery sherds, weighing 21 kg (Table 4.17). Most of the assemblage dates to the late Iron Age. A small proportion belongs to the early Roman period, but perhaps extended only a short way beyond c AD 43. The condition of the pottery was poor overall. Sherds were small and abraded, and relatively few vessels were represented by rims, consequently making form identification difficult.

Pottery supply and assemblage composition (Tables 4.18-19)

Since no large, well-dated, deposits of pottery were recovered from any context, a reliable pattern of pottery supply cannot be established. Overall, the assemblage was overwhelmingly late Iron Age in character, but the scarcity of diagnostic vessels or continental imports means that the pottery cannot be dated more precisely within that broad period. In general, pottery has been assigned a late Iron Age date based on the absence of Roman-period wares and presence of typically pre-conquest forms in grog-tempered fabrics. Contexts containing these wares alone, without identifiable vessels, were given a much broader date extending into the Roman period, and have been excluded from examination here. Occasionally, a date within the first half of the 1st century AD, rather

than one commencing in the second half of the 1st century BC, would seem more appropriate for some groups, but in such cases, the dating is obtained from single pieces with no external chronological confirmation. Groups containing Roman-period wares (particularly black-surfaced and sandy grey wares), usually in association with grog-tempered wares, have been given a post-conquest date. It should be noted, however, that the Roman-period pottery tended to be found as body sherds and in very small quantities. Conventional dates have been assigned to such pieces, but a pre-conquest introduction for some remains a possibility.

Phase 9.2/10.1: Late Iron Age (c 50 BC–AD 43)

Grog-tempered wares, probably of largely local origin, dominated the late Iron Age assemblage, accounting for over 75% by EVE. The fine fabric (GROG) was best represented, although was secondary to the coarse storage jar fabric (GROGC) in terms of weight. Most vessels in both fabrics were jars. Many of these had broken just below the rim and could not be assigned specific forms. However, high-shouldered or necked types (for example Cam nos 218, 263–5, 266 and Going types G19, and G20) were present, along with neckless forms, such as G3, Cam 249 and Cam 256. A platter (Cam 24 copying Gallo-Belgic Cam 8) and shallow dish (Going B10), also in GROG fabric, and H7-type butt-beakers provided evidence for diversification away from jars. Red-surfaced fabrics (GROGRS and GROGRF) formed a small, but important group. Available as butt-beakers (Cam 115 and 116), the fabric appeared to imitate imported terra rubra. Grog was, of course, the principal filler for these fabrics, but was often accompanied by smaller amounts of sand, shell or, more rarely, calcined flint.

Sand-tempered pottery was present in small amounts and only as body sherds. Pieces recognised as handmade were assigned to the category of miscellaneous Iron Age coarse wares (MICW). This fabric had affinities with earlier Iron Age fabrics and may represent residual occurrences. Early shell-tempered ware (ESH) took a 6% share of the assemblage by EVE. Shell-tempered Cam 254 bucket-shaped jars recovered from this site were consistent with those produced in the Thameside region of Essex, for example at Mucking and Gun Hill (Drury and Rodwell 1973; Jones and Rodwell 1973), but the fabric itself, retaining its shell, lacked the more typical vesicular appearance and had an unusually 'soapy' feel akin to the late Roman shell-tempered fabric. Soil conditions may have contributed to the preservation of the shell, but in any case, identification of body sherds in the early fabric may have been more cautious without associated late Iron Age wares.

Continental imports account for 18% of the assemblage by EVE. Of the two North Gaulish white wares, which collectively represented 16%, the fine fabric (NGWF) is commonest, both fabrics featuring as Cam113 butt-beakers. One vessel had three notches incised after firing into its rim. Terra nigra and terra rubra arrived during this phase, although only body sherds are present. A single amphora was identified. The pieces are very angular, and appear to belong to the shoulder from a Dressel 1 sp or Dressel 2-4 wine container. Given that fabric (AITAL) most closely

resembles a northern Campanian ware (Tomber and Dore 1998, 89), the latter is more likely. Dressel 2-4 amphorae appear in south-east Britain from the end of the 1st century BC (Fitzpatrick 2003, 14).

Phase 11.1: Mid 1st century AD (c AD 43–70/80)

The assemblage seems little changed in this phase, and were it not for the presence, albeit in minor quantities, of certain Roman-period wares, the assemblage as a whole would fit comfortably within the late Iron Age. There may be chronological implications here, with the Phase 11.1 assemblage dating only a short way beyond the conquest. However, without firm indicators, few groups are dated with confidence. Moreover, Roman-period fabrics such as sandy grey ware and black-surfaced ware may well have originated at the end of the late Iron Age, and one or two sherds of these wares alone are not sufficient to imply a Roman date. This caveat notwithstanding, the pottery described here is surely among the latest at the site, whether immediately before or after the conquest, and this justifies its separation from Phase 9.2/10.1.

Grog-tempered wares continue to dominate the assemblage, although red-surfaced wares are barely present in this phase. Barrel-shaped, neckless Cam 255-6 vessels, and necked Cam 263 are present among the still ubiquitous jar category. Butt-beakers Cam118/H7 and platter form Cam 24 were also recovered. Early shell-tempered ware continues to make a significant contribution to the assemblage, still exclusively in the form of bucket-shaped Cam 254 jars. Locally made sand-tempered wares appeared in this phase. No rims survived in black-surfaced ware (BSW), but sandy grey ware (GRS) was better represented. A single rim, albeit undiagnostic, was recovered. The site continued to receive terra nigra. A single example of a Cam 5 platter and a minimum of two Cam12/13 platters were recorded. A certain claim for post-conquest arrival can be made of a red ware mortarium (REDM) and South Gaulish samian ware (SGSW). Just its spout and flange survived, although sufficient to identify the mortarium as Cam 193. Hawkes and Hull (1947, 254) describe the type as occurring in a 'rough, sandy red' fabric and carrying a Neronian date. A Colchester source for the example here seems likely. The samian comprised a single, small sherd, from which no form can be identified.

Discussion

Chronology

The problems of dating an assemblage characterised by small groups yielding long-lived forms and fabrics have been commented on above. But despite the lack of firm dating, the assemblage nevertheless offers occasional chronological landmarks that tip the balance of probability in favour of certain periods. Thus, given the overwhelming presence of grog-tempered pottery, the assemblage appears to fit best within the late Iron Age. Conversely, the presence of wheel-thrown, sand-tempered wares suggests that site activity—or rather, pottery deposition—continued beyond AD 43, but perhaps only a short way, and in a much reduced capacity.

The recovery of handmade, sand-tempered wares (MICW), either as isolated occurrences or, more

usually, in association with grog-tempered wares, suggests that the settlement was occupied during the 1st century BC. No vessel types were identified, but the fabric appears to form part of a tradition of similar wares across the region that were established in the middle Iron Age and continued well into the 1st century BC, for example at Little Waltham (Drury 1978, 56) and Woodham Walter (Rodwell 1987, 37). Just 10% of pottery-yielding contexts (n = 194) contained MICW alone, suggesting that activity in the first half of the 1st century BC was limited. Indeed, the main phase of activity probably took place during the first half of the 1st century AD, with the emphasis towards the mid 1st century. This is evidenced most clearly by the importance of early shell-tempered ware and North Gaulish white ware in the late Iron Age assemblage. Manufacture of the shell-tempered fabric was well underway by AD 43, and certainly commenced some time before (Cheer 1998, 89). Significantly, only the Cam 254-type jar, which Cheer (ibid. 93) notes was in production in south Essex earlier than the ledge-rim type, was present at this site, providing further hints of a sharp post-conquest decline. However, that occupation continued through the conquest is demonstrated by the Cam193 mortarium, supported by the terra nigra platters, which fits within the Claudio-Neronian period (c AD 43–54). Despite this, the small quantities of locally-produced Roman wares present here, such as sandy grey ware and black-surfaced ware, suggest that the level of occupation fell only one or two decades beyond the conquest. Indeed, the absence of well-dated groups exclusively containing Roman-period wares provides the best indication of a terminal date for settlement of c AD 70/80, if not before.

Assemblage condition and pattern of pottery deposition

The condition of the pottery was poor overall. With a mean sherd weight (MSW) of 7 g, there were few large sherds among the usual small pieces. Although the natural clay subsoil may have caused the pottery to fracture further after final deposition, especially during its recovery, few fresh breaks were observed. Instead, sherds were worn and broken probably at the point of deposition. This is evident from the 'completeness' statistic (EVE/MV), which is based on the presence of rims and as such is unaffected by soil conditions. An overall 'completeness' figure of 0.13 (on a scale of 0 to 1, where 1 equals a complete vessel or assemblage) was calculated, confirming the small sherd size and poor preservation of the assemblage. In other words, each rim sherd represented an average of 13% of the total circumference, although it should be noted that larger proportions of individual rims, up to a complete rim circumference, were occasionally recorded.

Ditches and pits provided the ultimate location for the deposition of most of the pottery, which was distributed reasonably equally between the two feature types. Some 45% of the entire assemblage by weight was recovered from ditches, while 40% came from pits. Structural features (beamslots, postholes and the like) accounted for 8%, while 4% of pottery was found in layers. The remaining pottery was unstratified, or was collected from unidentified features or tree throw holes. The pottery from pits was best

preserved; sherds tended to be larger, as the MSW and completeness figures suggest (Table 4.20). Although itself not especially well-preserved, this pottery was apparently in better condition than that from the other feature categories, which yielded broadly identical pottery in terms of sherd size. If statistically significant, the reason for these differences remains unclear. Intuitively, the pottery deposited into pits was taken from a different source from that placed into the other features. Moreover, the pottery from ditches, layers and structural features had suffered from greater attrition, presumably through weathering and episodes of relocation, compared with that from pits.

Social and economic status

Characterised by roundhouses, field boundaries and enclosures, Site 50 appears to represent a relatively low-status settlement. The pottery assemblage confirms this, although it also provides evidence for wider trade links and adoption of Roman-style kitchen and dining habits. For Roman-period sites, the proportion of amphorae or ratio of dishes and bowls to jars provide good indicators of status (Evans 1997). Their usefulness for late Iron Age sites, however, is less clear, especially given the paucity of published quantified data from sites within the region, since patterns have yet to be established. Differences in status in ceramic terms are very clear between the Dunmow Road site and, say, Camulodunum, but more subtle differences between superficially similar settlements cannot be detected without dated quantitative information. Fortunately, data have been provided for certain sites, such as Great Dunmow.

Although the level of continental fine wares was relatively low throughout the life of the Dunmow Road settlement, certainly compared with the high-status late Iron Age sites of Camulodunum and Heybridge, the very presence of these wares is perhaps significant nevertheless. A small, contemporaneous, assemblage recovered from Grenville Road, Braintree, yielded no such material (Martin 2000, 103). While that assemblage was considerable smaller at 196 sherds, at least 10 sherds of continental pottery should be expected at the site, assuming equal status with the Dunmow Road site, where continental pottery accounted for one in every 18 sherds of the late Iron Age group. Similarly, the range of typically handmade, barrel-shaped jars at Grenville Road had little affinity with the wheel-turned, 'Romanised' traditions of Camulodunum. While the Dunmow Road assemblage was not overwhelmed by transitional, 'Romanised' pottery, it was clearly set within this milieu. The differences between the Grenville Road and Dunmow Road assemblages may not reflect status, but instead be chronological, and Martin (ibid., 104) argues with some persuasiveness for a late 1st century BC date for the Grenville Road assemblage. This in any case bolsters the argument for a predominantly early-mid 1st century AD date range for the Dunmow Road assemblage. The Buildings Farm site, also at Great Dunmow, is perhaps closer to the Dunmow Road site in terms of status and pottery use. The late Iron Age/early Roman deposits there yielded Gallo-Belgic wares, including North Gaulish white ware, terra nigra and terra rubra, and an Italian amphora (Wallace 1997, 79). A total of 2538 sherds was

assigned to the late Iron Age/early Roman phases, of which 46 (2%) was of continental origin. At Dunmow Road, these wares took a 5% share of the assemblage, further hinting at differential status of the settlements in this region. Grog-tempered platters, high-shouldered jars, a mortarium and a shallow dish demonstrate an acceptance by inhabitants of Site 50, however limited, of the ceramic repertoire—and presumably the functions—enjoyed by the inhabitants of sites such as Skeleton Green, Heybridge and Camulodunum. The importation of the possible Dressel 2-4 wine amphora in particular, but also the Gallo-Belgic wares, serves to reinforce the position of those inhabitants within this network.

Catalogue of illustrated pottery

The following ceramic groups illustrate the typological and chronological range of the assemblage. A piece of intrinsic interest is also shown.

Phase 11.1
Context 30391, pit 30110
1. Platter Cam 12/13 (TN).
2. Necked jar Cam 264 (GROG).
3. Necked jar Cam 264 (GROGC).
4. Storage jar Cam 270 (GROGC).

This deposit yielded a small group of 141 sherds (2789 g; 0.99 EVE). Grog-tempered pottery was predominant. Early shell-tempered ware and two sherds of sandy grey ware (GRS) were also recovered. A post-conquest date for the deposition of the group is likely, given the sandy grey ware, although perhaps only a few years at the most after AD 43.

Context 30506, ditch 30496
5. Platter Cam 5 (TN).
6. Bucket-shaped jar Cam 254 (ESH).
7. Butt-beaker H7 (GROG).

Context 48086, ditch 48051
8. Bead and flanged mortarium Cam 193 (REDM).

A small group of pottery totalling 41 sherds (401 g; 0.3 EVE) was recovered from ditch fill 30506. A sherd of North Gaulish white ware and two sherds of a red ware mortarium were collected in addition to terra nigra, early shell-tempered ware and the ubiquitous grog-tempered wares. The mortarium fragments, although non-joining appear to form part of the spout from a Cam 193-type mortarium from ditch 48051 (no. 8). The spout more closely resembles that on Cam 194, which Tyers (1996, 120) describes as originating in the Eifel region of Germany, with exportation to Britain occurring during the mid 1st century AD. The mortarium here is unlikely to have a continental source on fabric grounds, but may instead be a British copy, for which a date range of c AD 43–55 may suit. This is consistent with that of the terra nigra platter, Cam 5.

Context 48034, pit 48036
9. Platter Cam 24 (GROG).
10. Bucket-shaped jar Cam 254 (ESH).
11. Neckless, barrel-shaped jar Cam 255.
12. Jar G (GROG).
13. Butt-beaker Cam118 (GROG).

A total of 96 sherds (1150 g; 1.47 EVE) was recovered from this feature. The pottery has been assigned a post-conquest date on the basis of three sherds of sandy grey ware (GRS).

Strood Hall (Sites 9 and 44)
by Edward Biddulph

Introduction

A total of 21,619 sherds of pottery, weighing some 154.8 kg, was recovered from the three stages of fieldwork at Strood Hall (Tables 4.21–3). The assemblage spanned the early 1st to mid 4th centuries AD. Despite its size, the largest proportion of the assemblage (64% by weight) could not be dated more closely than to within 200 years. This appears to be due to a combination of three factors. First, with an average sherd weight of 7 g, the pottery was frequently too fragmented to allow reliable identification of vessel form, usually a good chronological indicator. Second, the assemblage was dominated by grey wares (over 70% by weight), which were generally poorly dated without vessel form. Third, contexts yielded groups weighing an average of 378 g, which perhaps proved too small to regularly include chronologically diagnostic pieces. Late Iron Age (Phases 9 and 10.1) pottery was poorly represented, accounting for just 2% of the assemblage by weight and appearing in the cremation cemetery or residually in later features only. Some 11% of pottery was assigned to the early Roman period (Phase 11). Middle Roman pottery (Phase 12) accounted for 9%, while 14% of the assemblage was dated to the late Roman period (Phase 13). This indicates a reasonably constant level of pottery use throughout the Roman period, although gaps exist within those broad divisions.

Pottery supply and assemblage composition

Pottery groups assigned to a single phase, and generally representing the largest groups out of the global site assemblage, as well as exhibiting low residuality, were selected to form a robust dataset with which to identify trends in ceramic supply and composition (Table 4.22). The resulting phase groups were generally large—over 10 kg in some cases—but Phase 11.2 and 12.2 datasets, while still presented below, were the smallest of key group assemblages and appeared to be anomalous in the light of local and regional ceramic trends. As such they were deemed to be unrepresentative. This may reflect in part the chronology at Strood Hall (eg reductions in site activity), but in any case suggests that groups of some 2 kg or under are unreliable for statistical purposes, at least at Strood Hall.

Phase 9.2/10.1: Late Iron Age

Although the cemetery provides the best evidence for late Iron Age activity, grog-tempered pottery, generally ubiquitous on late Iron Age sites across Essex, was recovered from other parts of the site. However, the fabric was usually found in association with post-conquest pottery or was residual in later features, and no certain pre-conquest features were uncovered beyond the cemetery itself. Just four contexts (cremation groups 1386, 1759, 1764 and 1855) were dated to Phase 9.2/10.1, chiefly on the basis of vessel form, rather than fabric. Some fabrics other than grog-tempered pottery, notably North Gaulish white ware, early shell-tempered ware and terra rubra (restricted to a single sherd here) may have arrived during the late Iron Age, although only some occurrences of the white ware are certain to carry a pre-conquest date.

Given the longevity of grog-tempered ware, which continued use in some parts of Essex well beyond the conquest, vessel form is a more reliable indicator of late Iron Age activity. A North Gaulish white ware flagon (Cam 161) almost certainly arrived at the end of the 1st century BC or the early 1st century AD. At Colchester, the form was present at the Sheepen site, which was established by c AD 5, although Cam 161 also occurred beyond the conquest (Niblett 1985, 50). It was, however, absent at the colonia (Bidwell 1999, 489). The example from Strood Hall was recovered from cremation burial 1856 and was among a number of types also identified at Camulodunum that did not appear to survive far beyond AD 43. Other forms include Cam 117 and 118 butt-beakers, Cam 21 and 22 platters (which also appeared in burial 1856), and pedestal jar Cam 204. Bucket-shaped jar Cam 254, found typically in early shell-tempered ware, was rare beyond the late Iron Age at Colchester. At Strood Hall, however, it appeared in Phase 11 or later contexts.

Phase 11.1 Mid 1st century AD (c AD 43–70/80)

Nine groups from pits and ditch segments, totalling 6480 g and 4.19 EVEs, were considered to be of appropriate size and stratigraphic reliability to yield useful ceramic supply data. Coarse reduced wares (black-surfaced ware, fine grey ware, sandy grey ware, grog-tempered ware and storage jar fabric) dominated the assemblage, taking a 78% share by weight. Black-surfaced ware (BSW) was commonest of these, accounting for almost half of the total weight of the Phase 11.1 assemblage. At 13%, grog-tempered ware (GROG) retained a significant presence. Fine and sandy grey wares (GRF and GRS) were less important at this time. Hadham wares (HAB and HAR) make only a token appearance during this phase. Neither fabric occurs at Chelmsford before the 3rd century AD (Going 1987, 113), but their mid 1st-century presence at Strood Hall is unsurprising. Wickenden (1988, 65) notes that supply from Hadham initially reached sites along Stane Street before achieving a wider distribution. Other regional suppliers included Thameside manufacturers of south Essex or north Kent, which produced shell-tempered ware. This fabric was as important as grog-tempered ware in terms of weight. Verulamium region white ware (VRW) is present in this phase. Like Hadham ware, it accounted for less than 1% by weight. British-produced fine wares included small amounts of buff ware (BUF) and white-slipped red ware (MWSRF). Pit 1666 contained a glazed ware vessel of probable British manufacture. The form, a miniature pot, is an oddity, and perhaps a one-off. The well-made fabric may have been an attempt to copy contemporaneous continental traditions, and is perhaps less likely to represent an early example of the late 1st/early 2nd-century British glazed-ware industry (cf Greene 1979, 99; Arthur 1978). Indeed, the site was receiving Central Gaulish glazed ware (CGGLZ); a flagon was recovered from ditch 1558. Lyon ware also reached the site in the form of a lamp, which was deposited in cremation burial 1868. North Gaulish white ware arrived during this phase, but at less than 1% by weight, in apparently small quantities.

Jars were the commonest vessel class, taking a 79% share of the Phase 11.1 assemblage by

estimated vessel equivalence (EVE). These largely comprised high-shouldered jars, such as G19 and G20, which were available in locally made reduced wares. Bucket-shaped and ledge-rimmed jars (Cam 254 and G5 respectively) were produced in early shell-tempered ware. Bowls and beakers (H1) were also in use but neither class represented more than 10% by EVE. While the domestic part of the settlement witnessed a narrow range of vessel types, a greater variety was reaching the site for funerary use. In the cemetery, platters accompanied jars, both locally-produced (A1 platters in grey ware) and imported (Dr 15/17 and Dr 18 South Gaulish samian platters). A Dr 35 cup also arrived from the latter source. White ware butt-beakers (Cam 113) reached the site from North Gaul.

Phase 11.2 Late 1st to early 2nd century AD (c AD 70/80–125)

Just two ceramic groups (excluding funerary contexts), totalling 2119 g and 2.35 EVEs, were dated to Phase 11.2. This reflects a decline in pottery use during this time. Ditch 1357 and pit 1475 filled in Phase 11.2, but pottery composition suggests that this process was completed before the end of the 1st century AD, and possibly only a little way beyond the mid 1st century. Consequently, the two groups show limited changes in pottery supply from Phase 11.1. Locally produced reduced coarse wares dominate, taking a 75% share of the assemblage by weight. Of these, grog-tempered ware is absent. Indeed, both groups were assigned a Phase 11.2 date chiefly based on the absence of this ware. Although the chronology of grog-tempered ware in Essex remains a matter of debate, the absence of the fabric at Chelmsford, which developed from c AD 60/5 (Drury 1988, 125), should be regarded as a significant chronological indicator. Examination of pottery from Heybridge supports this, providing a latest terminal date of c AD 70 (Biddulph et al. forthcoming). The Phase 11.2 assemblage also yielded early shell-tempered ware, but in much smaller quantities (1% by weight) and may be residual. Patchgrove ware, a red-surfaced grog-tempered ware, may have accompanied shell-tempered wares. Although recovered as a residual necked jar in a late Roman context, the single vessel was an early Roman west Kent product. The fabric is rare outside Kent, but examples are known in London and Southwark (Pollard 1987, 210). Verulamium region white ware increased its proportion to 13%. Hadham grey ware accounts for 2% by weight. It was available in platter form; examples were recovered from the ditch and cremation burials. This must confirm the date of its initial appearance at Strood Hall, much earlier than at Chelmsford. A Hadham source has been cited for the so-called 'London-Essex' stamped ware (LESTA), although given the homogeneity of the clays, manufacture at sites across the region is possible. All pieces were residual in later contexts, but the fabric probably arrived before AD 125 (Symonds and Wade 1999, 438). Continental imports were restricted to South Gaulish samian ware (8%), now increasing its distribution beyond the cemetery.

Turning to vessel form, it is clear that the small assemblage has introduced statistical errors. Jars, normally ubiquitous in groups of any date, are barely represented here (2% by EVE), while beakers are commonest (at 47%), but with

just two H1 beakers present. Other vessel forms included a reed-rimmed C16 bowl in black-surfaced ware and Verulamium region ring-necked flagon. Samian ware cup Dr 27 and platter Dr 18 continued to arrive from South Gaul.

Phase 12.1 Mid 2nd century AD (c AD 125–70)

Five groups, totalling 10,238 g and 12.72 EVEs and all from ditches, were assigned a Phase 12.1 date. Local reduced coarse wares account for 73% of the assemblage by EVE. Of these black-surfaced and sandy grey wares dominate, with the latter succeeding the former in quantity. The Hadham industry consolidated its share of the market. Collectively, Hadham wares account for 13% by EVE. Hadham black-surfaced and grey wares are now joined by white-slipped red and grey wares (HAWO and HAWG). The settlement was receiving material from a greater range of sources than during previous phases. Colchester, forming 5% of the assemblage, became a significant source, supplying colour-coated ware and buff ware. Black-burnished ware 2 (BB2) was reaching the site from Colchester or North Kent. Accounting for 2% by EVE, the fabric is perhaps over-represented in this assemblage. Its incidence was largely restricted to ditch 16008, never occurring across most of the site, possibly losing out to competition from the burgeoning Hadham industry. Black-burnished ware 1 arrived from Dorset during this phase, but like BB2, never formed a significant proportion of any assemblage. North Kent fine wares (NKG and NKO) formed 3% of the assemblage by EVE, but, again, may be over-represented, since the fabrics were scarce generally. Continental imported fabrics were restricted mainly to samian ware from Central Gaul and South Spanish amphorae. Neither was represented by rims in these ditch groups. A sherd of Lower Rhineland colour-coated ware (LRC) from a context broadly dated to the 2nd century is likely to belong to this phase.

As might be expected, jars form the largest proportion of the Phase 12.1 assemblage, taking a 66% share by EVE. High-shouldered jars were replaced by everted-rim or oval-bodied jars (G23/G24), typically available in local coarse wares. Ledge-rimmed G5 jar and rilled G21 jars (the so-called 'Braughing jar'), were also common. Storage jars almost exclusively comprised G44 types. Beakers accounted for 14% by EVE. These were restricted largely to bag-shaped beakers (H20 and H21) in COLC and NKG fabrics. Folded beakers (H34/H35) may have arrived at the end of the phase. Dishes first appeared in Phase 12.1, accounting for 11% by EVE. Here, the forms were confined to bead-rimmed B2 and B4 types available in Hadham and local reduced wares, and BB2. Reed-rimmed C16 bowls continued in use. No Central Gaulish vessels are represented by rims, but Dr 33 cups, Dr 18/31 dishes and Dr 38 bowls are likely to be among the types arriving in this phase.

Phase 12.2 Late 2nd-early 3rd century AD (c AD 170–210)

Two groups were assigned a Phase 12.2 date. Ditches 1464 and 1482 yielded a combined assemblage weighing 1088 g and totalling 1.71 EVEs. Trends gained from this group are inevitably less reliable than what might emerge from a larger, clearly representative, assemblage. Sixty per cent of the pottery by EVE from ditch 1464 comprised locally produced reduced

coarse ware. Black-surfaced ware was better represented than sandy grey ware, although this may be a bias inherent in a group of this size. Hadham wares, consisting of reduced and white-slipped fabrics, accounted for 22% of the assemblage. Compared with 14% from Gravel Pit 857 (Wickenden 1988, table 1) from Great Dunmow, the source is perhaps over-represented in ditch 1464. Supply of Colchester colour-coated ware continued, accounting for 12% by EVE. Nene Valley colour-coated ware appears for the first time, although no form was identified. Both fabrics were present at Great Dunmow. The initial appearance of buff ware mortaria can be placed in Phase 12.2; again, no rim survived. East Gaulish samian appears alongside the Central Gaul vessels. No amphora fragments were recognised, although this seems unlikely to represent a cessation of supply.

Jars, still the commonest vessel class and comprising G5, G23 and G24 types, contributed 36% by EVE, smaller than in Phase 12.1. The addition of the indeterminate jar/bowl-jar category, assigned to rims broken at the neck, raises the overall figure to a more comparable 62%. Dishes accounted for 16%. Groove-rimmed B3 dishes now accompanied bead-rimmed vessels. Bag-shaped beakers were available in Colchester colour-coated ware. The assemblage yielded a reed-rimmed C16 vessel, demonstrating the persistence of the type. Central Gaul supplied Dr 33 cups. No rims in East Gaulish samian ware survive in this group, but fragments from Dr 31 dishes, Dr 33 cups and Dr 36 bowls were recovered generally across the site.

Phase 12.3 Early-mid 3rd century AD (c AD 210–60)

Six groups were dated to Phase 12.3. The assemblage comprised pottery from ditch 1802 and five layers, four of which deriving from midden 1206. The combined total was 5553 g and 4.62 EVEs. Locally produced reduced coarse wares dominate, accounting for 63% of the assemblage. Sandy grey ware (GRS) and fine grey ware (GRF) form larger proportions than black-surfaced ware, appearing to be more significant in terms of market share. Black-burnished ware 2 (BB2) was observed in this assemblage, amounting to 2%. BB1 is absent, but this is perhaps unsurprising. Notably, the pit 857 group from Great Dunmow, dated to c AD 190–230/40, was also devoid of the fabric (Wickenden 1988, table 1). The proportion of Hadham wares decline to 6%, despite the introduction of the red colour-coated fabric (HAX). Colchester colour-coated ware is absent, although Strood Hall may have continued to receive buff ware from Colchester, since production of the ware flourished at this time (Bidwell 1999, 496). Midden deposit 1292 was dated to this phase of the basis of bead-rimmed dishes, ledge-rimmed E2 bowl-jars and oval G25 jars. It also yielded Oxfordshire white ware mortaria and flint-tempered Rettendon-type ware. The former tend to be the earliest products from Oxfordshire to be introduced into central Essex (cf Going 1987, 6). Rettendon-type ware was made in a number of centres in central and south-east Essex, including Chelmsford and Rettendon itself (ibid. 10). Both fabrics are traditionally dated from the second half of the 3rd century, and their association with ostensibly earlier pottery may place 1292 at the very end of Phase 12.3. In any

case, OXWM accounted for 2% of the assemblage by EVE in this phase, while Rettendon-type ware took a 4% share. Limited supply from the Nene Valley continued. In addition to samian ware, East Gaulish manufacturers were additionally supplying 'Rhenish' ware. Neither fabric is represented by EVE. Amphorae from South Spain in the form of Dressel 20 olive oil containers continued to reach the site. The level of 22% obtained here is due to the survival of a single, complete, rim.

Less prolific than in Phase 12.2, jars account for 52% by eve. Oval-bodied G24 jars remain common; G23 jars are now absent. The G25 jar, which was very similar to the G24 and characterised by an undercut rim and shoulder ledge, was also popular. The ledge-rimmed G5 continued in use, and was accompanied by everted-rim G8 and G9 jars. Going (1987, 23) provides the G8 jar with a 1st century date; in Phase 12.3, the vessel may be regarded as a G9 variant, rather than a resurrection of a relict form. The decline in the proportion of jars was met by an increase in bowl-jars, which accounted for 5% of the assemblage. Two types, both of equal popularity, were recognised: E2 and E6. The proportion of dishes remained somewhat stagnant at 15%. Bead-rimmed dishes (B2/B4) predominated, but use of plain-rimmed B1 and B3 dishes continued. Beakers were represented by a single vessel, an H19 bag-shaped beaker, which may be residual, given its 2nd century date at Chelmsford (ibid. 29). Mortaria were supplied by the Oxfordshire and Hadham industries. The former contributed an angular-flanged D6 (Young 1977, type M22), which was among the most prolific of the later Roman white ware products, dating from c AD 240 onwards (ibid. 76).

Phase 13.1 Late 3rd-early 4th century AD (c AD 260–310)

Ten groups were dated to Phase 13.1, and provided a combined assemblage totalling 25,451 g and 28.78 eves. All derived from layers, five from the upper levels of midden 1206. Locally produced reduced coarse wares formed a significant proportion of the assemblage, taking a 57% share by EVE. Fine grey ware (GRF) and sandy grey ware (GRS), as in Phase 12.3, were better represented than black-surfaced ware (BSW), which appeared to have been in gradual decline. The reason for the overall reduction of this fabric category may be attributed to the increased supply of Hadham wares. The grey and black-surfaced fabrics (HAB/HAR) together account for 27% of the assemblage; the addition of the red colour-coated fabric (HAX) takes the proportion from this source to 32%. Rettendon-type ware contributed 2% to the assemblage. Supply from the Nene Valley was consolidated; the colour-coated fabric (NVC) was now accompanied by white ware mortaria (NVM) to form 2% of the assemblage by EVE. The Oxfordshire industry also increased its supply; the level of white ware mortaria (OXWM) remains at 2%, but the fabric has a higher incidence through the assemblage. Buff ware, here further reduced from Phase 12.3, may have continued to arrive from Colchester. Central and East Gaulish samian wares are present, but must be residual. Production of the East Gaulish samian, the later of the two fabrics, ceased c AD 240 (Webster 1996, 3). However, that East Gaul increased its share of the

assemblage to 1% by EVE suggests that the site was receiving products in greater numbers up to, and possibly beyond, this date. South Spanish Dressel 20 amphorae, now down to perhaps a more reasonable level of 1%, was joined by South Gaulish amphorae.

Jars, mainly available in local coarse wares, represented 52% of the assemblage by EVE, suggesting that the observed decline in Phase 12.3 was genuine. Paradoxically, the range of vessel types increased, as local potters appear to have extended their repertoires. Oval-bodied G24 jars were ubiquitous in local, Hadham and Rettendon-type wares; G5, G9 and G25 jars were all well-represented. Other forms included storage jar G44, frill-rimmed jar G26 and flask G40. The decline in the level of jars was commensurate with a rise in dishes, which accounted for 22% by eve. Bead-rimmed dishes (B2/B4) were no longer dominant, being superseded in importance by plain-rimmed (B1/B3) and flanged varieties (B5/B6). Hadham and local potters were essential suppliers of dishes, but vessels were also arriving from East Gaul (Dr 31). The remaining vessel classes each contributed up to 5% by eves. Nene Valley industry supplied a diverse range of types, including dishes (B6), bead-rimmed bowls (C1), bag-shaped and globular beakers (H24/H42), and reed-flanged mortaria (D14). Other mortaria consisted of angular-flanged types (D5/D6) in Oxfordshire white ware. Bead-rimmed E5 bowl-jars joined E2 types, the former being the more significant of the two. Cups were restricted to samian Dr 33 types from East Gaul. Flagons were available in Hadham wares (HAX/HAWG).

Phase 13.2 Early-mid 4th century AD (c AD 310–360)

Five groups, totalling 13,731 g and 16.16 EVEs, were dated to Phase 13.2, all but one collected from layers, the exception being recovered from a ditch. The supply of local reduced coarse wares remained constant, accounting for 59% of the assemblage measured by EVEs. The level of Hadham wares dropped slightly to 19%. Grey ware (HAR), the most important of fabrics from this source, contributed a vessel with so-called 'Romano-Saxon' decoration, characterised by bosses and dimples and traditionally dated to after c AD 350 (Symonds and Wade 1999, 444). Hadham oxidised ware (HAX) increased in quantity, as did the level of Nene Valley wares, which rose to 5%. This suggests that importation of both fabrics was reaching its floruit in the 4th century. This is consistent with the situation at Chelmsford (Going 1987, 3). Late shell-tempered ware (LSH) accounted for 4% of the assemblage by EVE, and probably arrived towards the end of the phase. Crucially, the fabric often occurred with Rettendon-type ware, which ceased production by AD 360/70 (ibid. 89), thus placing the arrival of shell-tempered ware firmly within Phase 13.2. The fabric was present in pit 421, a contemporaneous group from Buildings Farm, Great Dunmow, but was not represented by EVE (Wallace 1997, 76). White ware mortaria continued to arrive from Oxfordshire. Continental imports are represented by South Spanish and South Gaulish amphorae, although both occurrences may be residual by this time.

Jars remained the single most important class, but at a further

reduced level of 48% measured by EVE. Oval-bodied G24 jars were predominant as expected, but the range of storage jars increased to include G42, G44 and G45 types. Ledge-rimmed and everted-rimmed types (G5 and G9 respectively) were present, but the G27 jar, specific to late shell-tempered ware, rapidly gained a larger proportion of the assemblage. Dishes remained reasonably constant at 21%; the class was largely restricted to plain-rimmed (B1) and bead-and-flanged dishes (B6). Shallow dish B10, typical in Hadham oxidised ware, was new to this phase. Flagons accounted for 7% of the assemblage. Bead-rimmed J4 type was identified. Beakers, representing 6%, were somewhat fragmented and tended to be of indeterminate form. The E5 bowl-jar was now accompanied by the high-shouldered E6-type; the ledge-rimmed E2 type was no longer present.

Phase 13.3 Mid 4th century-early 5th century AD (c AD 360–410)

Just three groups were assigned a Phase 13.3 date. The combined assemblage, totalling 1756 g and 1.61 EVE, derived from ditch 1587, pit 1782 and layer 1819. All three groups were dated on the basis of the presence of late shell-tempered ware and absence of Rettendon-type ware. However, the size of the assemblage (smaller than that of Phase 11.2, which was suggested to be statistically unreliable), indicates that large collections of pottery did not accumulate during this period, suggesting little in the way of new site activity, such as pit or ditch cutting. More significantly, Oxfordshire red-colour coated ware, a firm indicator of pottery supply during the second half of the 4th century (Going 1987, 3), was absent from this assemblage. Indeed, only a single piece, whose identification was itself uncertain, was recovered from Strood Hall generally. The Phase 13.3 assemblage largely comprised locally produced reduced coarse wares, Hadham wares and Nene Valley ware, in addition to late shell-tempered ware. Vessel classes were confined to jars, dishes and beakers. All of the types identified in this assemblage were attested in Phase 13.2. In strict ceramic terms, then, the assemblage need not date much beyond c AD360/70, if at all.

Discussion

Chronology

Examination of pottery supply and composition from key, well-dated, assemblages provides a clear understanding of the sequence of occupation at Strood Hall. Activity in the late Iron Age was confined to the cemetery. No non-funerary features were certain to date to this period. The cemetery was established during the first half of the 1st century AD. Crucially, burial pit 1410 contained a North Gaulish white ware Cam 161-type flagon. The vessel type was dated from c AD 10 at Camulodunum (Hawkes and Hull 1947, 248), but was not attested in the post-conquest fortress or colonia (Bidwell and Croom 1999, 475). Analysis of Gallo-Belgic wares at Heybridge appears to confirm this chronology (Biddulph et al. forthcoming). None of the remaining pottery at Strood Hall assigned to the late Iron Age needs to predate the introduction of Cam 161, although the scarcity of pre-conquest continental imports provides little by way of external confirmation. Occupation in areas subject to excavation commenced during the mid 1st century AD, representing a shift or extension of the focus of domestic activity away

from the as yet undetected late Iron Age centre. Occupation seems to have continued beyond c AD 70/80 (fabrics such as London-Essex stamped ware and Hadham white-slipped oxidised ware are good Phase 11.2 indicators). However, fewer pottery groups can be dated to Phase 11.2, compared with Phase 11.1, suggesting reduced levels of pottery discard and burial, although this need not represent decline or contraction of site activity. The paucity of Phase 11.2 pottery coincides with a 'lag' phase of provincial pottery supply, which apparently lasted from c AD 90 to 140 (Going 1992, 98). At this time, less new pottery was reaching sites within the region, resulting in a reduction in pottery use and deposition, but the level of occupation was not necessarily affected (ibid. 95).

Pottery deposition increased in Phase 12.1, though possibly after c AD 140 (and consonant with a 'log' period of ceramic supply). This is supported by pottery from ditch 2251, which yielded the largest and best-preserved Phase 12.1 group. The assemblage included a minimum of four H20 roughcast beakers from Colchester and deep bead-rimmed dishes (B4) in BB2 fabric. Both types did not arrive at Chelmsford before AD 140; the former, though produced before AD 125 (Bidwell and Croom 1999, 484), was absent from groups predating AD 160 (Going 1987, table 9). Any intensification in pottery use and deposition was short-lived. Levels fell again during the late 2nd or early 3rd century. This is suggested by the small assemblage dated to Phase 12.2, but the absence of key ceramic indicators from the site generally, notably folded beakers and buff ware mortaria, also demonstrate the point. Despite the presence of East Gaulish samian ware, whose principal period of importation into Britain spanned c AD 160 and 240, the apparent hiatus may have continued well into the first half of the 3rd century (again matching a 'lag' period of supply (Going 1992, 99)). The samian fabric, where present in well-dated groups, was associated with most strongly with the Phase 12.3 assemblage, which, deriving largely from midden 1206, did not begin to accumulate much before AD 240.

A resurgence in deposition continued through the second half of the 3rd century and first half of the 4th century (Phase 13.1/13.2). The pattern of pottery supply during this time is largely consistent with that observed at Chelmsford, Great Dunmow and other central Essex sites, as regional potters, chiefly Hadham, Nene Valley and Oxfordshire, responded to a dramatically burgeoning market, achieving their greatest levels of exportation (Going 1992, 100). However, Going records a period of stagnation shortly after the start of the 4th century (ibid.), but no obvious decline could be detected at Strood Hall. A decline in the level of site activity at Strood Hall during the second half of the 4th century (Phase 13.3) is much clearer. This represents a 'lag' phase of ceramic supply (Going 1992, 101), as illustrated most dramatically by the bulk importation of Oxfordshire red colour-coated ware into the region. At Chelmsford, Oxfordshire red colour-coated ware did not arrive in quantity before AD 360/70 (Going 1987, table 9). The near-absence of the fabric at Strood Hall suggests that occupation had largely ceased by this time. Late shell-tempered ware, strongly associated with the colour-coated fabric in late 4th-

century groups in Essex, was nevertheless present. Notably, similar observations were made at Great Dunmow and Braintree. Moreover, coin evidence from those sites (Wallace 1997, 81; Horsley 1993, 33) failed to extend the chronologies of their latest pottery assemblages to the final decades of the 4th, let alone the early 5th century. This comparative evidence suggests that late shell-tempered ware reached sites within the region earlier than Oxfordshire colour-coated ware (cf. Wallace and Turner-Walker 1998, 98–101). The shell-tempered fabric cannot be regarded as a firm indicator of late 4th/early 5th-century occupation without appropriate associated evidence.

Assemblage condition and pattern of pottery deposition

The condition of the pottery was generally poor. The mean sherd weight (MSW: sherd count/weight) of 7 g for the entire assemblage reflects its fragmentary nature. Rims were often broken at the neck and the profiles of few vessels could be reconstructed, making vessel identification difficult (notably, almost half of the rims identified as jars (46%, measured by EVE) could not be assigned specific forms). In contrast, surface preservation was generally good, which allowed a wide range of fabrics to be identified. The reason for this difference may be attributed to the heavy boulder clay from which the pottery was recovered. Sherd extraction during excavation was difficult, and pieces that were reasonably intact when exposed tended to break along existing hairline fractures upon removal.

Consequently, MSW is perhaps an inappropriate measure with which to seek trends in the pattern of pottery deposition, since the statistics to do necessarily reflect the condition of the pottery on deposition. For example, vessels were placed whole and unbroken within cremation burial pits. However, most vessels had suffered from post-depositional damage and were found to be severely broken on excavation. The MSW for funerary pottery was just 3 g, compared with 9 g for linear features and 5 g for pits. Estimated vessel equivalence (EVE) offers a fairer means of assessment: assuming that the entire rim is found in situ, a funerary vessel should be recorded as complete regardless of the number of pieces it has broken into.

Pottery recovered from surface deposits (layers) accounted for almost half of the entire assemblage (48% by EVE), with a significant proportion coming from Phase 12.3/13 midden 1206. Linear features yielded 28% of the assemblage by EVE, while 20% was retrieved from pits. The cemetery accounted for 5%; structural features yielded less than 1% of the assemblage. Pottery was therefore distributed reasonably equally between surface deposits and cut features, although was less likely to be deposited into pits than ditches. The condition of the pottery is remarkably uniform between feature types and through time (Table 4.24). This is apparent using the 'completeness' statistic (EVE/minimum number of vessels), where 1 equals a complete vessel or assemblage (Orton et al. 1993, 178). The condition of the pottery from linear features and layers remains constant over time. As expected, the pottery from funerary features was clearly more complete than other feature types, since burial pits received whole vessels,

while linear features and layers received broken pottery. Intuitively, pottery on surface deposits would be exposed to further degradation after deposition, and so should become more broken than that sealed in cut features. Table 4.24 is consistent with this view. Given the similarity in the figures, generally the pottery in cut features may have been relocated from surface deposits, rather than deposited directly after initial breakage. Additionally, there was no major change in disposal habits through time.

Social and economic status

Pottery has long been regarded as a useful indicator of site type and status. The presence/absence of apparently prestigious imports, notably samian ware and amphorae, continues to provide a material basis for site classification. More recent approaches, however, have focused on arranging sites hierarchically in social and economic positions. This has been achieved using different indicators, but always emphasising the value of the global site assemblage. Samian remains a key component of inter-site comparison, either exclusively (cf. Willis 1998), or as part of a larger grouping of fabrics. Booth (1991), for example, regards the proportion of fine and specialist wares (including continental imports, mortaria and fine wares) within a given assemblage as significant. Higher status sites generally yield larger proportions of these wares. Results can be compared on a regional level, allowing sites to be put into relative order and parameters to be set for different site-types. Evans (2001) retains the principle of inter-site comparison, but instead uses vessel form class as an indicator. Understanding of Strood Hall might be assessed using similar methods.

The value of samian ware remains a matter of debate. Evans (1987) points to the apparently greater frequency of samian repairs and graffiti, compared with the same treatment of coarse wares, while Woolf (1998, 201–2) highlights the ubiquity of the ware on sites of varied status in regions across the northern empire. However, some differentiation of value may have existed between decorated and plain wares (ibid. Willis 1998, 105), and so their proportions should provide an insight into status at Strood Hall. On this basis, decorated samian accounts for 4% of the samian population by EVE (0.05 EVE out of a total of 1.4, excluding grave goods). Given the variable extent of samian recording, ready comparison with principal sites along Stane Street is practically impossible from published data. However, Willis (1998, table 3) provides data collated from sites across the province that can be used for guidance. Rural sites have the lowest proportions of decorated samian of any site type, but all are above 10% by number of vessels represented (a measure that should be considered analogous with EVE), with some noted to be above 20%. Decorated samian accounted for 10% of samian vessels represented at Great Dunmow (Wallace 1997, 69–70), and 20% at Rayne (Cheer 1989, table 2). The amounts of amphorae are less differentiated at a level below military sites, which generally yield the highest proportions (Evans 2001, 33). Measured by sherd count, 0.3% of the assemblage at Strood Hall comprised amphorae, compared with 0.2% at Chelmsford (Going 1987, table 2) and 5% at

Colchester (Symonds and Wade, table 1.5). The villa site at Chignall produced a figure of 0.7% (Wallace and Turner-Walker 1998, table 11).

Perhaps more useful as a status indicator are the relative proportions of dishes and bowls against jars. Evans (2001, 28) suggests that jars were more dominant on basic rural sites where indigenous food preparation and eating habits prevailed, compared with urban or military sites, which embraced Roman practices. The Strood Hall assemblage comprised 49% jars and 16% open forms (platters, dishes and bowls) by EVE, or almost 3:1 expressed as a ratio. No published global data were available for Great Dunmow and Chelmsford, but ratios in favour of jars of approximately 2:1 and 3:1 respectively were obtained for both sites from key group data (Wickenden 1988, fig. 52; Going 1987, table 10). A ratio of 2:1 was obtained at the villa at Little Oakley (Barford 2002, table 6).

The results of these tests paint a mixed picture. Strood Hall, characterised by ditched paddocks, enclosures and roundhouses, was clearly a small, farming settlement. While the near-absence of decorated samian ware suggests a status below that of 'small towns' (eg Chelmsford and Great Dunmow), other pottery indicators offer a more equal position. Its favourable location on Stane Street may have given the residents of Strood Hall access to material that may have been denied to them otherwise. Even so, this implies that the occupants had the ability to gain material through exchange of coin or kind, and therefore had an appropriate level of economic status to connect them to the trade or exchange networks enjoyed by towns and villas. In terms of assemblage composition, Strood Hall is close enough to such sites to suggest that its residents were conversant with the same functional aspects of pottery (eg Roman-style eating and food preparation, and the social practices that may have accompanied them). However, some pottery indicators, particularly the proportions of amphorae and vessel class, may be regarded as ineffectual for comparison. Pottery, the most frequent class of material on all Roman-period sites in Essex, was a basic, utilitarian, commodity. Through imitation of elite ceramic forms and regionalised pottery production, changes in supply and vessel shape were reflected across the region. Sites of varying status were therefore likely to experience similar patterns of assemblage composition.

Pottery from the cemetery

A total of 69 pottery vessels were recovered from 26 graves, all located at the extreme western end of the site. The burials span the 1st century AD to early 2nd century, with the first group of burials deposited before the Roman conquest.

Cremated bone was typically placed in ceramic containers. Eighteen graves produced evidence for ceramic cinerary vessels; four may have had organic containers, such as boxes or bags, while in four the type of container could not be determined. Cinerary vessels (urns) commonly took the form of jars. Most of these had suffered considerable damage through post-depositional disturbance, and had lost their typological traits. Just three jars could be assigned specific types: graves 1285 and 1509 yielded necked and cordoned jars

(G19 and G17 respectively), while a pedestal jar (Cam 204) was retrieved from grave 1759. Cinerary vessels were not exclusively jars, however: beakers were the vessels of choice in three graves. All three vessels were butt-beakers (Cam 117 and H7) in coarse reduced wares. With the diameter of each reaching 100 mm or more, these vessels approach jar-like size and capacity, and may have been regarded no differently from more typical cinerary vessels. Flagons received cremated bone in two graves (a buff ware flagon in grave 1381 and a Verulamium region ware flagon in grave 1755). The upper half of the latter vessel had not survived, although this was probably due to truncation by ploughing or machining, rather than deliberate removal. Interestingly, the base appears to have been removed on purpose, although the significance of this is unclear. Selection of beakers and flagons as cinerary vessels, while not necessarily based on any other grounds than availability, was generally rare within the region and beyond. Occurrences are, however, by no means unknown. Such evidence had been uncovered at the late Iron Age and early Roman cemetery at King Harry Lane, Verulamium (Stead and Rigby 1989; Millett 1993). The choice of vessel in grave 1452 is of additional note, since cremated bone was placed in a beaker and a jar.

Ancillary vessels were deposited in 19 graves, including two from which single vessels were recovered, but no cremated bone was found (graves 1307 and 1314). Each grave contained an average (mean) of two vessels. This figure includes graves containing no vessels; when these are excluded, the average rises to three. Thus, the majority of burials contained two vessels or fewer, although graves 1855 and 1868, yielded six and five vessels respectively. The average obtained at Strood Hall is typical of the region. Three vessels were deposited in each undisturbed burial from the 1970–72 excavations at Great Dunmow (Wickenden 1988, 12–21), while the cemeteries at Kelvedon (Rodwell 1988, table 4) and Heybridge both contained an average of two vessels (Biddulph et al. forthcoming).

The ancillary vessel assemblage was weighted strongly towards drinking vessels (beakers, cups, flasks and flagons), which represented 55% by vessel count (Table 4.25). Of the 18 graves that yielded ancillary vessels, 13 provided for drinking with the deposition of at least one appropriate vessel, and often two or more. Grave 1855 contained four such vessels (two beakers and two flagons). Twenty-seven per cent of ancillary vessels could be classed as eating or table vessels (platters, dishes and bowls), which were recovered from nine graves. Jars, here categorised as storage or preparation vessels, were relatively poorly represented at 12%. Most jars from the cemetery functioned as cinerary containers. The significance of the choice, or even the number, of vessels in terms of status or wealth is uncertain, and there is no obvious correlation between the incidence of other material classes and pottery. For example, copper alloy objects were recovered from a number of graves, usually as single occurrences. Graves 1386 and 1410 contained three each, but the former contained no ancillary vessels, while the former yielded two. Large quantities of iron nails, including hobnails were recovered from two

graves (1509 and 1285) that also contained two and three ancillary vessels respectively.

Comparison between domestic and funerary assemblages is perhaps more instructive (Figure 4.7. Strood Hall: Vessel function: comparison between ancillary vessels from the cemetery (based on vessel count) and the Phase 11.1 (domestic) pottery groups (based on EVEs).). Storage/preparation vessels dominate the domestic assemblage, and form a weaker presence in the funerary assemblage. Conversely, eating and drinking vessels are minor components of the domestic groups. Clearly, the funerary assemblage was not a carbon copy of the domestic groups, and there was no direct transference of pottery from the household to the grave. Indeed, it is possible that most, if not all, of the funerary pottery was acquired through specialist suppliers. Imported, continental pottery, at 28%, forms a stronger component of the funerary assemblage compared with domestic contexts (Figure 4.8. Strood Hall: Pottery supply: comparison between funerary vessels (based on vessel count) and the Phase 11.1 (domestic) pottery groups (based on EVEs).). If such pottery were among the typical possessions of the early Roman inhabitants at Strood Hall, then it should be better represented in domestic groups unless samian and such like were systematically removed from the household on the death of member.

The Lyon ware lamp from grave 1868 illustrates the point. Willis (2003, 130) notes that the form is rare in Britain, with its distribution being largely associated with the movement of the Roman army. He adds that the use of Lyon ware vessels appears to be restricted to religious or ceremonial occasions (Willis 2003, 133). It is certain that this example arrived at Strood Hall, a seemingly indigenous farming settlement, outside the normal pottery supply networks, but exactly how it reached the site is open to speculation. Perhaps the lamp had been acquired through specialist funerary suppliers, or by an individual who subsequently supplied that pottery as a gift to the funeral of an inhabitant of Strood Hall. Given what we know about arrangements for death in Roman society, both explanations seem to be entirely consistent with the archaeological evidence. Indeed, the discovery of 'exotica' in funerary assemblages occurs infrequently, but is not unusual (although the remains are invariably striking, as in the case of a probable burial group from Canvey Island, which included two Central Gaulish glazed vessels and an unparalleled North Kent grey ware bowl (Hedges and Martin 2001, 375–8)). But other reasons for the importation of the lamp should be considered nevertheless. Given the strong military associations, it is possible that the lamp belonged to a person who had served in the Roman army. Black (1994, 107) suggests that such service was regularly undertaken by villa-owners, which might explain the frequent occurrences of military equipment found at villa sites. Though a farmstead, rather than an archetypal villa, Strood Hall could well have been home to a retired army officer. The female who was buried with the lamp may have been the officer's wife or other close relative.

Some differences can be detected between the Strood Hall funerary assemblage and that from Great

Dunmow (Wickenden 1988, 12–21). At the latter site, 11% of pottery was from continental sources (still representing a considerably higher proportion compared with domestic groups), against 21% at Strood Hall (Figure 4.9. Strood Hall: Functional composition of ancillary vessels based on vessel count.). In terms of functional composition, Strood Hall is closest to Kelvedon (Rodwell 1988) and Colchester (May 1930), and unlike Great Dunmow. The proportions of eating vessels remain relatively constant throughout, with most of the variation affecting eating and preparation vessels. The significance of these observations is unclear, since the data as a whole encompass sites of different status and chronology. Great Dunmow may prove to be an exceptional site. Analysis of a further two cemeteries at Great Dunmow, which were uncovered by Essex County Council Field Archaeology Unit and Hertfordshire Archaeological Trust, is expected to provide much illumination on the burial practices of that settlement (Hickling 2003; O'Brien 2003).

Samian potters' stamps from the cemetery
by Brenda Dickinson

Each entry gives: excavation number, potter (i, ii etc, where homonyms are involved), die, form, reading, reference to published illustration (where available), pottery of origin, date. Superscript 'a' indicates a stamp attested at the pottery in question; superscript 'b' indicates assigned to the pottery on the evidence of fabric, distribution, etc. Ligatured letters are underlined.

Cremation 1287
1293 <374> Anniano 1a 27 ΛN[NIΛ]OF retr. (Terrisse 1968, pl. LII) Les Martres-de-Veyre.a c AD 100–25. The vessel had been broken neatly in half, possibly prior to redeposition.

1295 <376> / \IIıIV·ıı on form Dr 18 (Nieto and Piug 2001, 22, 18.1) La Graufesenqueb. Early Flavian. Substantially complete, in pieces. Mutilated or 'killed' vessel: a piece had been removed deliberately from the rim, prior to burial.

Cremation 1475
1476 <323>, <299> Malis 1a 27 MΛ IS retr. Lezouxb. Hadrianic or early Antonine. Substantially complete, in pieces. Fragmented and slightly dispersed, probably after deposition.

Cremation 1509
4.1523 <490> Masc(u)lus i 19a 15/17 MASCVLVS (Polak 2000, pl. 13, M40) La Graufesenque.a c AD 55–70. Substantially complete, in pieces.
523 <489> G. Valerius Albanus 6a 18 GV[AL·ALB] (Bechert and Vanderhoeven 1988, no. 378) La Graufesenquea. c AD 80–95. Substantially complete, in many pieces. Partly burnt.

Cremation 1821

6. 1822 <636> Albus i 3b 18 OFA BI (Polak 2000, pl. 1, A36) La Graufesenque.a c AD 50–65. Substantially complete, in pieces.
Ditch fillings
7. 1461 <648> Toccinus 1a 31 T[OCC]I VSFE (Walke 1965, Taf. 44, 373) Ittenweilera. c AD 140–60. Very slightly burnt.
8. 1608 Aventinus ii 1a 31 [AV]ENTINI·M (Durand-Lefebvre 1963, 36, 113) Lezouxa. c AD 150–75.

Catalogue of illustrated pottery (Figs 4.10, 11 and 12)

The following ceramic groups, presented in ceramic phase order, illustrate the typological and chronological range of the assemblage. Pieces of intrinsic interest are also shown. Illustrations of funerary vessels can also be found in the published volume (Chapter 3).

Phase 11

1. Unidentified form (RED). Possibly a mortar or crucible, the vessel was associated with early shell-tempered ware and a B8 dish, providing an early Roman date. The rim is abraded and hints at a continuation of the profile into a narrower, flask-like neck. The fine, dull red fabric is reminiscent of 'London-Essex' stamped ware, and microscopically identical to Hadham oxidised ware. A Hertfordshire/west Essex source within the Hadham region is likely. Context 1744, ditch 1743.
2. Unidentified form (UGL). The source is uncertain, but the fabric is consistent with a British origin. The glazed vessel, possibly intended for cosmetics, was recovered along with grog-tempered ware, an H1 globular beaker and high-shouldered G20 jar, dating deposition to the mid 1st century. Context 1667, pit 1666.
3. Bowl or jar (HAR). Rim sherd with four notches made after firing. The piece was accompanied by North Kent grey ware and the remains of a sandy grey ware platter, suggesting a late 1st or early 2nd century date for deposition. Context 9027, Trench 9109

Phase 12: nos 4–13, context 1608/1609, ditch 1611

4. Bead-rimmed dish B2 (BSW).
5. Dish Dr 18/31 (SGSW).
6. High-shouldered necked jar G19 (HAR).
7. High-shouldered necked jar G19 (BSW).
8. Rilled ('Braughing') jar G21 (GRS).
9. High-shouldered jar G23 (GRS).
10. Oval-bodied jar G24 (STOR).
11. Carinated jar G29 (BSW).
13. Storage jar G44 (STOR).
14. Bag-shaped beaker H (BSW).

This group retains a strong early Roman component, particularly South Gaulish samian ware and the G19 and G29 jars; but the presence of the B2 dish pushes the date of deposition to the end of the first quarter of the 2nd century AD or beyond.

Nos 14–29, context 16009, ditch 16008

14. Bead-rimmed dish B2 (BB2).
15. Bead-rimmed dish B2/B4 (BSW).
16. Deep bead-rimmed dish B4 (HAB).
17. Deep bead-rimmed dish B4 (BB2).
18. Reed-rimmed bowl C16 (GRS).
19. Necked bowl-jar E6 (HAR).
20. Ledge-rimmed jar G5 (BSW).
21. Ledge-rimmed jar G5 (BSW).
22. High-shouldered jar G23 (GRS).
23. High-shouldered jar G23 (GRS).
24. Carinated jar G30 (HAR).
25. Bucket-shaped jar Cam 254 (ESH).
26. Globular beaker H1 (BSW).
27. Roughcast beaker H20 (COLC).
28. Roughcast beaker H20 (COLC).
29. Bag-shaped beaker H21 (NKG), Monaghan 1987, class 2E.

The presence of roughcast beakers and bead-rimmed dishes suggests that ditch 16008 was receiving pottery from the mid 2nd century. The bag-shaped beaker is notable, being an uncommon part of the North Kent potters' repertoire. The traditionally late Roman E6 bowl-jar (Going 1987, 22) is also unusual here. It may, however, form part of

a necked strainer-bowl; perforated base sherds in an identical fabric were also recovered, although no sherd links could be established. Nevertheless, the pottery from this group indicates that Hadham reduced wares were reaching the site during this time. The early-shell tempered jar is likely to be residual, as is the H1 beaker. Though the pottery fits within a Phase 12.1 date, the ditch from which it derived is likely to have been cut in the preceding phase.

Nos 30–6, context 1483, ditch 1482
30. Deep bead-rimmed dish B4 (HAR).
31. Deep bead-rimmed dish B4 (HAB).
32. Reed-rimmed bowl C16 (BSW).
33. Bowl-jar/jar E/G (HAWG).
34. Ledge-rimmed jar G5 (BSW).
35. Everted-rimmed jar G9 (BSW).
36. High-shouldered/oval jar G23/G24 (BSW).

This group carries an uncertain date within Phase 12. The significant showing of Hadham wares and presence of the G9 jar suggest deposition in the later 2nd century. The C16 reeded bowl, persistent, though not necessary residual, in this phase places the date perhaps only a little way beyond c AD 170.

37. Handle of patera or bowl (BUF), graffito on upper surface. The piece was recovered along with Hadham oxidised ware, bead-rimmed dishes (B2/B4) in reduced coarse wares, and a ledge-rimmed bowl-jar (E2). A late 2nd or early to mid 3rd-century date seems appropriate (Phase 12.2/12.3). Layer 1817.

Phase 13: nos 38–45, layer 1446, midden 1206
38. Plain-rimmed dish B1 (GRS).
39–40. Incipient flanged dishes B5 (HAR).
41. Flanged dish B6 (NVC).
42. Bowl-jar/jar E/G (BSW).
43. Everted-rim jar G9 (GRS).
44. Dressel 20 amphora P1 (ABAET), graffito on rim.
45. Unidentified form (HAX), possible triple-vase bowl.

The presence of B5 dishes, which date to the second half of the 3rd or early 4th century at Chelmsford (Going 1987, 15), supported by the Nene Valley dish (cf. Perrin 1999, 104), suggest a Phase 13.1 date for deposition.

46. Dish base (HAB) with small post-fired 'X'-graffito on the internal surface. The sherd was associated with a B5 coarse ware dish, Hadham oxidised ware, and Nene Valley and Oxfordshire white ware mortaria. A Phase 13.1 date is likely. Layer 1600.
47. Cheese-press (HAX). The type (Cam 199) is unusual in this fabric. At Colchester, cheese-presses were found most frequently in 2nd century levels, although production continued to the early 3rd century (Bidwell and Croom 1999, 476). The deposition of this example, associated with Rettendon-type ware, B6 flanged dishes and Oxfordshire white ware mortaria, must date from the late 3rd century, being no later than the mid 4th century. Layer 1337.

Nos 48–71, midden 1329
48. Plain-rimmed dish B1 (NVC).
49–50. Plain-rimmed dishes B1 (GRS).
51–2. Plain-rimmed dishes B1 (HAB).
53. Plain-rimmed dish B1 (BSW).
54. Flanged dish B6 (BSW).
55. Flanged dish B6 (GRS).
56. Flanged dish B6 (HAR).
57. Shallow dish B10 (HAX).
58. Bead-rimmed bowl C1 (NVC).

59. Bead-rimmed bowl-jar E5 (GRF).
60. Bell-shaped cup f27g (SGSW), two post-fired notches on footring. Residual (Phase 11), although the surfaces are pristine.
61. Everted-rim jar G9 (HAR).
62. Oval-bodied jar G24 (RET).
63–5. Oval-bodied jars G24 (GRS).
66. Oval-bodied jar G24 (RED).
67. Oval-bodied jar G24/G25 (GRS).
68. Oval-bodied jar G27 (LSH).
69. Jar/beaker G/H (BSW).
70. Beaker H (GRS).
71. Sherd with complex 'X'-graffito, scored before firing (BSW).

This substantial group was among the latest at Strood Hall. The predominance of dishes, and presence of late shell-tempered and Rettendon-type wares are good indicators of a mid 4th-century date (Phase 13.2). The G24 jar in RED fabric is notable. It is too coarse to fall into the Hadham oxidised ware, but its surface colour is very reminiscent of it. Occurrences were noted in other later Roman contexts. This offers the possibility that the Hadham-region potters supplied a coarser oxidised fabric, as well as the more familiar fine ware

Rayne Roundabout (Site 33)
by Grace Perpetua Jones and Edward Biddulph

Introduction

A total of 3623 sherds of pottery, weighing 35.9 kg, was recovered from the evaluation and excavation at Rayne Roundabout. The assemblage spanned the late Iron Age to late Roman periods (c 50 BC–AD 400), with a clear focus on the late Roman period. The route-wide recording methodology was followed, with the pottery divided by fabric type and quantified by number and weight (Table 4.26). Forms were identified using the type series devised for Chelmsford sites (Going 1987) and other appropriate regional/national series, and recorded by minimum number of vessels, estimated vessel equivalent (EVE) and rim diameter. Details of surface treatment, decoration and evidence of use were also noted.

Much of the assemblage could not be closely dated, due in part to the dominance of ubiquitous unsourced sandy grey ware fabrics; analysis has therefore focussed on broad period groups (see below). The condition of the assemblage was variable, with a mean sherd weight of 9.9 g. The late Iron Age and early Roman pottery was the best preserved (ceramic phases 10 and 11) with mean sherd weights of 11.8 g and 10.5 g respectively. On the whole surface preservation was good, although the samian slips were quite patchy. Fine wares, most notably the fine grey ware and Hadham oxidised ware, were often powdery. Many of the vessels had broken at the neck or shoulder and were therefore relatively undiagnostic.

Pottery supply and assemblage composition

As noted above, many context groups were poorly dated and could not be placed within one of the single ceramic sub-phases created for the recording of pottery from the A120 sites. Analysis of pottery supply to the site has therefore been conducted using the broader period groups, namely late Iron Age to early Roman (CP9.2/10.1, 50 BC–AD 43); early Roman (CP 11, AD 43–120/5); mid Roman (CP 12, AD 120/5–260/70) and late Roman (CP 13, AD 260–400+). Within each

phase, key groups have been chosen to characterise the period (Table 4.28). These include all single-phase contexts that produced 25 sherds or more. Contexts with less than this number have been excluded from the analysis, as they are more likely to be statistically unreliable.

Ceramic phase 9.2/10.1: Late Iron Age to early Roman

Five contexts (134, 162, 267, 335, 1032) produced key groups appropriate for the characterisation of pottery supply in the late Iron Age to early Roman period. These groups amounted to 353 sherds, 4408 g and 1.65 EVEs. Grog-tempered wares are ubiquitous on late Iron Age sites in Essex and at Rayne Roundabout account for 89% of the total weight of pottery from this phase (Table 4.27). No clear pre-conquest groups were identified, with Romanised wares present in small quantities, including black-surfaced ware, represented by 6.6 % of the weight. Continental fine wares were arriving during this period, with North Gaulish fine white wares (NGWF and NGWFS) present in very small quantities (less than 1% of the weight). The Cam 114 whiteware fabric represents 1.6% of the assemblage.

Jars are the dominant vessel class during this phase, represented by 0.62 EVE (Table 4.28). They occur as forms Cam 220 and G20 in grog-tempered fabrics, and forms Cam 260 and Cam 270 in a coarse grog-tempered ware. Beakers are the next most commonly occurring forms (0.42 EVE). A Cam 113 beaker was present in a North Gaulish fine sand white ware, and a H2 grog-tempered beaker was also identified. Other forms include grog-tempered bowl forms C1 and Cam 219, and a Cam 32 platter. Interestingly, no pottery from this phase was recovered from the excavations carried out during a previous excavation at the site (Smoothy 1989). The earliest pottery from the 1987 excavations dates to the late first century AD.

Ceramic phase 11: Early Roman

Four groups (contexts 126, 128, 1045, 33001) were dated to the early Roman period (specifically AD 43–70/80), totalling 399 sherds, 4527 g, 2.69 EVEs, and represent a steady continuation in settlement activity. The assemblage was again dominated by local, coarse, reduced wares, mostly grog-tempered fabrics (GROG and GROGC, 42%) which maintained a significant presence during this phase. Biddulph (see above) has suggested a terminal date of c AD 70 for grog-tempered pottery based on assemblages from Chelmsford and Heybridge. Black-surfaced ware (BSW) is more commonly seen in this phase, taking 30% of the market share by weight. The storage jar fabric (STOR) accounts for 16% (although only 16 sherds) and unsourced sandy grey wares have increased to 7%. Small quantities of buff ware and Hadham oxidised ware start to appear, and imports of North Gaulish fine white ware and fine sandy white ware (NGWF and NGWFS) continue to be seen, increasing to 1.5%. Amphorae were also brought in from Gaul. British fine wares are limited to early Colchester colour-coated ware (COLCE), accounting for less than 1% of the total weight.

Jars are again the most common class of vessel (1.6 by EVE). One jar form (Cam 220) was present in a grog-tempered ware, and a Cam 32 platter was also recorded. Jars identified in the Going (1987) series

include the G19, in both grog-tempered ware and black-surfaced ware, and also the G3 in the black surfaced-ware. One form of storage jar was present, G44, in a coarse grog-tempered ware and a storage jar fabric. One bowl form was identified, C33, also in a storage jar fabric. Beakers are represented by 0.36 EVE and include both the Cam 113 and the H7 butt-beaker varieties; the former was present in a North Gaulish fine white ware, the latter in the black-surfaced ware.

Ceramic phase 12: Mid Roman

Six contexts (156, 205, 224, 234, 286, 33022) provided reliable evidence of pottery supply in the mid Roman period. These key groups totalled 464 sherds, 3046 g and 3.6 EVEs. Although there is a slight reduction in the weight of the assemblage for this period there is a greater range of fabrics present, which indicates that the site was receiving pottery from a greater range of sources. Reduced local coarse wares continue to dominate the assemblages but there is a shift in the wares represented with only small quantities (3% by weight) of residual coarse grog tempered wares. Sandy grey wares (GRS) now take 50% of the share, and this is reflected in the decrease of black-surfaced ware (BSW), which accounts for only 11%. The storage jar fabric (STOR) has increased in distribution and represents 24% of the assemblage. Other reduced wares include a fine grey ware (GRF) and the North Kent grey ware (NKG), both present in very small amounts. Products of the Hadham industry are poorly represented, the Hadham grey ware (HAR) accounts for 3% of the weight, and one sherd of Hadham white-slipped oxidised ware was also identified. Very small quantities of traded British fine wares were being supplied to the site during this period, they include colour-coated wares from Colchester (COLC) and the Nene Valley (NVC). A single sherd of imported mica-dusted ware (IMIC) is present. Other Continental imports include samian from central and eastern Gaul and amphorae from Baetica, southern Spain (ABAET). A single sherd of early shell-tempered ware is residual in this assemblage, and the more generic buff (BUF) and oxidised fabrics (RED) form very minor components.

Unsurprisingly, jars again dominate the assemblage (2.74 EVE). The oval-bodied jar form G24 was the most commonly occurring identifiable form, usually present in a grey sandy ware (GRS); black-surfaced ware (BSW) and Hadham reduced (HAR) examples were also recorded, however. The other jar forms identified include the neckless, high-shouldered G3, ledge-rimmed G5 and narrow-necked G40, all in sandy grey ware fabrics. Beakers were the next most commonly occurring vessel class (0.31 EVE). Identified forms are the folded beaker H35, seen here in a black surfaced ware, and globular beaker H6 in the North Kent grey ware fabric (NKG). Samian vessels included a bowl (Dr 37) from East Gaul, and a cup (Dr 27) and dishes (Dr 18/31 and 36) from Central Gaul.

Ceramic phase 13: Late Roman

An increase in settlement activity is apparent for the late Roman period and is reflected in the presence of 16 key groups, totalling 1480 sherds, 14729 g and 15.84 EVEs. The groups derive from contexts 149, 150, 161, 182, 186, 197, 198, 218, 230, 245, 275, 311, 1006, 1014, 33036 and 33043. Again the assemblage is dominated by coarse

grey wares, predominantly the unsourced coarse sandy grey wares, fine grey ware, black-surfaced ware and storage jar fabrics. Regional fabrics include black burnished ware 2, Hadham grey ware and Hadham black-surfaced ware, all present in small quantities. Late Roman Rettendon-type wares and late shell-tempered wares were also seen. Residual early shell-tempered ware and grog-tempered fabrics (including oxidised wares) totalled 3% of the assemblage. The reduced wares were again dominated by jar forms, with 21 examples of the G24 (2.93 EVE) and six of the neckless, everted-rimmed jar, G9 (0.49 EVE), including one from the Hadham industry. Other identifiable jar forms in grey ware fabrics include two storage jar vessels (G44, 0.1 EVE) and single examples of narrow-necked forms G35, G37 and G40, a necked oval-bodied G27, frilled-rim jar form G26 and one G5 vessel. Dish forms became much more widely used (19 EVE), and included at least ten examples of the drop-flanged B6; six of the rimless 'dog-dish' form B1; four with a flaring rim and beaded rim (B2); three with a flanged rim (B4) and one example with an incipient flanged-rim (B5). Round-bodied bowl/jar forms are again restricted to grey wares, and included two examples with beaded rims (E5), one with a ledged/cupped rim (E2) and one necked, high-shouldered form (E6).

Small quantities of imported fine wares were residual in this phase, these being samian vessels from Central, Southern and Eastern Gaul (<1%), and two sherds of terra nigra. The samian forms included cup Dr 27 and 33, and bowl Dr 31 (Webster 1996). Traded British fine wares were again poorly represented, with colour-coats from the Colchester, Oxford and Nene Valley centres, and the Hadham oxidised ware present in low numbers (1.4% in total). The British fine ware forms were mostly from beakers, the only clearly identifiable form being a rouletted bag-shaped beaker (H21) in a Hadham oxidised fabric. Mortaria vessels from the Hadham, Nene Valley (a D14 flanged vessel) and Oxfordshire industries were present, but again in very small quantities. Southern Spanish amphorae represent 5% of the assemblage by weight.

Samian potters' stamp
by Brenda Dickinson

1. Paullus iv 3i 18/31 PAVLLI·M Lezouxa. c AD 135–60. Unstratified from topsoil (1000).

Discussion

The chronology of the overall trends seems clear. The assemblages dominated by grog-tempered wares suggest that pottery was first deposited on the site during the first half of the 1st century AD. These were occasionally associated with sand-tempered wares, so-called 'Romanising' wares (cf. Going 1987). The emergence of such wares remains poorly understood, but well-dated key groups from Heybridge (Biddulph et al. forthcoming) suggest that the sand-tempering tradition commenced before AD 43. A fine white ware beaker with 'herringbone' decoration is likely to have arrived between AD 20 and 40. The implication, then, of the existence of a pre-conquest settlement is in contrast to the Rayne By-pass site assemblage (Cheer 1989). There, wares of late Iron Age tradition were scarce, and the earliest groups

are unlikely to date much before AD 60, if at all. The situation at Rayne Roundabout is less clear at this time. Grog-tempered ware continued to dominate assemblages assigned to Phase 11. This, along with associated forms and fabrics, such as platters, butt-beakers, North Gaulish white ware and early Colchester colour-coated ware, suggest that the pottery in this phase should be confined to c AD 43–70. Certain Flavian-period pottery is largely absent. The chronological implication is that, while the two Rayne sites belong essentially to a single settlement, the pottery from Rayne Roundabout derived from an area of the settlement that was temporarily abandoned by the late 1st century, with the focus at this time moving towards the Rayne By-pass site. The Roundabout site is characterised by boundary and enclosure ditches, and so an alternatively view would be to consider the features in this area open—requiring no material to fill them—and therefore functional in the later 1st century. Pottery deposition resumed during the mid Roman period, but at a seemingly lower level than before. A small amount of Colchester colour-coated ware and North Kent grey ware suggests 2nd-century activity, but this was minor. The By-pass site revealed a similar dearth of material (Going 1989, 18) and together the assemblages suggest that the settlement was operating at a very limited scale well into the 3rd century AD. The late Roman period appears to represent an intensification of activity, resulting in greater ceramic use, although it should be noted that the second half of the 3rd century marks an emergence from economic recession and a revival of ceramic production (Going 1996, 100). The late 3rd century tends to be well, or over-, represented by pottery in the region. The pottery from the Roundabout site supports the terminal date obtained for the settlement at the By-pass. As at the earlier excavated site, the paucity of late shell-tempered ware and Oxfordshire colour-coated ware suggests that activity had largely ceased by the late 4th century AD.

The pottery was deposited mainly into linear features (ditches or gullies). Pits and structural evidence were sparse, but pottery was also retrieved from such features. The overall mean sherd weight (weight/sherds) is 10 g. The weights for individual feature types are close to this average, revealing that all of the pottery was in broadly similar condition. The pottery had been subjected to the same level of disturbance and relocation, resulting in sherds of a reasonably identical state of fragmentation and abrasion. Much better preserved pottery is largely absent, and it is likely that the pottery derived from a similar source—such as middens—where the pottery would have been weathered and fragmented further. The pottery from the By-pass site is of similar condition, having a mean sherd weight of 9 g. It was noted that the building material was abraded and redeposited and likely to have derived from a structure away from the excavated area. This supports the notion that both sites are situated outside the domestic focus, where deposits of well-preserved, almost freshly-broken, pottery might be encountered.

Some indication of the settlement's social or economic status may be gained from the pottery. Imported pottery, chiefly amphorae and samian, but also including material

arriving at the site during the late Iron Age or early Roman period, and shows that the inhabitants had access to specialist, if not prestige, items. Samian itself should not be regarded as a high-status indicator, since the ware reached sites of all statuses, albeit in varying quantities. A more reliable measure is the ratio of plain against decorated samian. This has been demonstrated to differentiate sites: high-status sites, such as forts and towns, should have a higher proportion of decorated samian compared with, say, 'small towns' and farmsteads (Willis 1998, 108). At Rayne Roundabout, 20% of samian vessels, measured by EVE, was decorated. This compares with just 4% at Strood Hall. Interestingly, Rayne By-pass also produced a proportion of 20%, supporting the view that the pottery from both excavations derived from the same settlement; ceramic supply patterns would in any case be expected to be identical. Amphorae reached Rayne from southern Spain and Gaul, though probably via markets at Braintree or Colchester. The containers accounted for 1.2% of the entire pottery assemblage by sherd count. This compares with 0.3% at Strood Hall, 2.2% at Great Holts Farm (Martin 2003), and 5% at Colchester (Symonds and Wade 1999). Curiously, a proportion of just 0.2% was retrieved from the By-pass. The reason for the difference is unclear, and may be due to subtle chronological factors (for example, the emphases of ceramic use at the By-pass occurring at periods further removed from the period of amphorae importation). While the proportion of amphorae at the Roundabout site supports the picture provided by the samian of perhaps a medium-status site, apparently higher than Strood Hall, the amphorae from the By-pass cannot confirm this view. More generally, the provision of coarse ware vessel forms, particularly platters, dishes, mortaria and flagons suggests that the inhabitants of Rayne adopted Roman-style cooking and dining habits. The extent to which this occurred is uncertain, although the ratio of jars—characteristic of indigenous food preparation (Evans 2001, 28)—to, for example, 'Romanised' open forms (platters, dishes and bowls) gives some clue. The ratio of four jars to every one open form at Rayne Roundabout compares with 3:1 at Strood Hall, 3:1 at Chelmsford (Going 1987, table 10) and 2:1 at the villa at Little Oakley (Barford 2002, table 6). The differences are not strong, but nevertheless, Rayne appears to fall below urban and villa levels of 'Romanised' vessel use. Overall, the various status indicators, like those for Strood Hall, offer a mixed picture. Rayne in some respects had better access to seemingly prestige items, perhaps through better economic conditions, perhaps benefiting from the fruits of a bigger grain surplus, but cultural differences in terms of pottery use were not obvious beyond amphorae and samian. The pottery is likely to have derived from a farmstead much like that at Strood Hall.

Catalogue of illustrated pottery (Figs 4.13–14)

Phase 10: nos 1–12, ditch 350
1. Platter Cam 32 (GROG). Context 128.
2. Neckless jar G3 (GROG). Context 126.
3. Neckless jar G3 (GROG). Context 134.
4. High-shouldered necked jar G19 (GROG). Context 128.

5. High-shouldered necked jar G19 (BSW). Context 350.
6. High-shouldered necked jar G20 (GROG). Context 350.
7. High-shouldered necked jar Cam 220 (GROG). Context 134.
8. Storage jar Cam 270 (GROGC). Context 350.
9. Globular beaker H2 (GROG). Context 134.
10. Butt-beaker H7 (BSW). Context 128.
11. Butt-beaker H7 (GROG). Context 275.
12. Butt-beaker Cam113 (NGWF). Context 128.

Phase 13: nos 13–68, natural hollow (silted river channel)
13. Deep bead-rimmed dish B4 (HAR). Context 311.
14. Dish Dr 31 (CGSW). Context 311.
15. Everted/cavetto-rimmed jar G9 (HAR). Context 311.
16–17. Oval-bodied jars G24 (BSW). Context 311.
18. Oval-bodied jar G24 (GRS). Context 311.
19. Shallow bead-rimmed dish B2 (BB2). Context 198.
20. Shallow bead-rimmed dish B2 (GRS). Context 197.
21. Bead-rimmed dish B2/B4 (BSW). Context 197.
22–3. Incipient-flanged dishes B5 (GRS). Context 222.
24. Bead-and-flanged dish B6 (GRS). Context 197.
25. Bead-and-flanged dish B6 (GRS). Context 198.
26. Dish Dr 18/31 (CGSW). Context 156.
27. Dish/bowl Dr 36 (CGSW). Context 156.
28. Bowl Dr 37 (EGSW). Context 156.
29. Reed-rimmed mortarium D14 (NVM). Context 197.
30. Ledge-rimmed bowl-jar/jar E2/G5 (GRS). Context 197.
31. Ledge-rimmed bowl-jar E2 (GRS). Context 197.
32. Necked bowl-jar E5 (GRF). Context 197.
33. Necked bowl-jar E5 (BSW). Context 197.
34. Conical cup Dr 33 (SGSW). Context 197.
35. Ledge-rimmed jar G5 (BSW). Context 197.
36. Ledge-rimmed jar G5 (BSW). Context 156.
37. Oval-bodied jar G24 (BSW). Context 197.
38. Oval-bodied jar G24 (RET). Context 156.
39–41. Oval-bodied jars G24 (GRS). Context 156.
42. Narrow-necked jar G37 (BSW). Context 198.
43. Narrow-necked jar/flask G40 (GRS). Context 224.
44–7. Storage jars G44 (STOR). Context 197.
47–8. Jar (GRS). Context 197.
49–50. Jar (GRS). Context 198.
51. Jar (HAR). Context 197.
52. Poppy-headed beaker H6 (NKG). Context 224.
53. Lid (BSW). Context 197.
54. Plain-rimmed dish B1 (GRF). Context 161.
55. Bead-and-flanged dish B6 (BSW). Context 161.
56. Bead-and-flanged dish B6 (GRF). Context 161.
57. Plain-rimmed dish B1 (GRS). Context 218.
58. Bead-and-flanged dish B6 (BSW). Context 218.
59. Mortarium (OXWM). Context 218.
60. Bowl-jar (GRS). Context 218.
61. Ledge-rimmed bowl-jar E5 (GRS). Context 218.
62. Oval-bodied jar G24 (GRS). Context 218.
63. Frill-rimmed jar G26 (GRS). Context 218.
64. Bead-and-flanged dish B6 (GRS). Context 149.

65. Bead-and-flanged dish B6 (BSW). Context 150.
66. Bowl-jar/jar (GRS). Context 149.
67–8. Conical cups Dr 33 (EGSW). Context 149.

Parsonage Lane (Site 37)
by Dan Stansbie

Introduction

A relatively small assemblage of 614 sherds (5.083 kg) of Roman pottery was recovered from Parsonage Lane. The group largely comprises sherds of early Roman date, although the presence of Hadham oxidised ware shows that there was some later activity. Pottery was recovered from a total of 33 contexts. Many of the groups are quite small, 58% of the contexts having ten sherds or less and only 33% of contexts yielding between 21–50 sherds. With an average sherd weight of 8 g, the condition of the pottery was poor. Sherds were small and abraded and some rim sherds were broken off just below the rim, reducing the level of confidence given to form and fabric identification. Undiagnostic reduced coarse wares comprised 93% of the assemblage. However, the presence of diagnostic forms meant that many contexts could be dated fairly closely. Some 12.8% (by weight) of the total pottery derived from context groups that could only be assigned a broad Roman date range. However, this figure is somewhat skewed by the presence of a relatively small number of heavy storage jar sherds and questions relating to phases of activity and pottery supply are therefore relatively easy to address.

Fabrics (Tables 4.29–30)

The 143 sherds of coarse grog tempered ware (GROGC) some in early Roman forms, along with fine and coarse grey wares (GRF, GRS), early shell tempered wares (ESH) and black surface wares (BSW) suggest early Roman activity at the site. However, the small number of sherds of Hadham oxidised ware and Colchester buff ware indicate limited late Roman activity as well.

The site yielded a range of fine and specialist wares, although overall quantities were low. Among them was a sherd of South Gaulish samian ware (SGSW), arriving during the mid to late 1st century or the early 2nd century AD. All other imports to the site were British and among those arriving during the early Roman period were sherds of 'London-Essex' stamped ware (LESTA), unsourced oxidised ware (RED) and Verulamium region white ware (VRM). There were also 32 sherds of Colchester buff ware (COLB) the majority of which arrived during the late 1st and early 2nd century AD. Eight sherds of Hadham oxidised ware indicate activity during the 3rd and 4th centuries AD, although given the proximity of the site to Much Hadham it is possible that this material arrived a little earlier.

Relatively good survival of identifiable rims mean that most of the reduced wares can be assigned to the late 1st or early 2nd century. Black surface wares (BSW) and grog-tempered wares (both coarse and fine, GROG, GROGC) dominate the assemblage, together accounting for 59% of it by weight and sherd count. Early shell-tempered ware (ESH) makes an important contribution to the assemblage, accounting for 16% by sherd count and 11% by weight. Sherds of fine grey ware (GRF) make a lesser contribution with only 11% of the sherds and 7% of the total weight. By comparison with grog tempered wares and black surface ware, sandy grey ware (GRS) is relatively unimportant, accounting for 3% by sherd count and 4% by weight. Coarse storage

jar fabrics are represented, accounting for 4% of the assemblage by sherd count, 14% by weight. Most of these fabrics are probably local.

Vessels (Tables 4.31–2)

Rims survived reasonably well, although some of those present had broken at the neck, making identification difficult. Indeed Table 4.31 suggests that survival was uneven. Jars (class G) dominated the assemblage with single examples of a bowl (class C) and a platter (class A).

A saucepan-shaped cooking pot with an internally thickened rim, Cam type 254 in an early shell tempered ware may have been residual, but came from a context (7042) with much early 2nd-century material and may therefore have been part of a continuing tradition. Neckless high-shouldered jars with out-turned pointed rims (G3) were also present in grog-tempered wares (both fine and coarse) and dated to the mid to late 1st century AD. The site yielded a number of other jar types, all of which arrived in the late 1st to early 2nd century AD. These included five neckless jars with small finely moulded ledged rims (G5.1) in early shell-tempered ware, several squat almost biconical jars with steeply tapered sides (18.2) in a variety of reduced fabrics, five jars with everted rims including hooked and beaded lips (19.2, 19.4) also in a variety of reduced fabrics and three necked high-shouldered jars (G23) in black-surfaced ware and early shell-tempered ware. A high-shouldered storage jar with everted rim (G44.4) in coarse grog-tempered ware came from the upper fill of a ditch (7091) that formed part of the early Roman field system. There are also three jars in black-surfaced ware which are difficult to place, but may belong to classes G17 or G19. A single platter in fine grey ware and similar to Going's type A2 was also present. This dated to the mid to late 1st century.

Chronology and discussion

Although the assemblage was relatively small, its size and condition was adequate for a proper understanding of site chronology. There were a number of diagnostic pieces, including the sherd of South Gaulish samian, sherds of Hadham oxidised ware and some early jar forms, which allowed close dating of some key contexts. In contexts containing intrinsically dateable pottery, assemblages were reasonably large providing sufficient chronological checks for individual pieces. Residuality was generally low as the assemblage was broadly contemporaneous. Dates of deposition may therefore be regarded as reasonably secure and the range of pottery present provides a good idea of the chronological emphasis at Parsonage Lane.

On this basis limited activity during the late Iron Age or early Roman period is likely, based on the presence of an early form (Cam 254) in early shell-tempered ware, although it may be argued that this vessel is post-conquest in date. The bulk of the assemblage may, however, be seen as late 1st century to early 2nd century in date. This is attested by early Roman forms (G3, G5, G18, G19, G20, G23 and G44) in black-surfaced ware, early shell-tempered ware, coarse grog-tempered ware, grog-tempered ware, fine grey ware and sandy grey ware, along with

sherds of Verulamium region white ware and 'London-Essex' stamped ware. The presence of a sherd of South Gaulish samian ware also attests to an early date. A small amount of material comprising sherds of Hadham oxidised ware and some sherds of Colchester buff ware attest to limited activity during the late Roman period.

With an average sherd weight of 8 g, the condition of the pottery was poor. However, relatively large groups had accumulated. The average weight per context group was 154 g. The relatively high average weight per context suggests that deliberate deposition was taking place but the low average sherd weight perhaps reflects a degree of residuality in some contexts.

The presence of a few regional and continental imports suggests links beyond the immediate vicinity of the site and hints at the adoption during the late 1st century and early 2nd century of Roman food preparation and eating habits. The assemblage is consistent with low status rural sites in the area.

Catalogue of illustrated pottery (Fig. 4.15)

The vessels here are presented in typological order.

1. Fabric GRF, type A2 platter with convex or S-shaped profile, imitating an imported moulded form (Cam type 12-14) with a devolved or vestigial footring. Early Roman ditch 7022 (7041).
2-3. Fabric GROGC, type G3.1 neckless, high-shouldered jar with out-turned pointed rim. Early Roman pit 7117 (7128).
4. Fabric GROGC, type G3.1 neckless, high-shouldered jar with out-turned pointed rim. Early Roman pit 7117 (7128).
5–8. Fabric ESH, type G5.1 neckless jars with lid seatings. Early Roman ditch 7022 (7041).
9–10. Fabric BSW, type G 5.1 neckless jar with rolled rim; type G17/G19 necked everted rim jar. Early Roman ditch 7022 (7041).
11. Fabric BSW, type G19.4 jar with an everted neck, bead rim and a narrow shoulder cordon. Early Roman pit 7117 (7128).
12. Fabric BSW, type G23.1 necked high-shouldered jar with a globular body and an undercut bead rim. Early Roman pit 7117 (7128).

Valentine Cottage (Site 54)
by Dan Stansbie

Introduction

A small assemblage of 171 sherds (1.38 kg) of Roman pottery was recovered. The group largely comprises sherds of early Roman date, although the presence of some grog-tempered material may indicate pre-conquest activity. Pottery was recovered from a total of 16 contexts. Many of the groups are quite small, 56% of the contexts having 10 sherds or less and only three contexts yielding between 21–50 sherds. With an average sherd weight of 8 g, the condition of the pottery was poor. Sherds were small and abraded and some rim sherds were broken off just below the rim, reducing the level of confidence given to form and fabric identification. Undiagnostic reduced coarse wares comprised 94% of the assemblage. Some 3.2% (by weight) of the total pottery derived from context groups that could only be assigned a broad Roman date range.

Fabrics (Tables 4.33–4)

Ten sherds of grog-tempered ware (GROG) and 17 sherds of coarse grog-tempered ware (GROGC) may indicate a pre-conquest date for the earliest activity at this site. However, most groups date to the mid 1st century AD. Some fine and specialist wares are present, although overall quantities were low. Generally sherds were small, although fabric identification was reasonable. A sherd of South Gaulish samian ware (SGSW) attests to mid 1st century AD activity, but there were no other imports. British fine wares were poorly represented. Two sherds of early Colchester colour-coated ware (COLCE) also support a mid 1st-century date. Seven sherds of Colchester buff ware (COLB) were chronologically undiagnostic without identifiable rims.

Local reduced wares, principally grog-tempered wares and sandy grey wares (GRS), dominate the assemblage. Together these account for c 75% by weight and sherd count. Also present are sherds of black-surfaced ware (BSW), one sherd of early shell-tempered ware (ESH) and two sherds of fine grey ware (GRF). Several sherds of storage jar (STOR) were also recovered.

Vessels (Tables 4.35–6)

Rims survived reasonably well, although some of those present had broken at the neck, making identification difficult. Jars (class G) dominate the assemblage almost completely with just single examples of dishes (class B) and beakers (class H). There is also a butt-beaker and a cordoned bowl (Cam 119B and 252).

A cordoned bowl with oblately globular body (Cam 252) in a grog-tempered ware may have arrived in the 1st century BC or early 1st century AD, but given that it was part of a later 1st-century AD group may have been post-conquest. The site yielded a number of other jar types, all of which arrived in the late 1st to early 2nd centuries AD. These included a necked jar with an out-turned bead rim and concave neck (G17.2), a squat almost biconical jar with steeply tapered sides (G18.2) and two jars with hooked and beaded rims (G19, G19.2), one in a sandy grey ware and the other in black-surfaced ware. A squat, oval jar with neck constrictions and out-turned rim

came from the fill of a quarry hollow (40213). There were also six jars mostly in grog-tempered ware, which are difficult to place, but may belong to classes G17, G18, G19 or G20. Also in a grog-tempered ware and coming from a post-conquest group was a butt-beaker (Cam 119B). A single South Gaulish samian dish is also present, confirming the 1st to early 2nd -century AD character of the assemblage.

Chronology and discussion

Although the assemblage was relatively small its size and condition was adequate for a proper understanding of site chronology. On this basis limited activity during the 1st century BC or early 1st century AD is a possibility, based on the presence of two early forms (Cam 119B, Cam 252) in grog-tempered fabrics, although it may be argued that both these vessels are post-conquest in date. However, the bulk of the assemblage may be seen as late 1st century to early 2nd century in date. This is attested by early Roman forms (G17-G20) in sandy grey ware, black-surfaced ware and grog-tempered ware, along with sherds of early Colchester colour-coated ware, a sherd of early shell-tempered ware and a dish in South Gaulish samian.

With an average sherd weight of 8 g, the condition of the pottery was poor. The average weight per context group was 86.3 g. The relatively high average weight per context suggests that deliberate deposition was taking place, but the low average sherd weight perhaps reflects the degree of residuality in the later contexts.

The presence of a few regional and continental imports suggests links beyond the immediate vicinity of the site. As with Parsonage Lane above the assemblage is consistent with low status rural sites in the area.

West of Panners Roundabout (Site 54)
by Dan Stansbie

Introduction

A small assemblage of some 219 sherds (2.87 kg) of Roman pottery was recovered. Although the group largely comprises sherds of later Roman date, a longer history of activity is indicated by the presence of some earlier Roman material. Pottery was recovered from a total of 14 contexts. Most groups are quite small, 71% of the contexts having 10 sherds or less and only four contexts yielding between 21–50 sherds. With an average sherd weight of 13 g the condition of the pottery was average. Sherds were fairly large with fresh breaks and good surface condition, although many rim sherds were broken off just below the rim. Undiagnostic reduced coarse wares comprised 84% of the assemblage. Some 14% (by weight) of the total pottery derived from context groups that could only be assigned a broad Roman date range.

Fabrics (Tables 4.37–8)

A single sherd of early shell-tempered ware (ESH), along with two sherds of Hadham white-slipped oxidised ware (HAWO) and a single sherd of South Gaulish samian (SGSW) suggest early Roman activity at the site. The small size of the sherds indicate that they may have been residual.

The site yielded a range of mid to later Roman fabrics, together accounting for about 19% of the assemblage by weight. A sherd of Central Gaulish samian (CGSW) could suggest 2nd- or early 3rd-century activity. The main focus of activity appears to have been the later 2nd to 4th centuries as attested by sherds of Rettendon ware (RET), late shell-tempered ware (LSH) and Hadham white-slipped grey ware. A single sherd of Nene valley white ware mortaria (NVM) was recovered from the fill of pit 44043 and the neck of a Nene valley colour-coated ware (NVC) face flagon came from the fill of enclosure ditch 44007.

Sandy grey ware (GRS) and fine grey ware (GRF) dominate the assemblage, together accounting for 59% by sherd count and 37% by weight. Sherds of black-surfaced ware (BSW) were fairly evenly distributed over the site and coarse-tempered storage jar fabrics (STOR) are represented. There are four body sherds of unsourced oxidised ware (RED) and a single sherd of unspecified colour-coated ware.

Vessels (Tables 4.39–40)

Rims did not survive well. Jars (class G) were most common, followed by dishes (class B). Flagons (class J) were represented by the complete neck of a single face flagon. The poor range of vessel types perhaps reflects the fragmentary nature of the assemblage, or simply the low density of activity on the site.

The site yielded a range of jar types, the commonest of which was an oval-bodied jar with out-turned rim and tapering neck (G24.1), dating from the late 3rd to mid 4th centuries. A more generic oval-bodied jar, with oval pointed rim dated from the mid to late 4th century (G24). A single jar from the enclosure ditch dating to the late 3rd to mid 4th century was of a necked, high-shouldered variety with an everted rounded rim (G23.4). A similar high-shouldered jar with undercut pointed rim and short base (G25) also came from a late 3rd- to mid 4th-century context nearby. Several bifid-rimmed jars (G28) in Rettendon ware dated to the late 3rd to mid 4th centuries. A single mid 1st-century neckless jar with a small finely moulded rim (G5.1) in black-surfaced ware was also present.

The range of dishes is similar to that of the jars and like the jars these have a later Roman emphasis. Several rimless shallow dishes (B1) dating to the late 3rd to mid 4th centuries and a rimless shallow dish with slightly flaring sides (B1.3) dating to the mid to late 4th century are present. A similar dish of either a B2 or B4 type in a fine grey ware dated to the mid to late 4th century. A dish/bowl with incipient flange topped by a simple bead (B5.1) dated to the late 3rd to mid 4th century. Two fully flanged dish/bowls (B6.1 and B6.2) dated to the mid to late 4th centuries; the second example (B6.2) had three parallel post-firing notches on the rim. Drinking related vessels were limited to a single face flagon (J) in a Nene valley colour-coated ware.

Chronology and discussion

Although the assemblage was not large its size and condition was adequate for a proper understanding of site chronology. On this basis limited activity during the mid 1st to early 2nd century is

attested by the presence of a black-surfaced ware jar (G5.1) and an abraded sherd of South Gaulish samian. Small amounts of Central and East Gaulish samian suggest activity from the mid 2nd to early 3rd centuries, although there is little else to support this and these pieces may have been curated. More intensive activity in the later Roman period (late 3rd to late 4th century AD) is indicated by the presence of Rettendon ware, late Roman forms in fine grey ware and black-surfaced ware and the Nene valley colour-coated face flagon. Also of later Roman date is the presence of Hadham oxidised ware, Hadham white-slipped grey ware, Hadham white-slipped oxidised ware and Nene valley white ware mortaria.

With an average sherd weight of 13 g, the condition of the pottery was average. Relatively large groups had been permitted to accumulate. The mean weight per context group was 205 g. As with many of the other sites along the A120 the assemblage is consistent with low status rural sites in the area.

Catalogue of illustrated pottery (Fig. 4.15)

1. Fabric GRF, type B6.2 fully flanged dish/bowl. Late Roman, Structure 44007 (44069).
2. Fabric NVC, type J face flagon. Late 4th century. Structure 44007 (44069).
3. Fabric BSW. Bodysherd with part of graffito incised after firing. Late Roman. Fill of hollow 44040 (44041).

Warish Hall (Site 2)
by Dan Stansbie

A single jar rim sherd of unsourced oxidised ware weighing 3 g was recovered.

Frogs Hall East (Site 5)
by Dan Stansbie

Three sherds of Roman pottery, weighing 102 g, were recovered. Two sherds could only be assigned a broad Roman date range; the other was late Roman. Two sherds were recovered from the ploughsoil and the other from the fill of a ditch (1013), where it was presumably residual. The condition of the sherds was variable.

The site yielded one sherd of sandy grey ware (GRS) from a jar (class G), one sherd of fine grey ware (GRF) and one sherd of Oxfordshire white ware mortarium (OXWM). The mortarium was of Going's class D9 with grooved rim and short squared-off flange, turned back on itself. The grey wares were assigned a broad Roman date range and the mortarium sherd was dated to the late Roman period.

Highwood Farm (Site 11)
by Dan Stansbie

The site produced two sherds of Roman oxidised sandy ware weighing 6 g.

North of Clobbs Wood (Site 17a)
by Dan Stansbie

Introduction

A small assemblage of some 38 sherds (194 g) of pottery was recovered, consisting entirely of mid to late or late Roman sherds. Pottery was recovered from a total of six contexts. With an average sherd weight of 5 g, the condition of the pottery was poor reducing the level of confidence given to form

and fabric identification. Undiagnostic reduced coarse ware comprised 79% of the assemblage.

Fabrics (Tables 4.41–2)

A single sherd of south-east English glazed ware (GLZE) may indicate 1st to 2nd-century activity. However, the majority of groups dated to the 3rd or 4th centuries.

The site yielded a small assemblage of fine and specialist wares, which included 10 sherds of Hadham oxidised ware (HAX) along with the south-east English glazed ware and East Gaulish samian. The Hadham oxidised ware mostly derived from groups dating to the late 2nd to late 4th centuries. In addition there was a sherd of unspecified colour-coated ware with an early to mid 3rd-century date.

The assemblage was dominated by reduced wares, principally fine and sandy grey wares (GRF, GRS), along with some black-surfaced wares (BSW) and a single sherd of Rettendon ware (RET). There were also some unsourced oxidised wares (RED). Together these sherds accounted for just less than 75% of the assemblage by weight and sherd count.

Vessels

The total EVES was 0.17, indicating that rims did not survive particularly well, although it should be remembered that this was a small assemblage. Beakers dominate the assemblage closely followed by jars and dishes.

An East Gaulish samian dish (Dr 31) is likely to date to the late 2nd to mid 3rd century AD. The site also yielded a colour-coated folded beaker with a high shoulder (H34), which probably arrived in the early to mid 3rd century AD.

Chronology and discussion

The assemblage was small and in poor condition. The diagnostic fabrics and forms, including the samian, Hadham oxidised ware and Rettenden ware, all suggest limited activity during the 3rd and 4th centuries AD. The assemblage is consistent with low status rural sites in the area.

Greenfields (Sites 27–28)
by Dan Stansbie

Introduction

A small assemblage of 136 sherds (0.75 kg) of Roman pottery was recovered. The date range of the group is fairly wide, including sherds of the mid 1st through to the mid 4th century, with the greater emphasis on material dating from the mid 1st to early 2nd centuries. Pottery was recovered from a total of six contexts. With an average sherd weight of 5 g, the condition of the pottery was poor. Sherds were small and abraded and most of the rim sherds were broken off just below the rim, reducing the level of confidence given to form and fabric identification. Undiagnostic reduced coarse wares comprised 99% of the assemblage, although the presence of diagnostic forms meant that four of the six contexts could be dated fairly closely. Some 41% (by weight) of the total pottery derived from context groups that could only be assigned a broad Roman date range.

Fabrics (Tables 4.43–4)

Sherds of Nene Valley white ware mortaria (NVM) and East Gaulish samian ware (EGSW) indicate some

mid to late Roman activity on this site. However, the majority of the material dates from the mid 1st to early 2nd centuries AD. The assemblage was dominated by reduced wares, principally black surface wares (BSW) and sandy grey wares (GRS) which together accounted for about 40% by weight and sherd count (Tables 4.43–4). There were also sherds of fine grey ware (GRF).

Forms (Tables 4.45–6)

Rims survived reasonably well; jars (class G) dominated the assemblage followed by bowls (class C) and then dishes (class B). Single examples of mortaria (class D) and beakers class (H) were present.

All of the jar rims had broken at the neck, meaning that none of them could be assigned a specific date range with any level of certainty. However two rim sherds from context 1067 (NE Quad) may have been of Going's type G25 high-shouldered jars with undercut, pointed rims, short necks and restricted bases (Going 1987, 25). The site yielded two bowls of C1 type which arrived in the late 1st or early 2nd centuries AD and a dish of type B2 arriving between the early 2nd and mid 3rd centuries. There is also a beaker in black surface ware (BSW) and a mortarium in Nene Valley white ware.

Chronology and discussion

The assemblage was relatively small and in poor condition, and given the fact that it was recovered from only six contexts it may not shed much light on site chronology. With an average sherd weight of 5 g, the condition of the pottery was poor. The average weight per context group was 123 g. The relatively high average weight per context suggests that deliberate deposition was taking place, but the low average sherd weight perhaps reflects a degree of residuality in some contexts. The presence of limited regional and continental imports suggests that a settlement with links beyond the immediate vicinity of the site was nearby. In general however, the assemblage is consistent with low status rural sites in the area.

Catalogue of illustrated pottery (Fig. 4.15)

1. Fabric BSW. Bodysherd with part of a graffito incised after firing. Late Roman. Tree throw 1058 (1065).

Clobbs Cottage/Grange Farm (Sites 18/19)
by Dan Stansbie

The excavations produced eight sherds of late Iron Age/Roman and Roman date. These comprised two grog-tempered sherds (5 g), five miscellaneous grey wares (28 g) and one oxidised ware (3 g).

Blatches (Site 24)
by Dan Stansbie

A very small assemblage of some 15 sherds was recovered from the site. The group largely comprises sherds which could only be assigned a broad Roman date range, although two sherds of Central Gaulish samian (CGSW) indicate activity during the mid 2nd to early 3rd century. With an average sherd weight of 2.6 g, the condition of the pottery was very poor. Undiagnostic reduced coarse wares comprised 80% of the assemblage and this combined with the lack of rims meant that most contexts could not be closely dated.

Tables 4.47 summarise the fabrics and forms present. Two sherds of Central Gaulish samian (CGSW) ware may indicate mid 2nd century to early 3rd century activity. However, a single sherd of Colchester buff ware (COLB) and twelve sherds of sandy grey ware (GRS) could only be assigned a broad Roman date range. Rims did not survive well and the only vessels that could be identified were two jars (class G) in a sandy grey ware.

Medieval pottery

by Lorraine Mepham

Blatches (Site 24)

Introduction

A total of 1198 sherds (9530 g) of medieval pottery was recovered from the excavated site at Blatches. This is the only domestic medieval assemblage of any size recovered from the A120 route, and derives from a series of features—ditches, possible beam slots, pits and postholes—on what appears to be a small enclosed farmstead.

Method

The pottery was recorded using the standard Wessex Archaeology pottery recording system (Morris 1994), focusing on analysis of fabric and form. Fabric types have been correlated with the regional fabric type series for post-Roman pottery in Essex (Cunningham 1985). A type series was created for rim, base and handle forms, and this was linked where possible to vessel forms whose definition follows nationally recommended nomenclature (MPRG 1998), but also using the Essex type series for rim forms (Cunningham 1985; Drury 1993). Details of decoration, surface treatment, manufacture and condition were also recorded. Quantification in all cases is by both number and weight of sherds; EVEs have not been considered appropriate for use with this assemblage as measurable rims are somewhat scarce.

Fabrics and forms

Ten fabric types were identified, all well known types within the Essex type series. Quantities by type are

presented in Table 4.48, and the correlation of vessel/rim form to fabric in Table 4.49.

Fabric 12: Shelly and sandy/shelly wares (1.3% of total by weight)
The earliest fabrics represented are the early medieval shelly and sandy/shelly wares (12A, 12B and 12C), all with similar dating and varying only in the relative proportions of shell (crushed oyster) and sand inclusions. These wares have been conventionally dated as possibly early 11th century to the later 12th century (Drury 1993, 78–80). There is some suggestion that they continued in use into the early 13th century, occurring on such sites as King John's Hunting Lodge at Writtle, near Chelmsford (Rahtz 1969, 106). At Colchester only fabric 12C (sandy shelly ware with sand predominant) is considered to continue into the 13th century (Cotter 2000, 36–7) and it is apparent that these wares were in decline by the later 12th century. The scarcity of these fabrics at Blatches suggests that activity here did not begin until these wares had almost disappeared from use, sometime towards the end of the 12th century.

There are no diagnostic sherds from Blatches, only one rim form that is too small to assign to type. The sherds are in general small and abraded (the mean sherd weight for the three fabrics together is 4 g) and it is likely that most if not all occur residually here. The only feature in which these wares occur without obviously later material associated is ditch 1278 (SG 1395), which produced a single, small sherd (1 g) of fabric S401. This cannot be taken as firm dating evidence.

Fabric 13: Early medieval sandy ware (32.3% of total)
Early medieval ware forms a significant component of the assemblage from Blatches. This coarse ware, described by Drury (1993, 80), is characterised by the presence of abundant coarse sand as a tempering agent; it is handmade (coil-built) and is reduced, but generally with red-brown surfaces. Drury gives it a date range of possibly early 11th century to c 1200, but more recent excavations at Stansted yielded early medieval ware in association with early to mid 13th-century fine wares (Walker forthcoming). While earlier variants of this ware are low-fired (in bonfires or clamps), later variants were fired in proper kiln structures, as at Middleborough in Colchester (Cotter 2000, 57–67), or at Frogs Hall, Takeley (Mepham in prep.). The sherds from Blatches are in general hard-fired and therefore appear to fall towards the later end of the date range.

Not many diagnostic sherds are present; only 12 rims could be assigned to type, 11 of them deriving from jars. The most common type is the slightly developed, everted rim (B2: Fig. 4.16.3–4), one finger-impressed and stabbed (Fig. 4.16.7), but there are also three examples of more developed forms (B4, H1 and H2), confirming a date range from at least the late 12th into the early 13th century. There is also a single jug or pitcher rim.

Few sherds are decorated. Apart from the impressed and stabbed rim already mentioned, one other rim (type B1b) is decorated (worn, but probably comb-stabbing), and there are 18 decorated body sherds (13 combed and five with applied strips).

Fabric 13t: Early medieval ware: transitional (12.7% of total)
This ware is transitional between early medieval ware and medieval coarse ware (see below), first recognised at Stansted and possibly an early product of the Hedingham kilns (Walker forthcoming). As a transitional ware, however, the visual distinction between sherds of fabric 13t and examples of fabrics 13 and 20 is not always clear. The tempering agent comprises grey, white and colourless sands, and the colouring is as early medieval ware.

Six vessel forms were identified: five jars and one convex dish (Fig. 4.16.8). The jar rims show a heavier emphasis than early medieval ware on the more developed forms (B4 and H1: Fig. 4.16.5). Decoration is scarce: one sherd has combed decoration, and three have applied strips.

Fabric 20: Medieval coarse ware (39.7% of total)
This ware, which forms the major component of the Blatches assemblage, encompasses all grey sandy coarse wares not assigned to specific types, such as Hedingham (see below), and as such could represent the products of several different sources. It is possible that some less obvious examples of Hedingham ware have been recorded here within this category. The ware has a broad date range of 12th to 14th century.

The vessel forms are dominated by jars (30 examples: see Table 4.49). The most common rim forms are externally bevelled (A4a: Fig. 4.16.1), but there is a range of other forms, both undeveloped (one example of A1a) and more developed, including the everted, squared forms (H1: 13th century, H2: early/mid 13th century), and one example of a blocked, neckless type (H3: late 13th/early 14th century: Fig. 4.16.6). There are also three jug rims and one flanged bowl. One body sherd has an applied strip and one is horizontally furrowed (executed with a blunt instrument).

Fabric 20D: Hedingham coarse ware (6.8% of total)
This coarse ware was produced at kilns in the Sible Hedingham area in north Essex. It is moderately sandy and has a micaceous matrix, tempered with grey, white and colourless sands. The ware is generally reduced (grey) although buff and reddish examples are known. The date range is probably the same as the fine ware (see below), mid 12th to mid 14th century.

Only jar forms are present, with a range of slightly developed and more developed rim forms. One example of a B1b rim is finger impressed (Fig. 4.16.2). One body sherd is combed and two have furrowing, one curvilinear and one horizontal.

Fabric 21: Sandy orange ware (2.4% of total)
Sandy orange ware (Fabric 21) is less common. This category, described by Cunningham (1982, 359), comprises all oxidised sandy wares not otherwise assigned to specific types, such as Hedingham (see below). It has a broad date range of 13th to 16th century.

One jug rim was identified (Fig. 4.16 11), a squat form, glazed over a white slip. A close parallel was found amongst the Danbury assemblage, which is considered to date to the late 13th and early 14th

centuries (Drury and Pratt 1975, fig. 57, A9).

Fabric 22: Hedingham fine ware (4.1% of total)
Of the identified fine wares from the site, the most common is Hedingham ware. The Hedingham industry was based at Sible Hedingham, approximately 15 km to the north-east of Blatches. The pottery from the excavated kilns has never been fully published, but the fine ware is described by Drury (1993, 86–9) and Cotter (2000, 76).

The vessel forms seen here comprise jars (one rim, form H1) and jugs (two rims). One of these jugs (Fig. 4.16.9) has high-relief plastic decoration in the form of crude applied facemasks around the collared rim and vertical strips on the body. Such decoration is typical of the early rounded jug forms found in later 12th and early 13th century-contexts in Essex and Cambridgeshire (Cotter 2000, 83–6; fig. 49, 8).

Fabric 35: London-type ware (0.7% of total)
A small quantity of London-type ware is present. Seven sherds carry Rouen-style decoration in the form of applied strips and pellets in red and white slip, although the overall design is unknown. This decorative style was current during the first half of the 13th century (Pearce et al. 1985, 19–21).

Distribution

Pottery derived from 45 separate features (interventions within the same stratigraphic group (SG) have been grouped together here): ditches, beam slots/gullies, pits, postholes and tree throw holes, as well as a few miscellaneous layers (see Table 4.50). Very few of these features produced significant groups of pottery; only ten yielded more than 20 sherds, and only four more than 50 sherds. These small quantities, and the relatively long currency for many of the coarse ware forms, have hampered close dating of many of the features.

It is clear, however, that the chronological emphasis of the site is in the later 12th and 13th century. The relative scarcity of shelly and sandy/shelly wares indicates that any earlier (11th/early 12th century) activity on the site was sporadic, and only one feature (ditch 1395) can be (very tentatively) assigned to this period. The main period of activity on the site, therefore, can be taken to begin at a period when the shelly wares were in decline, superseded by the early medieval sandy wares (Fabric 13), towards the end of the 12th century. Features which contain jars with less developed rims (A4a, B1b, B2, B4) but not the developed H1 rims, can be considered to relate to the earliest significant phase of activity on the site (late 12th or early 13th century). These include groups from ditches 1175 and 1392 and beam slots/gullies 1321 and 1322 (Fig. 4.16.2). Ditches 1181, 1183 and 1398, pits 1391 and 1400 and posthole line 1413 (Fig. 4.16.5) are less confidently assigned to this phase as each produced less than 20 sherds. Other identifiable late 12th- or early 13th-century forms include the Hedingham jug with plastic decoration (Fig. 4.16.9), but this is from a miscellaneous unstratified layer.

Developed jar rims (H1), and London-type jug sherds with Rouen-style decoration in ditch 1188 and pit 1405 suggest an early

13th-century date for these features. These were two of the more productive features on the site in terms of pottery, containing 157 sherds and 175 sherds respectively. Other features dated more broadly as 13th century on the basis of H1 jar rims include ditches 1190 (32 sherds) and 1403 (57 sherds). Pit 1396 may also belong to the phase but produced less than 20 sherds.

The largest quantity from a single feature came from pit 1370 within pit group 1401 (322 sherds), which included several partial profiles of jars and jugs in both coarse and fine wares. The presence here of jars with blocked, neckless rim profiles (form H3: Fig. 4.16.6), and a squat jug in sandy orange ware (Fig. 4.16.11) dates this deposit to the late 13th or early 14th century. A similar jar form places pit 1409 within the same date range.

Overall this rather tentative ceramic phasing suggests a gradual shift in the settlement from east to west through time. The earliest (late 12th/early 13th-century) features are concentrated at the eastern end of the site (although it should be noted that many of the features in this area are not firmly phased, and nor is the rectangular enclosure in the north-west corner of the site). Ditches 1190, 1188 and 1403 mark an extension of the ditch system to the west from the early 13th century, while the latest deposits (pits 1409 and 1370), in the late 13th or early 14th century, are at the western end of the site. Final abandonment of the site can be placed perhaps at the end of the 13th century, but certainly no later than c 1350.

There is no evidence for selective dumping of pottery in specific features (ie serving wares deposited separately from kitchenwares) nor is it possible to ascertain whether pottery made its way into the features as a result of the dumping of primary refuse, or the redeposition of secondary refuse from a midden. Mean sherd weight overall is 8 g, and there are few vessels which can be even partially reconstructed, which suggests that most deposits represent secondary refuse. There are, however, no cross-context joins between features, which might link dumping episodes. Certain deposits, for example within pit 1370 (pit group 1401), which contained what appeared to be larger portions of a small number of vessels, could alternatively represent a single episode of primary refuse dumping. Otherwise there is no obvious difference in terms of condition and mean sherd weight between the pottery from pits and ditches, which might indicate that certain feature types (pits) were consistently used to dump primary refuse.

Conclusions

This is a relatively small medieval ceramic assemblage, spanning the period from the late 12th to early 14th century, with the possibility of some earlier, residual material. It is a typical rural assemblage, but from a site not without pretensions; there are fine wares here, including highly decorated jugs, although the majority of the assemblage can be regarded as kitchenwares. Most of the sources of the pottery, particularly for the coarse wares, are likely to be local. The Hedingham industry supplied most of the fine wares (and possibly a significant proportion of the coarse wares as well), with a few London products also appearing. Nearby Braintree would have been a

convenient market through which both local and non-local products might have been acquired. Mill Green products are apparently absent from the site, but this is not surprising given the known distribution of the ware which is concentrated in the southern part of Essex; it was present at Stebbingford Farm, Felsted, just to the south of Blatches, but only in very small quantities (Walker 1996, 150). Medieval Harlow wares, again with a minimal presence at Stebbingford Farm, are also absent from Blatches.

In terms of chronology and range of vessel forms, close parallels can be found within the sites at Stansted Airport, most of which provided evidence of a single phase of medieval activity, extending from the late 12th century to the late 13th century or later (Walker 2004; Framework Archaeology 2003), and also in the mid 12th to mid 14th century assemblage from Stebbingford, Felsted (Walker 1996).

Catalogue of illustrated sherds (Fig. 4.16)

1. Jar rim (type A4a), fabric Q403. PRN (Pottery Record Number) 515, context 1113, ditch 1112 (SG 1321)
2. Jar rim (type B1b), finger impressed. PRN 498, context 1084, beam slot/gully 1083 (SG 1322)
3. Jar rim (type B2), fabric Q404. PRN 488, context 1071, ditch 1063 (SG 1392)
4. Jar rim (type B2), fabric Q404. PRN 489, context 1071, ditch 1063 (SG 1392)
5. Jar rim (type H1), fabric Q410. PRN 1193, context 1193, posthole/tree throw hole 1192 (SG 1413)
6. Jar rim (type H3), fabric Q403. PRN 1335, context 1371, pit 1370 (SG 1401)
7. Jar rim (type B2), fabric Q405; finger impressed and stabbed. PRN 483, context 1071, ditch 1063 (SG 1392)
8. Shallow, convex dish, fabric Q403. PRN 642, context 1184, ditch 1185 (SG 1175)
9. Jug rim/rod handle, fabric Q409; applied decoration (face masks around the rim, vertical strips on body), glazed. PRN 432, context 1010.
10. Jug rim/handle, fabric Q403; white slip band around neck. PRN 1349, context 1371, pit 1370 (SG 1401)
11. Jug rim/handle, fabric Q418; white-slipped and glazed. PRN 1375, context 1371, pit 1370 (SG 1401).

West of River Roding (Site 40)

Introduction

A total of 2303 sherds (42,827 g) of medieval pottery was recovered from two pottery kilns (12104, 12105) and associated features (pits 12120 and 12154) at Site 40 (West of River Roding). All of this pottery is of similar character, in a variant of a single fabric type, and is assumed to derive from on-site pottery production. The kilns were apparently producing a restricted range of jars, bowls/dishes and spouted pitchers, within the regional coarse grey ware tradition, at around the turn of the 12th century. These kiln products are directly comparable to material excavated from further kiln structures nearby by the Essex County Council Archaeological Field Unit.

Fabric

The fabric of the kiln products has been defined and coded using the standard Wessex Archaeology pottery recording system (Morris 1994; QU = quartz), and can be described as follows:

QU400: hard-fired, coarse matrix, containing moderate (10–20%) subangular to subrounded quartz grains, 1–2 mm in size; surface finish is for the most part fairly crude, leaving a 'pimply' surface. Firing conditions vary from completely unoxidised, through partially oxidised to completely oxidised.

Many sherds show signs of firing faults in the form of surface spalling, although there are no heavily blistered or distorted 'wasters'.

The fabric falls within the regional tradition of 'early medieval ware' (Cunningham 1985, fabric 13). This is a general category of sandy coarse wares, probably manufactured at several production centres within Essex between the early 11th century and the early 13th century, developing into 'medieval coarse ware' (ibid. fabric 20) sometime in the late 12th century. This probably coincided with a development in kiln technology from primitive clamp kilns to more efficient kiln structures, allowing the firing of harder, more evenly coloured vessels. At Colchester, for example, the single-flue updraught kilns at Middleborough were producing early medieval sandy wares in the late 12th and early 13th century (Cotter 2000, 57–67).

Forms

A very restricted range of forms is present. These have been described using nationally recommended nomenclature (MPRG 1998), with rim forms coded using the Essex type series (Cunningham 1985, 2; Drury 1993; Cotter 2000, fig. 27).

1. Rounded jars (MPRG 1998, 4.1.7) with slightly thickened, everted rims (form B1b) and sagging bases. Three variants have been identified:

a. Jars with well-rounded shoulders (Fig. 4.16.1)
b. Jars with slacker (but still convex) profiles (Fig. 4.16.2–3)
c. Jars with profile as (a), but with hollowed everted rim (form B2 or E2) (Fig. 4.16.4)

2. Flared dishes (ibid. 5.3) with thickened rims and sagging bases, knife-trimmed around basal angle; depth varies (Fig. 4.16.5–6).
3. Rounded bowls (ibid. 5.1.6) with slightly thickened, everted rims; base profile is uncertain but probably sagging (Fig. 4.16 7).
4. Spouted pitchers (ibid. 3.1.15) with short tubular spouts attached to everted rims by fillets of clay; rim and body profiles as rounded jars, variants (a) and (c) (Fig. 4.16. 8–9). Handles of strap form (only one is present: Fig. 4.16.10).

In addition, there is a single example of a fifth form, which is probably a jug on the basis of the rim diameter; this has a concave neck and everted, flattened rim (Fig. 4.16.11). One thumbed strap handle (Fig. 4.16.12) comes from an unknown jug or pitcher form.

All of the forms are handmade, but there is a suggestion that the jar and pitcher rims, which are relatively regularly formed, were turned on a wheel or turntable, and subsequently luted on to the body at the base of the neck, where

traces of finger-pinching and smoothing are often visible.

Of the 196 rims present (counting joining rim sherds as one), 183 have been assigned to vessel form, and of these 126 are measurable and can therefore be used to calculate EVEs (estimated vessel equivalents). Table 4.51 gives the breakdown of rim numbers, measurements and EVEs by vessel form. Rounded jars are by far the most common form, with the other forms present in much smaller quantities. Of course, the 'rounded jar' category could also include some rims from spouted pitchers, as profiles for the two forms were very similar, but this is unlikely to comprise a significant proportion. The pitchers are equivalent to the jars with the most rounded profiles (form 1a), and have been identified here on the basis of spouts (four examples) or handles (one example).

Table 4.51 also gives the range of rim diameters for each form. Only for the rounded jars are there sufficient rims to calculate the distribution of diameters (Fig. 4.17 Chart showing medieval jar rim diameters, West of River Roding). The range of diameters shows a classic normal distribution with a peak at 240 mm. In other words, there is little evidence here for any standardisation in vessel sizes (at least, based on rim diameter) but rather a range within a continuous spectrum. However, rim diameters for both early medieval wares and medieval coarse wares at Colchester and elsewhere show very similar distributions, albeit both with a peak at a slightly smaller diameter of 210–20 mm (Cotter 2000, figs 28 and 56), suggesting that the overall size range was standardised across the region.

The flared dishes, despite small quantities, show a wide variation in rim diameter, with one very large example (480 mm); none of the other measurable dishes has a diameter greater than 380 mm. The rounded bowls and spouted pitchers both show signs of some standardisation in size. Five of the six rounded bowls have diameters between 200 and 220 mm, while four of the five spouted pitchers have diameters of 200 mm.

Parallels for the rounded jars and flared dishes can be found within assemblages from Stansted Airport, in 'early medieval Stansted ware' (Walker forthcoming, fabric 13st) and Saffron Walden, all in 'local early medieval wares' (Cunningham 1982, fig. 42.7, 42.13, 42.20, 43.43). One rounded jar from Saffron Walden has horizontal scoring very similar to the kiln products; the form is dated there as mid 12th to 13th century (ibid. 83). A similar range of jars and dishes is also seen at Colchester in early medieval sandy wares (11th to late 12th/early 13th century), including the products of the Middleborough kilns (Cotter 2000, figs 22–4, 30, 33–5). Within the overall date range of 11th to late 12th/early 13th century, rounded jars were apparently more common in the early and later stages of the industry, shouldered jars predominating in the intervening period (ibid. 41).

Spouted pitchers are a 12th-century form not commonly found in Essex, and none are recorded from Stansted Airport, although tripod pitchers occur there in 'early medieval Stansted ware' (Walker forthcoming). Spouted pitchers

from Colchester, including examples from the Middleborough kilns, are of similar form but lack the fillet connecting the spout to the rim (Cotter 2000, fig. 36, 82–9). The spouted pitchers, and the emphasis on undeveloped rim forms, would characterise this assemblage as 12th century, although the presence of some jars and spouted pitchers with more developed, hollowed everted rims, perhaps serve to place it towards the turn of the century.

Decoration

Just under one quarter of the assemblage (by number of sherds) carries some form of decoration, but this is very limited in the range of techniques used. The most common decorative technique (415 sherds) consists of horizontal scoring on the exterior of rounded jars, rounded bowls and spouted pitchers (eg Fig. 4.16.4, 7, 8). This technique is not commonly found on pottery in the area; one example is illustrated from Saffron Walden (Cunningham 1982, fig. 42.13), and one horizontally striated sherd is noted from Stebbingford Farm, Felsted, in medieval coarse ware (Walker 1996, 128), but none were recorded from Stansted Airport (Walker forthcoming). The effect seems to have been achieved by the use of a stiff brush or something similar rather than with a toothed comb; the lines seen on Fig. 4.16.4 show that whatever was used had a narrow width. The effect is somewhat similar to the scratch marking seen on 12th- and 13th-century jars across Hampshire and south Wiltshire, although not so random in execution (eg Musty et al. 1979, fig. 10).

The only other techniques used on vessel bodies are the application of thumbed strips, sometimes over scoring (29 examples, eg Fig. 4.16.2), and curvilinear scoring or combing (25 examples, eg Fig. 4.16.13). Fifty rims, all from rounded jars (forms 1a and 1b), are finger-impressed (Fig. 4.16.1, 3), and one rim has curvilinear scoring on the top (Fig. 4.16.14).

There is no definite evidence of glaze. A handful of base and body sherds, all from kiln 12110, show traces of what might be degraded glaze on internal surfaces, but this could just be a result of overfiring.

Pottery by context

Pottery was recovered from four features—kilns 12104 and 12105, and pits 12120 and 12154—as well as from a small area of root disturbance (12128). In addition, pottery sherds were collected over the top of the kilns as unstratified material.

Cross-context joins were noted within kilns 12104 (12108/12110) and 12105 (collapse layers 12113 and 12115), and also between the overlying unstratified material and kiln 12105. However, the most interesting cross-context join linked sherds of a flared dish between the two kilns (12109/12110), suggesting that the whole assemblage, or at least the bulk of it, was dumped into the kilns at the same time. Likewise, there is nothing to suggest any significant chronological sequence between the backfilling of the kilns and the filling of the other features. Pit 12154 was cut by kiln 12105, but the pottery from both features was of similar character, as was that from pit 12120.

Discussion

The two kilns excavated were producing a limited range of vessel forms in variants of a single fabric type (early medieval ware). Both forms and fabric are directly comparable to those identified within the assemblages from the nearby kilns excavated by ECC Archaeological Field Unit, and it is clear that this small group of kilns was in operation at more or less the same time. The homogeneity of the assemblage, and the limited range of forms, suggests that production on the site was relatively short-lived and that when the kilns were abandoned, they were backfilled, perhaps in a single episode, with waste sherds.

The life-span of a single kiln is difficult to estimate. At Laverstock a span of five years per kiln was suggested, based on a weekly firing through the summer of each year (Musty et al. 1969, 92–3). Although this figure has been challenged, on the basis of a perceived overestimate of the number of firings per season (McCarthy and Brooks 1988, 46), a similarly short life span (five years or less) has been suggested for the Middleborough kilns at Colchester (Cotter 2000, 67). If the kilns at Site 40 were in use sequentially (as is suggested for both Laverstock and Middleborough), the whole complex could have operated for less than a generation.

The kilns, then, were probably in use for a relatively short period during the 12th century, and probably towards the end of the century. In the absence of any form of independent dating (no archaeomagnetic dates were obtained, nor was there any pottery of other types which might have provided additional chronological information), the dating of the kilns relies solely on vessel typology. The vessel forms seen here show an interesting mix of chronological traits—the spouted pitchers with undeveloped rims, characteristic of the 12th century, alongside a small number of more developed rims, suggesting a transitional stage. The scored decoration, too, is interesting, as this technique is not commonly found on other sites in central Essex.

So how does this kiln assemblage fit into the regional picture of pottery production? Several kilns are known within the county, which were producing sandy grey wares (Fabric 20) from the late 12th to the end of the 14th century, but the only known kiln producing early medieval ware was in the Middleborough suburb of Colchester, in the late 12th and early 13th century (Cotter 2000, 57–67). Cotter notes similarities between the Middleborough kiln products and those of the Hedingham coarse ware industry; the start of the industry at Hedingham began at least as early as c 1140/50 (ibid. 69). Other production sites almost certain existed and, because of the basic similarity of early medieval wares across north Essex, it is difficult to identify specific sources for all except the most distinctive wares. The pattern was almost certainly one of dispersed, rural-based kilns supplying a largely local market with coarse wares (a maximum 20 mile radius).

In this particular instance the kilns may have been supplying an even more localised market, since its products, which are quite distinctive, do not seem to have been recognised on other sites in the area, with a few possible exceptions. It is possible that the

kilns were associated with a known moated manor to the north of the site (R. Havis pers. comm.).

Catalogue of illustrated vessels (Fig. 4.16)

1. Rounded jar (form 1a), finger impressed rim. PRN (Pottery Record Number) 89, context 12110, kiln 12104
2. Rounded jar (form 1b); scored and applied thumbed strip. PRN 140, context 12110, kiln 12104
3. Rounded jar (form 1b); finger-impressed rim. PRN 143, context 12110, kiln 12104.
4. Rounded jar (form 1c); scored. PRN 102, context 12110, kiln 12104.
5. Flared dish, knife-trimmed around base. PRN 84, context 12110, kiln 12104.
6. Flared dish, knife trimmed around base. PRN 399, context 12158, pit 12154.
7. Rounded bowl; scored. PRN 194, 12113, kiln 12105.
8. Spouted pitcher; scored. PRN 362, context 12137, kiln 12105
9. Spouted pitcher. PRN 82, context 12110, kiln 12104.
10. Strap handle probably from spouted pitcher, thumbed edges. PRN 149, context 12110, kiln 12104.
11. ?Jug rim; curvilinear scoring on neck. PRN 105, context 12110, kiln 12104.
12. Thumbed strap handle. PRN 83, context 12110, kiln 12104
13. Decorated body sherd; curvilinear scoring. PRN 122, context 12110, kiln 12104.
14. Jar rim with curvilinear combing on top of rim. PRN 106, context 12110, kiln 12104.

Ceramic building material

by Rachel H. Seager Smith

Introduction

Only two large groups of ceramic building material were found along the route of this road, from the sites identified at Rayne Roundabout and Strood Hall. Both assemblages consisted of a little over 200 pieces and were almost exclusively of Romano-British date.

All the ceramic building material from these two sites was recorded by context. Broad fabric analysis was undertaken at a macroscopic level and the fragments were divided into brick/tile types (tegula, imbrex, flue tiles etc). 'Brick' was used to describe all types of Roman building brick. In the absence of any complete length/width dimensions, bricks in this assemblage were defined on grounds of thickness (greater than 30 mm) although it is recognised that this was a somewhat arbitrary division. The thickness was also used to provide some guide as to the range of types present (cf. Brodribb 1987, 34–62). 'Flat fragments' were defined as broken pieces, less than 30 mm thick, with two parallel surfaces surviving. 'Featureless fragments' was used to describe very broken pieces with no surviving surfaces, one surface or two surfaces at 90^0.

The number and weight of the pieces in each brick/tile type was then recorded on a Excel spreadsheet. Where appropriate, the presence of nail holes, descriptions of keying and signatures, paw-prints and any other interesting features were recorded. The range of tile types present is summarised in Table

4.52 while the number of pieces in each of the Roman fabric groups is presented in Table 4.53.

In addition to the Roman ceramic building materials which form the subject of this report, small quantities of post-medieval and later tiles (Table 4.52), mostly peg-hole roof tile and land-drain pipe fragments, were found at both sites; details of these can be found in the archive.

Description of assemblage

Overall, the assemblage was very fragmentary. No complete lengths or widths were recovered and the flat and featureless pieces predominated at both sites. The majority of pieces showed moderate to severe surface and edge abrasion and the mean fragment weight for the Roman material was 95 g at Rayne Roundabout and only 53 g at Strood Hall. Numerous fresh breaks were noted at both sites. In several instances, freshly broken pieces were found to join, not only within but also between contexts from the same feature. Details of these joining pieces are contained in the archive.

The Roman fabrics were characterised by variable quantities of quartz sand, with the addition of a single featureless fragment in grog-tempered fabric from Rayne Roundabout. In almost all cases, sand had been used to prevent the bricks and tiles sticking to their moulds and formers.

Romano-British fabrics

Fabric 1: Hard, moderately fine grained, predominantly oxidised fabric containing moderate to abundant quartz sand and sparse red/black ferrous particles up to 1 mm across with very occasional large (up to 18 mm across) calcined flints and grog (up to 5 mm across). Sand grains were apparent to the naked eye in the abraded fractures of the pieces.

Fabric 2: Hard, fine grained, predominantly oxidised fabric containing moderate to very common quartz sand and sparse red/black ferrous particles up to 0.5 mm across with very occasional large (up to 18mm across) calcined flints and grog (up to 5 mm across). Fabric feels slightly sandy but the individual grains are not readily apparent without the aid of a lens or microscope.

Fabric 3: Hard, smooth, very fine-grained fabric with few visible inclusions; although oxidised, smears of different coloured clays are apparent.

Fabric 6: Moderately hard, oxidised fabric with rare to sparse grey grog up to 7 mm across in a fine-grained matrix of rare to sparse quartz sand and red/black ferrous particles up to 0.5 mm across.

Although the range of fabrics was similar at the two sites, their proportions varied, with the coarser and moderately fine fabrics (fabrics 1 and 2) occurring in equal quantities at Rayne Roundabout while the moderately fine fabric (2) was overwhelmingly dominant at Strood Hall. At both sites, the finest fabrics (the finer versions of fabric 2 and fabric 3) were used almost exclusively for flue tiles. Other differences were apparent in the degree of oxidisation at the two sites, the material from Rayne Roundabout being fully oxidised and bright reddish orange while the assemblage from Strood Hall was much duller in colour, being

orange-brown and only partially oxidised. Without more detailed fabric analysis, the reasons for the colour differences are unclear but may encompass differences in production centre, chronology and/or even the natural variability within the raw materials and different manufacturing batches. A similar reliance on variably sandy fabrics from local sources was noted at Chelmsford (Wickenden and Drury 1988, 79).

Roof tile

Recognisable roof tile (tegula and imbrex) fragments were comparatively poorly represented, especially at Rayne Roundabout (5% of the total number of pieces compared with 18% at Strood Hall). Where measurable, the tegulae varied between 17 and 26 mm thick, with the majority between 20 and 24 mm. No details of flange and cut-away morphology were recorded for this assemblage, there being so few examples where such features survived, although most had a single finger groove parallel with the flange. One tegula fragment from spread 1275 at Strood Hall preserved part of a curvilinear 'signature' made with a single finger but no other markings, signatures or stamps were recorded.

Flue tile

Fragments of hollow box-tile were noted at both sites, identified on the basis of their morphology and the presence of combed or knife-cut keying. Slight differences in thickness were apparent between the two sites, those from Rayne Roundabout being between 9 mm and 20 mm thick while those from Strood Hall varied from 17–24 mm thick. Differences in the types of keying were also apparent between the two sites. Pieces from three roller-stamped tiles were recovered from Rayne Roundabout. Two, from alluvial deposit 161 and the fill of land drain 217 (Fig. 4.18.1), were stamped with a 'florid' design (Lowther 1948, die 9). This was the most commonly used of all roller stamped dies with a wide distribution in London and eastern England, as far north as Lincolnshire (Betts et al. 1997, 31, fig. 16). Locally, examples are known from Broadfields Farm, Rayne and the Colchester colonia (ibid. 78, corpus cat. nos. 19 and 23); present dating evidence suggests that this die was used during the 2nd and/or early 3rd century AD. The third piece, from dump layer 156 (Fig. 4.18.2), was stamped with a diamond and lattice design (Lowther 1948, group 5) although this was too incomplete to assign to a particular die. Pieces from at least three other flue tiles had combed keying while an additional three had knife-cut lattice designs. No roller stamped tiles were found at Strood Hall, and only one knife-cut example. However, pieces from at least six tiles carried combed wavy line keying, perhaps suggesting a more restricted range of sources at this site.

Brick

Roman bricks were made in a variety of sizes to suit specific purposes (Brodribb 1987, 34–62) although there was considerable overlap between the different types. Overall, the bricks varied from 30–59 mm thick. Their frequency varied slightly between the two sites, bricks accounting for 18% of the total number of pieces from Rayne Roundabout but only 11% from Strood Hall, although greater differences were apparent in the

possible range of types present. The brick fragments from Rayne Roundabout varied from 30–59 mm thick while those from Strood Hall were considerably thinner varying from 32–41 mm. This suggests that only the smaller, thinner types (bessalis, lydion and possibly pedalis) were represented here, while the Rayne Roundabout assemblage probably included some of the larger, thicker types (sesquipedalis and bipedalis), which Brodribb described as having average thicknesses of 52 mm and 60 mm respectively. Bessalis and pedalis were primarily used in hypocaust pillars but also in floors, arches and in bonding courses for walls; lydion were most suitable for bonding and lacing in walls. Sequipedalis were most commonly used as flooring or as the pavement beneath hypocaust pillars while the bipedalis were used to bridge the gaps over hypocaust pillars, in arches and occasionally to face walls (Brodribb 1987, 34–62). None of the bricks carried signatures, tally-marks, paw-prints or other markings.

Flat fragments

The flat fragments varied from 16–26 mm thick. Partial curvilinear finger-smeared 'signatures' were noted on two flat pieces from Rayne Roundabout and one flat and three featureless fragments from Strood Hall. Signatures appear more frequently on tegulae than any other type of tile (Brodribb 1987, 99), which, coupled with their thickness, suggests that most of the flat pieces probably derived from tegulae.

Conclusions

Although none of the small quantities of rather fragmentary ceramic building material from these two sites could be directly related to specific structures, its presence serves to indicate the likelihood of substantial Romanised buildings in their near vicinity. It is likely that these would have had tiled roofs and hypocaust heating systems and may have had bricks incorporated into their walls and floors.

Fired clay

by Lorraine Mepham

Introduction

Approximately 27.5 kg of fired clay was recovered from the A120 sites; quantities by site are presented in Table 4.54. Few individual sites produced any significant quantity of fired clay; only seven yielded more than 1 kg (West of River Roding (Site 40), East of Little Dunmow Road (Site 50), Blatches (Site 24), Highwood Farm (Site 11), Strood Hall (Site 9), Grange Lane (Site 20/49) and Rayne Roundabout (Site 33)) and on only one (Site 40) was there more than 5 kg.

Most of this material is likely to be of structural origin, from hearth/oven linings or upstanding wattle and daub structures, and several fragments exhibit traces of wattle impressions. This material is of uncertain date but is associated on various sites with pottery of later prehistoric (middle/late Bronze Age to middle Iron Age), late Iron Age/Romano-British and medieval date. On several sites (of various dates, but mainly of late Iron Age date or later) the fragments consist of clay with an admixture of crushed chalk (Grange Lane, Site 49; Rayne Roundabout, Site 33; Strood Hall, Site 9; Blatches, Site

24; East of Little Dunmow Road, Site 50).

The largest site assemblage of fired clay—from West of River Roding (Site 40)—amounting to just over 13 kg, probably derives from the superstructure of one of the two pottery kilns excavated on the site. The fabric of this material, a soft-fired oxidised fabric with frequent, poorly sorted white pellets, and occasional quartz sand and mica, was identical throughout. The assemblage mainly comprised featureless fragments, although a number of pieces exhibited rough surfaces and edges. Impressions of vegetable matter were observed on most of the larger fragments.

A small group of fragments from one feature at Rayne Roundabout (Site 35) have been heavily burnt, almost to the point of vitrification, which would support a function as hearth lining, perhaps for some small-scale industrial activity; a small quantity of slag was recovered from the same feature (though not necessarily from metalworking).

Objects

Very few objects were identified—three loomweight fragments plus three other objects. One fragment from Highwood Farm (Site 11) can be identified as part of a triangular loomweight in a chalk-tempered fabric (Fig. 4.19), a type in use from the middle Iron Age (Champion 1975). The fragment was associated with late Iron Age pottery (feature 2088). From East of Dunmow Road (Site 50) came fragments from a further two triangular loomweights, one in a sandy fabric and one in a chalk-tempered fabric (ditches 30010 and 30328 respectively). Again, both were associated with late Iron Age pottery.

A fragment from North of Clobbs Wood (Site 17a) is possibly from a small object such as a spindlewhorl or slingshot (feature 104: associated with Romano-British pottery). A fragment from Warish Hall (Site 2) could be from a loomweight or spindlewhorl, of uncertain form and date (pit 29: late Bronze Age), and a fragment from Stone Hall (Site 42) might be from a cylindrical loomweight (posthole 14047: late Bronze Age).

?Briquetage

A small group of fragments from East of Little Dunmow Road (Site 50), all from ditch 48107, could be briquetage. No form could be ascertained, but the fragments are in a heavily organic-tempered fabric which is quite distinctive within the overall fired clay assemblage, and which is characteristic of salt briquetage of later prehistoric or Romano-British date in the area, for example from Chigborough Farm, Heybridge, and Stansted (Major 1998; 2004). Briquetage on an inland site such as this could have arrived through accidental transport within salt blocks traded from the coastal salt production sites.

Metalworking debris

A group of fragments from Greenfields (Site 27/28) was identified as metalworking debris, comprising mould fragments. This group of material is discussed separately (see below).

Coins

by Nicholas Wells

Eight coins were recovered, all from Strood Hall and all of copper alloy. Seven date from the Roman period and the other is a worn penny of George III. All the coins have been scanned and spot-dated, and the results have been summarised in tabular form (Table 4.55). In general the coins are in good condition.

Of the Roman coins, all but two are contemporary copies of late 3rd century AD antoniniani which circulated from AD 275 to 286 (in Britain, though a residue may have circulated later). One of these is a cast piece (the sprues are evident) worn flat and striated on both faces, which was probably a blank for the creation of a new copy.

The earliest Roman coin is a copy of a dupondius of Antoninus Pius. Copies of the earlier bronze denominations in Britain are relatively unusual except at two periods. The first is the time after the Claudian conquest (AD 43), particularly in Nero's reign (up to AD 64) when low value denominations were not issued in enough quantity to satisfy demand stimulating the production of (possibly semi-official) copies of asses of Claudius and Gaius, probably at Colchester. The second period consists of copies of varying bronze denominations of Hadrian, Antoninus Pius, Lucius Verus and Lucilla (AD 117–161), both cast and struck. A large assemblage of these has been found in excavations at the Temple of Sulis-Minerva at Bath (Walker 1988) and it is postulated that a single workshop or closely related set of workshops produced these coins within the province of Britain. It is likely that they circulated at least until the end of the reign of Marcus Aurelius (AD 180) and perhaps beyond.

The latest coin is a Æ3 nummus of Constantine I (Beata Tranqvillitas type). This was issued between AD 321 and 324 and could have remained in circulation until AD 348.

Metalwork

by Ian R Scott, with contributions by Philippa Walton

The metalwork from the A120 sites has been recorded by site onto a database, and, in addition, archive reports have been written for the more important assemblages. Other assemblages have simply been tabulated for the archive, although selected items have been included in this publication report.

In this report the metal finds are ordered by site, but within broad chronological sections. More significant finds are catalogued. Discussion of the individual items is confined to the catalogue sections.

Material recovered during watching briefs along the line of the A120 is incorporated into the broad period sections as appropriate. From the vicinity of Takeley Church, there are metal detector finds which include metalwork and coins ranging in date from the late pre-Roman Iron Age to the early post-medieval period (see CD-Rom Chapter 2). This material has been identified and dated and listed, but the present author has not seen it. Because of this the relevant material is listed under the broad period sections, but not formally catalogued.

Prehistoric metalwork

Despite the evidence for prehistoric metalworking at Greenfields (see L Mepham metalworking debris below) there is no clear prehistoric metalwork from among the material from the excavated sites on the route of the A120. The main sites with prehistoric evidence were Grange Lane, Greenfields, Highwood Farm, East of Dunmow Road, Stone Hall, and Frogs Hall East, but only Greenfields has produced any metalwork and this comprised a single copper alloy plate fragment, probably scrap metal (SF 4), from middle Bronze Age pit 1035. In total these sites have produced 23 metal fragments (including 18 iron and 3 copper alloy). The iron comprises mainly nail fragments. The copper alloy includes the scrap fragment noted above from Greenfields (cxt 1038, SF 4), fragments of pin stem (Greenfields ctx 1015, SF 5) and a brooch pin with a looped, or rolled, end (Stone Hall ctx 14218, SF 14910). Both are probably Romano-British pieces. The remaining fragments cannot be closely dated.

There is a late Iron Age gold stater and a contemporary Roman Republican coin amongst the metal detector finds from Takeley Church. These two coins are listed in the next section.

Catalogue

1. Not illustrated. Irregular fragment of copper alloy sheet measuring approximately 34 mm by 24 mm and 2.5 mm thick. The piece is quite heavy for its size suggesting a high lead content, wt. 13 g. Pit 1035, cxt 1038, SF 4.

Late pre-Roman Iron Age and Romano-British metalwork

The main sites with Romano-British occupation evidence are Strood Hall, Rayne Roundabout, Parsonage Lane and East of Little Dunmow Road, all of which have produced some contemporary metalwork, which is discussed below. In addition there is archaeological evidence from Valentine Cottage and West of Panners Roundabout for Romano-British or late Iron Age occupation, but almost no metalwork. Valentine Cottage has one nail fragment, and there is small quantity of recorded metal finds from West of Panners Roundabout.

Takeley Church: metal-detector finds

From the vicinity of Takeley Church there are metal-detector finds which include metalwork and coins ranging in date from the late pre-Roman Iron Age to the early post-medieval period. This material has been identified and dated and listed, but the present author has not seen it.

The late Iron Age and Roman material includes:

Gold stater of the Catuvellauni (British 'L' type, Whaddon Chase) dated to c 100 BC, and a Roman Republican coin of similar date
Coins, 75 Roman, 40 of which can be identified and range in date from the 1st to 4th centuries AD.
'Colchester B' brooch, complete. Copper alloy. L 37 mm
Hod Hill Aucissa type [sic] brooch, no pin or spring, body and catchplate complete. Silver gilt terminals? L 57 mm
Strap-tag, bronze. Folded with two parallel holes, and incised and punched decoration. Described as 'probably Iron Age/Roman'. L 45 mm.

The quantity of Romano-British material suggests activity in the area. The comparatively large number of coins, compared with other finds, suggests that some at least may have come from a hoard, rather than from losses on a settlement site.

Strood Hall
by Philippa Walton, completed and edited by Ian Scott

The assemblage
The metalwork assemblage from Strood Hall is quite sizeable, and comprises 1134 objects or fragments. There are 1082 pieces of iron (Table 4.56), 30 copper alloy objects (Table 4.57) and 21 pieces of lead (Table 4.58).

The ironwork is dominated by wood nails (n = 642) and hobnails (n = 131). (All the iron 'Personal' items are hobnails.) There are also 140 miscellaneous pieces and 120 unidentifiable fragments ('Unknown'). By contrast the main category of copper alloy finds comprises Personal items made up of toilet items and brooches and other ornaments. The lead is mainly miscellaneous pieces; the only exception is a post-medieval pistol ball (SF 1008, metal detector find, not catalogued here).

Almost all the ironwork is from late Iron Age and Romano-British contexts (n = 1068). The bulk is derived from early Romano-British (n = 539), and late Romano-British contexts (n = 413). Nails and hobnails dominate both these phase assemblages: the early Roman assemblage includes 368 nails (= 68.3%) and 45 hobnails (8.3%) and the late Roman assemblage includes 245 nails (= 59.2%) and 73 hobnails (17.6%) (Tables 4.61 and 4.63). In both phases the nails and hobnails comprise over 75% of the ironwork assemblage by number.

The single nail from a late Iron Age/early Romano-British context is from a cremation (ctx 1315; grave 1314). Most of the nails from early Romano-British contexts (354 of 368) are from cremations: graves 1279, 1285, 1509, 1593, 1862, 1868 (Table 4.59). Only 14 nails are from other context types. The nails from mid Roman contexts are limited in number and are all from ditch or pit fills, except for a nail stem fragment from cremation 16004 (ctx 16005). The nails from late Romano-British contexts are mainly from midden deposits: 52 from midden 1329 and 145 from midden 1206 (Table 4.60a). Of the remaining 48 nail fragments, 21 are from cobbled surface 1207 and 14 from contexts 1472–74, to the N and W of surface 1207. The remaining ten nails are from ditch and pit fills and the like.

The hobnails, which number 131 ('Personal'), reveal a similar pattern of deposition. All the hobnails from the early Romano-British contexts come from cremation burials: graves 1285 (ctxs 1286, 1478; 36 hobnails), grave 1509 (ctxs 1510, 1511, 1520; 8 hobnails) and grave 1862 (ctx 1864; one hobnail). The twelve hobnails from mid Roman contexts are from ditch fills. The hobnails from late contexts are almost all from midden deposits (30 from midden 1329, and 29 from midden 1209) or from cobbled surface 1207 (n = 5) and associated contexts (n = 6; ctxs 1472–73). None is from a grave and only three hobnails are from other deposits.

Although there are similarities between the early and late Romano-British ironwork assemblages, there are also hints of significant differences. The early assemblage lacks any recognisable iron objects other than hobnails and nails. There are many miscellaneous fragments and large number of small identifiable fragments. The late Romano-British assemblage has a spearhead (Cat. No. 1), a number tools or possible tools (eg Cat. Nos 2–9, 12), a hipposandal fragment (Cat. No. 14) and two knives (Cat. Nos 14–16) and two bucket handle mounts (Cat. Nos 18 and 20). This does suggest a change in the nature of the occupation, or more probably, of the material culture of the settlement, but the data must be treated with caution.

The numbers of metal finds are small, and the evidence of the copper alloy finds appears to tell a different tale. Half of the small copper alloy assemblage (n = 15) is from early Roman contexts (Table 4.57). The early Roman copper alloy assemblage includes a globular ferrule (Cat. No. 21), two Hod Hill brooches (Cat. Nos 22–23), a one piece Colchester brooch (Cat. No. 26), two Colchester derivative brooches (Cat. Nos 27–28), a plate brooch of early type (Cat. No. 25), an armlet (Cat. No. 30), a chatelaine (Cat. No. 31), tweezers (Cat. No. 32) and a nail cleaner (Cat. No. 33). For the most part the early material was recovered from cremations, only three items—the globular ferrule (Cat. No. 21), a Hod Hill brooch (Cat. No. 22) and the early type plate brooch (Cat. No. 25)—were not from cremations. A spatulate scoop (Cat. No. 35) from an early to mid Roman context was also not from a cremation. There is also a fragment of an unstratified plate brooch with early features (Cat. No. 24).

The late Roman assemblage by contrast consists of three items, a needle (Cat. No. 10), a flat disc (not a coin) (Table 4.64) and an enamelled symmetrical plate brooch of continental type (Cat. No. 29). Fragments of a probable hemispherical bowl (Cat. No. 17) came from a mid to late Roman context.

Provenance

The fact that much of the copper alloy from the early Roman phase was recovered as grave goods from cremations may help to explain the difference between the assemblages from early and late phases of settlement. The majority of the metal finds from the earlier phases of the settlement are from cremations: 91.7% of fragments by number (616 of 672) from early or early/mid Romano-British contexts are from cremations. By contrast finds from mid/late and late Romano-British context are largely from midden deposits: 77.8% of fragments (333 of 428). There are also a number of metal finds from the late cobbled surface 1207 (n = 33) and associated deposits (contexts 1472, 1473 and 1474; n = 24).

The quantity of material that is not from closely dated Romano-British contexts is limited: four fragments, all iron, come from 'Roman' contexts, two pieces from possible medieval or post-medieval contexts (all iron), 18 pieces are from unphased contexts and nine pieces are unstratified. One of the unstratified pieces is a probable disc brooch with early features (Cat. No. 24).

Early Romano-British cremation burials

The cremation burials from early phases (Table 4.59) include examples that have produced little more than large numbers of nails and smaller numbers of hobnails (cremations 1862, 1509 and 1285), others that have numbers of miscellaneous scraps of iron (cremations 1314, 1855) and two that have produced very few finds (cremations 1279 and 16004). Seven cremation burials produced copper alloy finds: (1381, 1386, 1410, 1585, 1593, 1733 and 1868). There are two cremations with copper alloy and iron fragments (1593 and 1868). Cremation 1593 has only two plain copper alloy rings (see Fig. 4.21), and a single nail, various pieces of plate and numerous small unidentifiable fragments. Cremation 1868 has a well-preserved 'dolphin' brooch (Cat. No. 27) and several nails. The remaining five cremation burials have no evidence for iron finds (1381, 1386, 1410, 1585 and 1733). Cremation 1381 has a Colchester derivative brooch (Cat. No. 28); cremation 1386 has toilet set or chatelaine (Cat. No. 31). Cremation 1410 contained a pair of tweezers and a nail cleaner (Cat. Nos 32–33), presumably parts of a toilet set, a looped terminal of uncertain function (Cat. No. 39) and a small unidentified fragment (Table 4.66; ctx 1411). Cremation 1585 had an eroded Hod Hill brooch (Cat. No. 23) and a complete bracelet (Cat. No. 30). Finally, cremation 1733 produced a one-piece Colchester brooch (Cat. No. 26) and a globular ferrule (Cat. No. 21).

None of the items are burnt, and they may therefore have been placed in the vessel after the cremation of the body had taken place. In London's eastern cemetery (Barber and Bowsher 2000), 33 cremation burials out of a total of 136 had grave goods. Only 16 cremations had unburnt non-ceramic burial goods. Nine of these burials were more elaborate amphora burials. Five of the burials with unburnt grave goods were unurned. Coins were the most common unburnt non-ceramic offering (ibid. 141). Generally, the most common items buried with cremations included glass, copper alloy objects and iron objects (most commonly hobnails). It is likely that the wood nails were the remains of biers or coffins (ibid. 68). The hobnails could have gathered up with the ashes after cremation, or complete unburnt shoes could have been buried with the ashes (ibid. 69).

The recovery of toilet implements is interesting. Both Hill (1997) and Crummy (2001) have pointed out that toilet instruments appear in the archaeological record of the very late Iron Age in south-east England. They are not limited to post-conquest contexts, although they are much more common after the conquest. Hill has looked in some detailed at toilet instruments from late Iron Age and early Romano-British contexts and noted that in the late Iron Age they occur in burial and settlement contexts, and that their distribution is concentrated on south-east England. Although many toilet instruments come from cremations, they are found only in a minority of burials (Hill 1997, 100). Hill suggests that the increasing occurrence of these items implies an growing emphasis on personal grooming amongst a minority of the population (ibid. 100–2) and notes that there are other changes in the archaeological record in the late pre-Roman Iron Age—changing

mortuary practice, the appearance of fibulae in large numbers, the increase in the artefact record generally, and so forth—which need to be interpreted. Is what we are seeing, with the appearance of toilet instruments, evidence for a minority expressing their individuality through increasing emphasis on personal hygiene and grooming within the more politically sophisticated, organised and stratified societies of the south-east?

Late Romano-British middens (1206 and 1329) (Table 4.60)
There are two middens, 1206 (with 1301) and 1329. The larger assemblage of metal finds comes from midden 1206 (Phase 13.1). This comprises 235 metal fragments, of which only one piece is copper alloy. This is small blank disc, not a coin (Table 4.64; ctx 1206). The identifiable iron finds comprise evidence for craft tools, agricultural implements, for transport and domestic equipment. There are also structural elements. The finds include a small chisel (Cat. No. 2) and a possible chisel (Cat. No. 3), a possible modelling tool (Cat. No. 5); a rake prong (Cat. No. 8), a hipposandal wing (Cat. No. 14), two whittle tang knives (Cat. Nos 15–16) and a bucket handle mount (Cat. No. 20). There is also a T-clamp (Cat. No. 36), 145 nails or nail fragments and five fragments of bindings. The remaining finds include 29 hobnails, 34 miscellaneous fragments and various 17 unidentified or unidentifiable fragments.

The assemblage from midden 1329 (Phase 13.2) comprises 98 pieces of which two are copper alloy. These comprise an enamelled symmetrical plate brooch of continental type (Cat. No. 29), and a sewing needle (Cat. No. 10). Both are well preserved. The ironwork includes tools: a shears blade (Cat. No. 7) and two possible punches (Cat. Nos 11–12). The only evidence for transport is a possible horseshoe nail, which if correctly identified is late medieval or post-medieval and therefore intrusive. There are 52 nails and 30 hobnails.

Cobble surface (1207)
In addition to the middens a number of finds was recovered from the late cobbled surface 1207 and associated layers (ctxs 1473, 1474, 1475). The finds from the cobbled surface comprise 33 iron fragments and include a spearhead (Cat. No. 1) and bucket handle mount (Cat. No. 18). Otherwise the finds are dominated by nails (n = 28). The layers associated with the cobbled surface produced 24 finds, all iron, and dominated by nails (n = 14) and hobnails (n = 6) and miscellaneous pieces.

Conclusions
The finds of brooches and toilet instruments in cremations fit a late pre-Roman and early Roman pattern in south-east England. The other metalwork from the early phases of the settlement is very limited in its range and typical of a rural settlement. The material from the later phases lacks the brooches and toilet implements found in the early cremations, but has a range of utilitarian objects, including tools and household items. Again the assemblage is typical of a later Romano-British rural settlement. There are two finds of note from the later settlement. The first is the symmetrical enamel-inlaid plate brooch (Cat. No. 29), which is probably of continental origin and 2nd-century date. The second is the spearhead (Cat. No. 1), which has the appearance of a Saxon,

rather than Roman, weapon, but which cannot be conclusively dated to the post-Roman period.

Catalogue

Arms

1. Spearhead. Iron. Leaf shaped blade of diamond section. Possible mid rib visible on one side. The large, long socket has a V-split. L 313 mm; W 41 mm. Ctx 1207, SF 52. Ph 13.1 (late Romano-British).

The length of the socket—it forms almost half the length of the spearhead—and the V-shaped split in the socket suggest that this is a Saxon form, with some affinities with Swanton's leaf-shaped forms (esp. Group D1) and angular forms (Groups E1 and E2) (Swanton 1973, 64–7, 77–83, figs 18, 23–4), rather than a Romano-British spearhead.

Woodworking tools

2. Chisel. Iron. Small chisel with rectangular section stem expanding to fan-shaped blade. L 57 mm, blade W 24 mm. Ctx 1274, SF 114. Ph 13.1 (late Romano-British).

Comparable to small chisels from Hod Hill, Dorset (Manning, 1985, 24 and pl.11: B43 and B44).

3. Possible chisel, or modelling tool. Iron. May simply be a tapering spike. Tapering rectangular section stem expanding to fan-shaped blade. L 41 mm, blade W 13 mm. Ctx 1292, SF 273. Ph 13.1 (late Romano-British).

Of similar form to Cat. No. 1.

Modelling tools

4. Modelling tool. Iron. Circular section stem expanding to fan-shaped blade. L 25 mm blade; W 14 mm. Ctx 1266. Ph 13.1/2 (late Romano-British).

5. Possible modelling tool? Iron. Rectangular section stem at right angles to the plane of the blade. Triangular blade (broken) extends from the stem. L 53 mm; blade W 11 mm. Ctx 1274, SF 13. Ph 13.1 (late Romano-British).

Agricultural tools

6. Ox-goad. Iron. Rectangular section strip wound into spiral. The point of the goad is missing. L 15 mm; W 16 mm. Ctx 1624. Ph 13.2/3 (late Romano-British).

7. Shears blade. Iron. Blade, incomplete, but curved back and slightly curved edge. Probably from a pair of shears. The remaining stub of the 'tang' is of flat rectangular section, suggesting that it is part of a spring rather than a whittle/rod tang. L 115 mm. Ctx 1329, SF 544. Ph 13.2/3 (late Romano-British).

8. Rake prong. Iron. Tapering tine of square section, with stepped tang. L 123 mm. Ctx 1274, SF 35. Ph 13.1 (late Romano-British).

9. Reaping hook. Iron. Small reaping hook, socketed. Much eroded, but the identification is clear. The broken blade is set at angle to the open, flanged socket. L 60 mm. Ctx 1545, SF 402. Ph 12/13 (mid/late Romano-British). Compare with and example from Wandsworth, London (Manning, 1985, 53, pl. 22: F27).

Textile tools

10. Needle with groove above and below the eye. Copper alloy. Circular section stem with flattened head. Complete. L 116 mm. Ctx 1401, SF 599. Ph 13.1/2 (late Romano-British).

Possible tools

11. Possible punch. Iron. Tapering point of square section. L 57 mm. Ctx 1329, SF 522. Ph 13.2/3 (late Romano-British).

12. Possible punch or awl. Iron. Poorly preserved. The identification is uncertain. L 48 mm. Ctx 1329, SF 523. Ph 13.2/3 (late Romano-British).

13. Socketed implement. Iron. Semi circular socket expanding to flat, triangular(?) plate, broken. L 58 mm; W 21 mm. Ctx 1608. Ph 12.1 (mid Romano-British).

Items relating to transport

Only one item relating to transport could be identified with certainty, although two possible horseshoe nails were noted (ctxs 1275 and 1333: midden deposits), which must be intrusive if correctly identified, as also a fragment of horseshoe. The latter was unstratified and probably medieval in date. The hipposandal wing (Cat. No. 14) was from a midden deposit.

14. Hipposandal wing. Iron. L 77 mm; W 44 mm. Ctx 1506, SF 117. Ph 13.1 (late Romano-British).

Knives

15. Knife with whittle tang. Iron. The back continues the line of the circular section tang and is straight. The back and edge are parallel. L 99 mm; W 32 mm. Ctx 1380, SF 189. Ph 13.1 (late Romano-British).

16. Knife blade. Iron. Whittle tanged knife blade, with curved back and edge, and curved choil. L 110 mm. Ctx 1507, SF 171. Ph 13.1 (late Romano-British).

Vessels

17. Vessel fragments. Copper alloy. Three fragments of an apparently hemispherical vessel. The vessel has a plain rim, possibly very slightly thickened. There is slight line just below the rim, suggesting that the vessel was formed or finished on a lathe. The fragments comprise almost three quarters of the plain bowl, although the base has eroded away. Approximate D 95 mm. L 112 mm, 105 mm and 63 mm. Ctx 1740, SF 569. Ph 12.3 / 13.2 (mid/late Romano-British).

18. Bucket handle mount. Iron. Mount formed from strip with loop at one end. Incomplete. Heavily encrusted. L 44 mm; W 23 mm. Ctx 1207, SF 217. Ph 13.1 (late Romano-British).

The form of the mount is uncertain because it is incomplete, but the presence of the nail hole suggests that it was rounded at the bottom (cf. Scott 1990, 200, and fig. 118: 43).

19. Bucket handle mount. Iron. Short mount with pierced loop at the top. The lower end is bent up to catch under the bucket hoop. Designed to be secured between hoop and bucket staves. No nail hole. L 66 mm; W 27 mm. Ctx 1341, SF 51. Ph 12.1/2 (mid Romano-British).

This bucket handle mount is a variant of a short form of mount found in a well at Dalton Parlours villa, West Yorkshire. The Dalton Parlours mounts are formed from bar of circular section bent into a U-shape, with the ends flattened and formed into hooks (Scott 1990, 200–2, and fig. 118: 46–52).

20. Bucket handle mount. Iron. Formed from strip with loop at one end, and broken at the other end.

Incomplete nail hole. L 55mm. Ctx 1446, SF 176. Ph 13.1 (late Romano-British). Probably similar in form to Cat. No. 19.

Other possible household items

21. Vessel. Copper alloy. Almost spherical vessel with an inturned rim. Possibly a small vessel for use with cosmetics or medicines. Alternatively it may be globular ferrule, or terminal. D 40 mm; H 32 mm. Ctx 1867, SF 581. Ph 11.2 (early Romano-British).

Brooches

22. Hod Hill type brooch, copper alloy, with lateral lugs placed at the top of the bow. An almost complete, but corroded example. The pin and part of the hinge are missing. The bow has been bent back. The catchplate is solid and triangular. The bow has marginal mouldings and the lugs are also moulded. There are two transverse moulded ribs on the foot and two on the head. L 51 mm, W 23 mm. Ctx 1640, SF 520. Ph 11.1 (early Romano-British).

Compare with examples from Colchester (Crummy, 1983, 10 and fig. 5.32), Dragonby (Olivier 1996, 249, and fig. 11.7. 81 and 82) and Richborough (Bayley and Butcher 2004, 73, fig. 53.103). Hod Hill brooches are an early form of hinged brooch dating to the mid 1st century AD. For a general discussion of Hod Hill types see Bayley and Butcher 2004, 152–4.

23. Hod Hill type brooch. Copper alloy. Type with a lateral lug set in the middle of each side of the bow. A central rib and three lateral mouldings. The pin is missing and the catchplate is broken. Much eroded. L 42 mm; W 15 mm. Ctx 2141, SF 659. Ph 11 (early Romano-British).

Compare with no. 29 from Colchester (Crummy 1983, 10, and fig. 5.29).

24. Flat possible disc brooch. Copper alloy. The flat plain disc has a moulded and knurled recess around a small, applied central knob. On the reverse, the hinge is extant but pin and catchplate are missing. The absence of any scar for the catch plate indicates that the brooch is incomplete. This is further suggested by the fact that the disc as it survives is neither quite circular nor concentric about the central knob. The plate has two peripheral extensions, and probably three others, now missing. One extension appears crescentic, but incomplete. Diameter 26 mm. Metal detector find, SF 1001. U/S

The brooch is similar in some aspects to early plate brooches from Dragonby (Olivier 1996, 261 and fig. 11.12.123) and Colchester (Crummy 1983, 17, fig. 14.84) although both these examples are circular and have regularly placed small knobs at the edge. It is comparable in its decoration: small knob, knurled decoration and otherwise flat undecorated plate. These features suggest that it is an early 1st-century AD form.

25. Plate brooch, early type. Copper alloy. Lozenge-shaped plate with lateral lugs and triangular foot. Hinged pin and small solid catchplate. L 29 mm; W 19 mm. Ctx 1667, SF 564. Ph 11.1 (early Romano-British).

See the examples from Dragonby (Olivier 1996, 258, fig. 11.12: 124) and examples from Norfolk (Hattatt 1989, fig. 168: 632–33, and 1472). This is an example of an early form of plate brooch.

26. Colchester type brooch, one piece. Copper alloy. Small example, bent. Plain, rectangular section bow, tapering to point. The catchplate is damaged. The external chord and part of the spring remain but the pin is missing. A piece of a small spring from the same sample is probably detached from this brooch. L 42 mm; W 10 mm. Ctx 1867, Sample 79. Ph 11.2 (early Romano-British).

Compare with examples from Richborough (Bayley and Butcher 2004, 64, and fig. 46: 57 and 58) and from Saham Toney (Brown 1986, 20, and fig. 9: 13).

27. Colchester derivative brooch (dolphin type). Copper alloy. The triangular section bow has a central moulded, knurled rib, decorated on either side with diagonal lines of punched dots and curls. The semi-cylindrical wings are grooved and ribbed. The rearward-facing hook survives but spring and pin are missing. The solid catchplate is triangular. L 58 mm; W 26 mm. Ctx 1869, SF 605. Ph 11.1 (early Romano-British).

The decoration is paralleled on a brooch from Woodcock Hall, Saham Toney (Brown 1986, 21, fig. 15: 78). The latter example has a similar pattern but marked out in fine lines.

28. Colchester type brooch, two-piece. Copper alloy. Gently curving bow with central rib and triangular perforated catchplate. Small foot moulding. Plain side wings, which are broken. L 53 mm; W 18 mm. Ctx 2132, SF 665. Ph 11 (early Romano-British).

Compare with an example from Colchester (Crummy 1983, 12, and fig. 6: 52).

29. Enamelled symmetrical plate brooch. Copper alloy. The lozenge-shaped plate has a central circular cell filled with orange enamel and an outer lozenge shaped cell that no longer contains any enamel. The outer margin of the cells is knurled. The head and foot are zoomorphic and probably represent birds. Feathers are picked out using crescent shaped punch marks. The original hinged pin has been repaired with a copper alloy wire wrapped around the head and passed through the pin. L 47 mm; W 24 mm. Ctx 1875, SF 644. Ph 13.2 (late Romano-British).

A 2nd-century type, probably made on the Continent (Bayley and Butcher 2004, 176). There is a poorly preserved example from Richborough (ibid. 128, fig. 97: 365). Hattatt published examples from Turkey, Oxford and London (Hattatt 1989, fig. 211). Compare examples from Mainz (Behrens and Brenner 1911, 106, and Abb 24: 18; Behrens 1917–18, 27 no. 38, and Abb. 7: 14).

Armlet

30. Armlet. Copper alloy. Decorated with grooves and mouldings. W 13mm. Internal D 54 mm x 39 mm. Ctx 2141, SF 662. Ph 11 (early Romano-British).

A number of examples are known, including examples from Baldock (Stead 1986, 125, and fig. 52: 163–6) and from Colchester (Crummy 1983, 37 and fig. 40: 1586). This is an early 1st-century form of bracelet or armlet. One example from Baldock was from a Neronian context, and the example

from Colchester was from a mid 1st-century context.

Toilet, surgical or pharmaceutical instruments

31. Toilet set, copper alloy, comprising nail-cleaner, tweezers and small scoop together with two pieces which probably formed part of the suspension loop. The nail-cleaner has a narrow blade with a marginal groove parallel to each edge. It has slightly rounded shoulders below the loop and a cast moulding separating the loop from the blade. The tweezers have flared blades that curve in at the ends. Like the nail cleaner the tweezers are decorated with a marginal groove parallel to each edge and over the loop. The toilet scoop has a thin stem, a suspension loop and small flat round scoop. The two fragments of suspension loop each comprise a thin curved strip with a small loop at one end. They would appear to be the ends of a curved loop, which originally had a bar across it to form a D-shape. The toilet implements would have hung from the bar. Nail cleaner: L 36 mm; tweezers: L 36 mm, W 5mm; scoop: L 37 mm; suspension loop fragments each L 11 mm. Ctx 2136, SF 664. Ph 11.1 (early Romano-British).

The nail cleaner and tweezers are clearly part of a set—the marginal groove found on both implements is telling—but the scoop is much slighter. However, the implements were recovered from a cinerary vessel together with parts of a bar-and-loop suspension ring, and it is therefore reasonable to accept that they form a complete set. The nail cleaner is a 1st-century form, comparable to but narrower and better made than an example from Fison Way, Thetford (Gregory 1992, 132, and fig. 116.11). Pairs of tweezers comparable to the example above were found at Colchester (Crummy 1983, 59, and fig. 63.1883), at Baldock (Stead 1986, 130, and fig. 56.264) and at Verulamium (Goodburn 1984, 39–41, and fig. 14.109–10). One of the latter had slight trace of cross-hatching between the marginal grooves near the end of the blade. The Colchester tweezers are not closely dated, and the Baldock example comes from toilet set found in the early 2nd-century fill of a pit. One of the Verulamium examples was from a later 2nd-century context, and the other from topsoil. Simple scoops with plain stems and loops are found at Baldock (Stead 1986, 130, and fig. 56.265–8, 275) and Verulamium (Goodburn 1984, 39, and fig. 14.104), but none are as slight as the example in question. The bar-and-loop suspension is paralleled at Colchester (Crummy 1983, 62, and fig. 67.1943). The Verulamium scoop is from a Neronian context; those from Baldock are found in contexts from the mid 1st century onwards.

32. Tweezers. Copper alloy. Flared blades, maximum width 5 mm. Blade tips are missing. A marginal groove runs parallel to each edge and over the loop. L 36 mm. Ctx 1412, SF 347. Ph 11.1 (early Romano-British).

Similar to the tweezers with the toilet set (Cat. No. 31).

33. Nail-cleaner. Copper alloy. Points are missing. A marginal groove runs parallel to each edge of the leaf shaped blade. The suspension loop (broken) is at right angles to the plane of the blade. L (incomplete) 38 mm. Ctx 1416, SF 514. Ph 11.1 (early Romano-British).

A form of nail cleaner that Crummy (2001) identifies as the 'Baldock type', and this example is comparable to a number of examples from the site at Baldock (Stead 1986, 130–4, and figs 56–7.277–81, 283–4). An example of similar form comes from Colchester (Crummy 1983, 58, and fig. 62.1874). This 1st-century form is common in the territory of the Trinovantes and Catuvellauni (Crummy 2001, 3).

34. Nail cleaner. Copper alloy. The points are missing. A marginal groove runs parallel to each edge of the leaf shaped blade. The suspension loop is at right angles to the plane of the blade. L (incomplete) 36 mm. Grave 1410, ctx 1416, SF 502. Ph 11.1.
Similar to Cat. No. 33.

35. Spatulate scoop. Copper alloy. Plain circular section stem, flattened at one end to form an angle, flat circular spatulate scoop. L 83 mm W (max scoop) 7 mm. Ctx 16009, SF 16903. Ph 11.2–12.1 (early/mid Romano-British).

Compare the examples from Baldock (Stead 1986, fig. 56.244–5, 249), which are mainly from late 2nd-century and later contexts.

Hobnails (Table 4.61)
All dome-headed tacks with short circular section stems. Head diameter 9 mm. Length of stem 7 mm. The type of shoe they came from is unknown. Probably both the calceus, a shoe and the solea, a thonged sandal were represented. It may be that smaller hobnails come from sandals whereas the larger, sturdier examples come from shoes. Corroded groups from shoes are often found at the feet of inhumation burials and individual specimens are very common (Manning 1985, 136).

Bindings (Table 4.62)
These comprise strips with nail holes, collars and ferrules.

Structural fittings
These almost exclusively comprise nails (Table 4.63), but two other structural items were recovered.

36. T-clamp with rectangular section stem terminating in rounded point. Iron. Broken in two. Has a flat rectangular head. There is bar or rod fused to side of stem (Table 4.64). L 105 mm. Ctx 1274, SF 7. Ph 13.1 (late Romano-British).

37. Possible hinge strap. Iron. Strip, slightly tapered and rolled into a loop at the wider end. No nail holes on the strip. L 99 mm; W 20 mm. Ctx 1277, SF 115. Unphased.

Nails (Table 4.63)

Miscellaneous fragments (Table 4.64)

Objects whose function is uncertain or unknown (Table 4.65)
The majority of the fragments of uncertain function have been simply tabulated. Two copper alloy fragments warrant catalogue entries.

38. Rod-like fragment. Copper alloy. Straight, diamond-sectioned rod becoming D-sectioned and curved at one end. The other end has stepped expansion. Broken at both ends. L 59 mm; W 8 mm. Ctx 1182, SF 3. Unphased.

39. Looped terminal. Copper alloy. A circular terminal, flat on one face and wider at one edge, where it originally was attached to a wide strip, possibly a handle. Ctx 1416,

SF 513. Ph 11.1 (early Romano-British).

Unknown fragments (Table 4.66)
These would not normally be tabulated, but in this instance they have been included because many derive from cremations. In the early Romano-British phase all the unidentified fragments are from cremation burials: cremation 1285, ctxs 1286 and 1478; cremation 1410, ctx 1411; cremation 1509, ctx 1511; and cremation 1593, ctxs 1594 and 1595. The unidentified fragments from the late Roman phase are predominantly from midden deposits.

East of Little Dunmow Road
by Philippa Walton

The assemblage consists of two late Iron Age or early Roman Colchester type brooches. The brooches are very similar in design, size and decoration and may have been the work of the same workshop or craftsman. The form dates from the early 1st century AD to the third quarter of the 1st century AD. Both brooches came from the fills associated with late Iron Age/early Romano-British pottery, animal bone and fired clay: from the fills of pit 30039 and ditch 30040. They may represent deliberate acts of deposition or refuse.

Catalogue (Fig. 4.20)

40. Colchester one-piece brooch. Curved bow with punched circle decoration running its length. Small plain wings, forward facing claw and characteristic spring gear. L 85 mm. Ctx 30331, SF 30903. (late Iron Age/early Romano-British).

Examples are known from pre-conquest contexts (Bayley and Butcher 2004, 149). For parallels see an example from Colchester (Crummy, 1983, 10, fig. 6.38), see also examples from Dragonby (Olivier 1996, fig. 11.4.43) and Richborough (Bayley and Butcher 2004, fig. 45.48).

41. Colchester one-piece brooch. Curved bow decorated with three vertical ribs, the central one being knurled. Small plain wings, forward facing claw and characteristic spring gear. L 90 mm. Ctx 30259, SF 30901. (Late Iron Age/early Romano-British) Similar to Cat. No. 40.

Rayne Roundabout
by Philippa Walton, completed and edited by Ian Scott

A small assemblage of metalwork—comprising 57 iron objects or fragments, 5 copper alloy objects and a single piece of lead—was recovered from the excavations at Rayne Roundabout. Most of the finds can be dated broadly to the Roman period although very few diagnostic items were found. There are eight small unidentifiable fragments and six miscellaneous fragments of iron (strip, rod, wire or sheet). Of the remaining 43 objects or fragments, 32 are nails or nail stem fragments (Table 4.67) and 11 objects are catalogued. (Some are included in the medieval and post-medieval section below: Cat. Nos 57–60, 62–63.) The copper alloy includes a 3rd-century coin, (see Wells above). One modern fitting is omitted, and two Romano-British pieces (Cat. Nos 44–45) and one possible medieval fitting (Cat. No. 61) are catalogued below. The single piece of lead is a piece of rolled sheet and is not catalogued.

Provenance
Most of the finds were located in a broad linear hollow, identified as a

stream valley, which ran NE-SW across the eastern area of the excavation. This hollow was flanked by two sets of trackway ditches (265/266 and 143/146). The feature appears to have been used as a dumping ground for refuse generated by the nearby Romano-British settlement. Identifiable pieces of metalwork are mainly utilitarian, deriving from either agricultural or minor structural use. These include a possible ploughshare (Cat. No. 42), a knife (Cat. No. 43), a swivel (Cat. No. 47) and 16 nails or nail fragments. They also include an item of personal ornament, namely a fragment of a possible cable finger ring (Cat. No. 45). Ditch 143, defining one side of the trackway, cut through the late Roman deposits filling the hollow. In addition to four nail stems, it contained a patten ring of post-medieval date. One further item of personal adornment was found on the site. This was a small Type 1 hairpin (Cat. No. 44) dating to the 2nd century AD. It was recovered from pit 1044 located north west of ditch 143. The assemblage probably represents low level activity and refuse from the small rural settlement or villa excavated to the north of the current site in 1987 (Smoothy 1989, 12–13; see also Going 1996, 98).

Catalogue

Objects associated with agriculture, horticulture and animal husbandry

These include a possible ploughshare (Cat. No. 42). The identification is not certain and the point rather narrow when compared to other examples. It may be a spud used for cleaning ploughshares and other tools. A scythe blade fragment (Cat. No. 43) is unstratified and included under the medieval and post-medieval section.

42. Possible ploughshare. Iron. Large socketed implement with head tapering to a point. Tentatively identified as a ploughshare. L 171 mm; W 20–35 mm. Ctx 149, SF 121.

The identification is not certain and the point rather narrow when compared to the examples from Hod Hill and Walthamstow (Manning 1985, 43, pl.17: F1–F5, esp. F2 and F3). An alternative identification is a spud (ibid. 49, pl.19: F14–F17).

Household

43. Knife, whittle tanged. Iron. The back continues the line of the tang and is straight. The majority of the triangular section blade is missing. The tang has part of an iron washer near its outer end. L 120 mm; W 28 mm (max). Ctx 307, SF 134. Probably Roman, the blade form is indeterminate because little survives.

Personal items

The personal items include copper alloy items of personal ornament (Cat. Nos 44–45) and a stylus fragment (Cat. No. 46). The hairpin falls into Cool's Group 1, sub-group E (Cool 1990, 152, fig. 1.4). The possible finger ring or armlet fragment (Cat. No. 45) appears to be similar to an example from Colchester. The single post-medieval item has been considered separately below (Cat. No. 63). A modern item (SF 107) has been omitted from the catalogue.

44. Hair pin. Copper alloy. Circular section stem and small round head (possibly incised). L 79 mm; W 3 mm. Ctx 1045, SF 1.

Type 1 hairpin dating to the 2nd century AD. The hairpin is comparable to an example from Colchester (Crummy 1983, 30–1, fig. 31: 497) and falls into Cool's Group 1, sub-group E (Cool 1990, 152, fig. 1:4).

45. Cable finger ring, or armlet, fragment? Copper alloy. Small section of tightly curved ring formed from two wires tightly twisted together. L 15 mm; W 3 mm. Ctx 218, SF 144.

Similar to an example from Colchester (Crummy 1983, 38–9, fig. 41.1628).

Objects used or associated with written communications
46. Possible stylus. Iron. A rectangular section stem expands to a flat wedge shaped
terminal. Possibly a fragment of the eraser end of a stylus or modelling tool? L 46
mm; W (wedge) 15 mm. Ctx 306, SF 118.

Structural fittings and nails
The bulk of the ironwork from the site comprises nails (n = 31) and these are simply tabulated (Table 4.67). In addition there is a swivel with a hook-shaped body (Cat. No. 47).

47. Swivel. Iron. Flattened spherical head and long S-shaped hooked body. L 129 mm. Ctx 300, SF 104.

Nails
There are 16 nails or tacks, one possible nail and 14 nail stem fragments. The nails include Manning Types 1, 2 and 4 (Table 4.67) (Manning 1985, 134–7; fig. 32). Twenty-two of the nails or nail fragments are stratified, the remaining nine fragments are unstratified.

Miscellaneous fittings
Most of these comprise fragments of bar, sheet or strip, which cannot be more closely identified. These are tabulated (Table 4.68) and most are iron, though there is one rolled strip of lead.

48. Ring. Iron. D 63 mm. Ctx 303 SF 114.

Objects or uncertain function and unidentifiable fragments
In addition to the miscellaneous pieces there is a small number of very small unidentifiable fragments (Table 4.69)

Parsonage Lane
by Philippa Walton, completed and edited by Ian Scott

The metalwork from Parsonage Lane comprises eight objects, only one of which is stratified. The stratified metal find is a fragmentary La Tène III brooch (SF 7900; Cat. No. 49), dating to the late Iron Age or early Roman period and was found in pit 7037. The pit also contained early Roman pottery. A number of other metal finds were recovered through metal-detecting, including two further brooches (Cat. Nos 50 and 51), a token (reported elsewhere) and a silver pin head (Cat. No. 52), which is probably Romano-British. Other finds—part of a buckle and a belt plate—are post-medieval or later and are catalogued below (Cat. Nos 64–65). An iron nail stem has been omitted from the report, although it is recorded on the database.

These finds, although unstratified, confirm Romano-British activity in the vicinity of the site in the early and mid Roman period.

Catalogue

Items of personal adornment

49. La Tène III type brooch, fragmentary, Nauheim derivative. Simple wire brooch, with slightly curved tapering bow. Small triangular catchplate. Integral spring of four coils with internal chord. L 29 mm. Ctx 7037, SF 7900.

The La Tène III brooch is a type which dates from the mid to late 1st century AD (Bayley and Butcher 2004, 147). They are found with variations in bow profile, which seem to have chronological significance. Unfortunately, the Parsonage Lane example is in pieces and its profile is not certain. Broadly these simple wire brooches are found in both pre-conquest and early post-conquest contexts (Olivier 1996, 235–7).

50. Headstud brooch. Curved bow decorated with a raised lozenge and triangle cell pattern. Discoloured enamel remains in the lower cells of the bow. Circular stud at top end of bow. Moulded foot is flat bottomed. The wings are also vertically moulded and there is a solid head loop. The pin is hinged. There is a triangular catchplate reaching half the bow's length. The metal on the right hand wing appears to have been deliberately filed, having been miscast. L 61 mm. U/S, SF 7902.

The well preserved, enamelled and probably miscast headstud brooch is unstratified, but the type is current before the end of the 1st century AD, and is found in Flavian contexts. However examples have been found at Castleford in 2nd-century contexts (Cool 1998, 30–1). The Parsonage Lane headstud brooch is decorated with raised lozenge and triangular cell pattern on the bow, and a good parallel comes from a late 1st- to mid 2nd-century context at Castleford (Cool 1998, fig. 7.29).

51. Colchester derivative (dolphin) brooch. Curved bow decorated with central knurled rib. There is a ridge at the top of the bow with an indented line either side. The semi-circular wings are plain. Double lug for axis bar and spring. The pin is missing. Trapezoidal catchplate. L 39 mm. U/S, SF 7905.

The two-part dolphin brooch (Cat. No. 3) is a 1st-century type found only in the south of Britain (Bayley and Butcher 2004, 157; see also Olivier 1996, 251–3, fig. 11.8.87–93).

52. Globular pin head, silver. Circular section stem. Diameter of head 6 mm. U/S, SF 7904.

A silver knob-headed pin, which falls into Cool's Group 1 (1990, 151–4, fig. 1.1–6 and 10).

West of Panners Roundabout

by Philippa Walton

Material recovered in the watching brief comprised five fragments of iron plate, two fragments of encrusted bar and part of a chisel (Cat. No. 53). It possible, but not certain, that the bar fragments were part of the blade of the chisel

53. Paring chisel, with solid handle square section, and flexible blade, now largely missing. L c 155 mm. Ctx 44054, SF 44903.

Compare with chisels from London, Great Chesterford, Kingsholm and Water Newton (Manning 1985, 22, and pl.10: B25–8).

Post-Roman metalwork

There is limited Saxon material. A spearhead from Strood Hall (Cat. No. 1 above) may be Saxon in date and a metal-detected coin (a Canute penny) was found in the vicinity of Takeley Church. The latter has been identified and dated, but the author has not seen it.

The medieval and post-medieval occupation is concentrated on the sites at Blatches and Clobbs Wood. Medieval and post-medieval finds were recovered from Rayne Roundabout and Parsonage Lane and also found adjacent to Takeley Church by a metal-detectorist.

Blatches

This site has produced a limited assemblage comprising 30 pieces of metalwork, including 24 pieces of iron, 4 pieces of copper alloy and 2 lead objects. The iron includes 21 nail fragments, 2 horseshoe nails and an unidentified iron lump. The lead comprises a pistol or musket ball and an irregular oval piece of thick lead sheet dished in the centre (not catalogued). The copper alloy comprises a small plate or armour fragment (Cat. No. 54), two buckles (Cat. Nos 55–6) and a fragment of rod bent into a U-shape.

Catalogue

54. Plate, or possible armour scale fragment, copper alloy. Possibly a fragment of an armour scale with a small rivet hole. L 18 mm, W 12 mm. Ctx 1371, SF 18.

55. Buckle, D-shaped. Copper alloy. L 26 mm; W 28 mm. Unstratified, SF 504.

56. Buckle, plain rectangular. Copper alloy. L 25 mm; W 31 mm. Unstratified, SF 501.

Clobbs Wood

There are only nine recorded metal finds from Clobbs Wood. All iron, they comprise eight nail fragments and a fragment of strip.

Rayne Roundabout

The medieval and post-medieval finds from Rayne Roundabout were found on site with Romano-British occupation. A scythe blade fragment (Cat. No. 57) is short, but has the distinctive reinforcing rib along the back edge of the blade. The fragment is unstratified and could be medieval or later in date. The horseshoe and horseshoe nails (Cat. Nos 58–60) are medieval or post-medieval on typological grounds. The probable table fork (Cat. No. 61) is a post-medieval type. The patten ring (Cat. No. 62) is good post-medieval form, and probably dates to the 17th or early 18th century.

Catalogue

Tools

57. Scythe blade fragment. The fragment is slightly curved, has a reinforcing rib and two nails or rivets. L 134 mm; W 31 mm. U/s.

Horseshoe and horseshoe nails

A fragment of horseshoe and two horseshoe nails were recovered, together with a wood nail and fragment of strip or plate. The horseshoe and nails are of medieval or post-medieval forms.

58. Horseshoe, fragment of one branch, much eroded with two nail holes with sub-rectangular countersinking. The exact form is unclear, but it is probably late medieval or post-medieval. L 70 mm. Ctx 308 SF 135.

Found with two horseshoe nails (Cat. Nos 4–5), a wood nail and a piece of strip or plate. These are not catalogued

59. Horseshoe nail, fiddle-key type. Ctx 308 SF 135.

60. Horseshoe nail with expanded rectangular head. Ctx 308 SF 135.

Household

61. Possible table fork? Poorly preserved, it has an expanded, or possibly baluster, stem terminating a short flat plate tang with a single extant nail. The other end has the possible remains of a pair of tines. L 71 mm; W 14 mm. Ctx 309, SF 120. Post-medieval in date.

Personal

62. Patten ring of crinkled edge type. It has low terminals. L 125 mm; W (max) 92 mm. Ctx 301, SF 106.

Comparable to an example from Norwich (Goodall, in Margeson 1993, 60–2, fig. 31, no. 392). Goodall states that this form was fashionable in the 17th and early 18th century.

Parsonage Lane

Dress fittings

Both these pieces are post-medieval in date.

63. Buckle fragment, probably from a sub-rectangular frame, perhaps an 18th-century hat buckle. U/S, SF 9212.

64. Decorative plate fitting. The cast rectangular plate is hollow on the back with an attachment lug and semi-circular cutout at each corner. L 63 mm; W 49 mm. U/S, SF 7907.

Takeley Church: metal detector finds

From the vicinity of Takeley Church, there are metal detector finds of medieval and post-medieval date. This material has been identified and dated and listed, but the present author has not seen it. It includes:

Coins, a Canute penny, and 30-40 medieval or post-medieval coins, mainly hammered silver pennies, dating from the late 1100s to the 16th century. (See Button below)

Tokens, post-medieval. Three. (i) Lead token, Six 'bladed' leaf design. 16th century or later; Weight 17g. D 22 mm; (ii) Lead token, 'Lover's knot' design. 16th century or later. Weight 8 g. D 22 mm. (iii) Copper token, 'Nuremberg' jetton, mid 16th–17th century.

Arrowhead, iron, with long triangular point, with two barbs. Probably medieval.

Brooch in the form of a knight in mail coat, helm, visor and crest, legs broken at the knee. Lead. Medieval. Height 41

Pendant of inverted 'fleur-de-lys' form with loop at top. Copper alloy. L 43 mm. W 25 mm.

Button, made from 'base penny'. 'Edward VI.D.G.REX.F . . '

Buckles, nine. Copper alloy. (i) Rectangular spur buckle, 13th- to 14th-century? Copper alloy, L -; (ii) D-shaped buckle, Medieval. L 18 mm, W 22 mm; (iii) Oval frame, with tongue and stud opposite. Copper alloy. L 35 mm, W 23 mm; (iv) Figure-of-eight, copper alloy, L 33 mm, W 22 mm; (v) Figure-of-

eight, copper alloy, L 31 mm, 18 mm; (vi) Rectangular buckle, central bar missing, 18th-century? Copper alloy. L 32 mm, W 23 mm, (vii) Shoe buckle, decorated at the centre of each side with three raised lines. 17th–18th century. Copper alloy. L 40 mm, W 35 mm, (viii) Shoe buckle, double D-shape. 17th–18th century. Copper alloy. L 40 mm, W 35 mm. (ix) Shoe buckle, copper alloy. Georgian. L 58 mm, W 35 mm.

Thimbles, two. Copper alloy. (i) large, high lead content. L 22 mm, bottom D 20 mm, (ii) small. For a child? L 12 mm, bottom D 12 mm.

Crotal or rumbler bells, four. 12th–14th century. (i) H 41 mm, D 30 mm; (ii) H 40 mm, D 32 mm; (iii) Design on bottom half: 'AG'. H 38 mm, D 28 mm; (iv) no clapper. H 37 mm, D 34 mm

Seal, lead, 12th–14th century. L 34 mm, W 25 mm.

Intaglio, glass. Decorated with engraved motto 'Life let us cherish' and a branched candlestick. Rectangular. 12 mm x 10 mm.

Clasps, three. Medieval or post-medieval. Copper alloy. (i) L 35 mm; (ii) L 24 mm; (iii) L 24 mm.

Keys, two. Copper alloy. (i) L 34 mm; (ii) L 35 mm.

Whistle, small pewter whistle, 'possibly for hawking'. L 46 mm

Lid, brass, with loop at one end, circular cover in centre and small triangular lip or tag at opposite end. Could be inkpot lid. Probably 17th-century or later.

Metalworking debris

by Lorraine Mepham

Introduction

A small group of metalworking debris in the form of ceramic mould fragments was recovered from Greenfields, from solution hollow 1057 and associated features. This group amounts to 503 fragments, with a total weight of 2188 g.

Description

These are small, abraded fragments which have the characteristic appearance of having been subjected to high temperatures. The texture is slightly sandy, very soft and friable, and some pieces appear partially distorted. While some fragments have visible sparse quartz inclusions, most of the fragments are very fine-textured. Most of the fragments are a pale grey colour, although some (which have the appearance of deriving from 'outer' surfaces) are oxidised to a pale orange colour.

A few conjoining fragments have been identified, although these generally have fairly fresh breaks; the level of abrasion observable on most of this assemblage means that further reconstruction is practically impossible. There are sufficient features, however, to identify the majority of this assemblage as fragments of inner valves from bivalve units (Needham 1980, fig. 3). There are a smaller proportion of 'outer wrap' fragments, which are in a coarser fabric with a more crumbly structure; some of these are still attached to the outside of the inner valves. The form and curvature of the inner valves (parallel-sided and gently curved), where these could be identified,

suggests that this group of material represents fragments of moulds from the manufacture of sword blades (Fig. 4.22.1–6).

No crucible fragments were identified, and there was no other associated metalworking debris (eg slag) from the site. The only other object observed amongst this assemblage was a small, roughly shaped cylindrical fragment (Fig. 4.22.7) from an upper fill of solution hollow 1057. This piece is in a coarse, open fabric similar in appearance to the fabric of the 'outer wraps', but its function is uncertain.

Provenance

The mould fragments were recovered from five separate contexts. The stratigraphically earliest group (144 fragments) came from the upper fill (1073) of pit 1072, associated with middle Bronze Age pottery. This feature was cut by solution hollow 1057, and the primary fill of this feature (1060) produced 60 mould fragments and middle/late Bronze Age pottery. Cutting through this fill was possible posthole 1077, the fill of which contained a further 37 mould fragments, and late Bronze Age pottery. From the upper fills (1061 and 1062) of the solution hollow came, respectively, 105 fragments and 157 fragments, again associated with late Bronze Age pottery. There are possible cross-context joins between fill layers 1061 and 1062, and fragments within primary fill 1060 and ?posthole 1077 which cuts it are visually very similar. Otherwise, apart from an overall superficial visual homogeneity, the different context groups do have distinct characteristics, which might suggest that they represent several different episodes of dumping of metalworking debris, rather than one single dump subsequently reworked into several different contexts. This interpretation is supported by the fact that fragments from the stratigraphically earliest contexts (fill of pit 1072, and the primary fill of the solution hollow) are more abraded than the fragments from later contexts.

Discussion

This relatively small group of clay mould debris augments the considerable body of Bronze Age casting moulds from elsewhere in the region, most notably the large assemblage from Springfield Lyons which, like the Greenfields assemblage, appears to represent almost exclusively sword manufacture within the Ewart Park tradition of the 9th to 8th centuries BC (Needham 1987). The Greenfields mould fragments lack the distinctive features of hilt and shoulders, which would help to identify the type of swords manufactured. As at Springfield Lyons, however, it is apparent that the mould fragments deposited here represent material deliberately selected for deposition rather than a general dump of metalworking debris; there is no other evidence for metalworking occurring on either site.

Illustrated objects (Fig. 4.22)

1. Mould fragment. Context 1060, solution hollow 1057 (primary fill).
2. Mould fragment. Context 1061, solution hollow 1057 (upper fill).

3- Mould fragments. Context 1062, solution hollow 1057 (upper fill).

7. Ceramic object. Context 1061, solution hollow 1057 (upper fill).

Worked bone and antler

by Lorraine Mepham

Objects of worked bone or antler (a total of 21) were recovered from four sites, two of Iron Age date (Highwood Farm and East of Little Dunmow Road) and two of Romano-British date (Strood Hall and Rayne Roundabout).

Sites of both Iron Age and Romano-British date have produced evidence for bone- or antler-working at a household craft level. For the late Iron Age, this comprises a single antler offcut from East of Little Dunmow Road. Antler-working, again on a very small scale, is also attested in the Roman period at Rayne Roundabout in the form of a single antler beam/tine offcut or blank. An antler handle from the same site represents the kind of object that could have been produced from this craft activity, and may indeed have been made on the site. Evidence for bone-working in the Roman period comes from Strood Hall, where a small group of unfinished pins were found; once again, the three finished objects from the site (two pins and one needle) could have been produced on site.

The most ornate object is a decorated comb of late Iron Age date from Highwood Farm, an object more readily paralleled on sites in central southern or south-western England, and probably indicative of textile-working.

Strood Hall: worked bone

A total of 17 objects of worked bone was recovered from Strood Hall, all of Romano-British date (Table 4.70). With the exception of one needle fragment, all of the objects appear to represent pins, either as finished objects or as roughouts. The quantity of objects is insufficient to postulate the existence of anything more than a household-based craft, probably fairly short-lived. All objects are handmade; none are lathe-turned. Five objects came from layer 1274, five from layer 1276, and three from layer 1379.

Only one pin is complete (Cat. No. 8; Fig. 4.23.1). This is an example of Crummy's type 3 (1983, fig. 19), broken into two fragments (total length 90 mm), and with a marked swelling in the middle of the shaft. The head is fairly crudely finished, but the well-polished shank indicates that this is a finished, rather than an unfinished object. Individual facets on the head show where this was held turned against a hand-held blade. Type 3 pins are the most common type in Colchester, but do not as yet have a well defined date range; most seem to date from the late 3rd or 4th century AD although there are some earlier examples (ibid. 22).

Only one other finished pin has a surviving head (Cat 5; Fig. 4.23.2). This is another example of a type 3 pin, with a slightly pointed globular head, again showing slight faceting, and with a slight 'collar' below. The whole pin is polished.

All six other finished objects (Cat. Nos 1, 3, 6, 11–13) survive as shank fragments only, and some of these could equally well derive from needles as from pins. Only one object could definitively identified

as a needle from the presence of the eye (Cat. No. 11).

This leaves nine items of bone-working debris, all apparently roughouts for pins (or possibly needles). Six of these are short lengths of shank roughly trimmed to square or polygonal section (Cat. Nos 4, 7, 10, 14–16; Fig. 4.23.3). One piece with transverse cut marks (Cat. No. 14) may be an offcut. Three further items comprise similarly roughly shaped shank lengths, but with a roughly squared 'stock' at one end (Cat. Nos 2, 9, 17; Fig. 4.23.4). The stock was held by the craftsman to facilitate further working: see Crummy 1981, fig. 3). Crummy (ibid. 284–5) raises the obvious question of why it was necessary to make a roughout in the first place, since experimental work showed that it would have been possible to work the entire pin from scratch just by retaining a large stock at one end.

Illustrated objects (Fig. 4.23)

1. Type 3 pin, complete. Cat. No. 8, SF 144, layer 1276.
2. Type 3 pin, incomplete. Cat. No. 5, SF 66, layer 1274.
3. Roughout shank. Cat. No. 16, SF 657, context 1379.
4. Roughout shank with stock at head end. Cat. No. 9, SF 145, context 1276.

East of Little Dunmow Road: worked antler

One small piece of antler from East of Little Dunmow Road (late Iron Age ditch 30055) appears to be an offcut from antler-working (Cat. No. 18) (Table 4.71). This is a small, rectangular fragment with a plano-convex section, apparently part of a longitudinal strip cut from the outer surface of the tine. One end is cut, the other broken. The internal face has lateral tool marks from the cutting process; the irregularity of this face indicates that chopping rather than sawing was employed.

Rayne Roundabout: worked antler

Rayne Roundabout produced two objects of worked antler. The first (Cat. No. 19) (Table 4.72), from possible rubbish tip fill 149, is an offcut, or blank selected for further work, consisting of a short length of beam (cut from just above the burr) with complete brow tine and base of the bez tine, cut across just above the base. Tool marks indicate that the antler has been sawn.

The second object is a handle, in eight joining fragments (Cat. No. 20; Fig. 4.24), made from an antler tine; the iron tool itself survives separately (see Metalwork). The handle is plain, with slightly rounded ends, and is polished through use. The tine has been almost completely hollowed, and internal iron staining indicates the former presence of an iron tang.

Illustrated object (Fig. 4.24).

Antler handle. SF 134, unstratified.

Highwood Farm: worked antler

A single object of worked antler came from Highwood Farm, from late Iron Age enclosure 2035 (Cat. No. 21; Fig. 4.24.1) (Table 4.73). This is a weaving comb, complete but fragmentary. All the teeth are now separated from the shaft, which itself is in nine joining fragments. The comb has a perforated, rectangular butt, tapering shaft with plano-convex section, and at least eight teeth. The upper surface of the shaft is decorated with incised lines criss-

crossing across the breadth. As the teeth have broken off the shaft, it is no longer possible to determine whether the interdentate notches are U-shaped or V-shaped but there are no obvious signs of wear in the form of lateral grooves extending from the notches. Other use wear is, however, visible in the fact that for the two teeth where points survive, those points have been worn to a rounded section, and the fact that the whole object is highly polished on all original surfaces.

Combs such as this example are well paralleled on other Iron Age sites in southern England such as Danebury (Sellwood 1984), Maiden Castle (Laws 1991), Glastonbury and Meare (Coles 1987). There has been ample debate on their probable function, with a widely accepted consensus that the combs were used to beat in the weft on a warp-weighted loom, although a use as hair combs is not ruled out (ibid. 106).

Illustrated object (Fig. 4.24)

Comb. SF 2001, context 2114, ditch 2112, enclosure 2035.

Worked and utilised stone

by Ruth Shaffrey

Prehistoric

Eight items of worked stone were recovered from prehistoric contexts. These include six items, which are best classified as rubbers or rubbed pieces. Two are pebbles from Warish Hall with smoothed surfaces, which are unworked but were probably utilised as rubbers (both ctx 93) and a further unshaped piece with a worn surface from Grange Lane (ctx 1059). Three worked pieces include one small fragment with remains of a flat worked surface (Grange Lane ctx 1079) and two shaped pieces with smoothed surfaces, one from east of Little Dunmow Road (ctx 30162, SF 30900) and one from Stone Hall (ctx 14193, SF 14905). All the rubbers and rubbed pieces were made from indistinguishable medium-grained sandstones with probable local provenance. No identifiable saddle querns were recovered, although it is possible that the small worked fragment from Grange Lane (ctx 1079) is from a saddle quern.

The excavations at Stone Hall also produced one piece of stone shaped from a slice through a large pebble (ctx 14193 SF 14905), which may have served as some sort of platter or base, and a single square sectioned whetstone (ctx 14193, SF 14907), broken at one end. The whetstone is made from sarsen and the possible base from a medium grained sandstone, neither of which are distinctive enough to supply a precise provenance but which need not have been imported any great distance.

Catalogue of prehistoric worked stone

Warish Hall

1. Possible rubber. Medium grained well-sorted quartz sandstone. Large burnt pebble with one smoothed but uneven surface, which may have been used as a rubber. Burnt. Measures 130 x 60 x 70 mm. Ctx 93.
2. Probable rubber. Medium grained well-sorted quartz sandstone. Rounded elongate pebble with one flattened and smoothed surface. Burnt. Measures 128 x 70 x 66 mm. Ctx 93.

Grange Lane
3. Probable rubbing stone fragment. Medium grained quartz sandstone. Not shaped but with remains of one smoothed face. Burnt. Measures 100 x 75 x 50 mm. Ctx 1059.
4. Probable rubber or saddle quern fragment. Poorly sorted medium grained sandstone. Has one flat worked surface. Possibly from a rubber or saddle quern. Measures 80 x 52 x 36 mm. Ctx 1079.

East of Little Dunmow Road
5. Possible rubber. Fine grained quartz sandstone. Flat stone with two worked opposing faces. Burnt. Measures > 70 x 70 mm x 20 mm thick. Ctx 30162. SF 30900.

Stone Hall
6. Rubber. Squared stone with two smoothed edges. Sarsen. Measures 68 x 66 x 42 mm. Ctx 14193. SF 14905.
7. Whetstone. Square sectioned and broken at one end. Sarsen. Measures > 43 mm long x 43 x 36 mm. Ctx 14193. SF 14907.
8. Possible platter. Worked flat stone shaped from a slice of a pebble. Function unclear, but possibly used as a platter. Medium-grained well-sorted slightly micaceous sandstone. Measures > 72 x 64 mm x 18 mm thick. Ctx 14193.

Roman

A total of 33 items of worked stone were recovered from Romano-British contexts, mainly from Strood Hall and Rayne Roundabout. These included 16 rotary quern fragments and 5 whetstones.

Rotary querns

Of the 16 fragments of rotary querns recovered, two are of Hertfordshire Puddingstone (one from 14th-century context 1015 at Blatches which also contained residual Roman pottery, and one from mid 3rd-century context 1292 at Strood Hall (SF 271; Fig 4.25)). Four fragments of rotary quern are made from Millstone Grit, two from Rayne Roundabout (ctx 161 and 197, both late Roman), two from Strood Hall (ctx 1600, late 3rd to early 4th century) and from the watching brief (44070, SF 44900). Lava fragments were retrieved from a total of ten contexts, seven at Strood Hall and three at Rayne Roundabout. Although many small and weathered fragments of lava were recovered, they were limited in overall quantity and for the purposes of analysis any fragments from a single context were interpreted as being from a single quern. All the lava from Rayne Roundabout was probably residual in late Roman contexts as was the majority from Strood Hall with only one earlier context (1674) of a mid 2nd- to early 3rd-century date containing fragments of lava.

Unlike many regions of England, the rotary querns of Essex have been well documented and it is therefore possible to make reasonable comparisons with evidence from local sites. Of the stone types found at sites along the A120 road development, Lava and Millstone Grit are the most commonly utilised quern materials in this part of Essex and almost without exception, sites which have produced fragments have included querns of these two materials. The sites excavated along the route of the A120 are therefore unexceptional in this regard.

Hertfordshire Puddingstone (HPS) is found on almost as many sites in the region, and although no detailed study of its use and

distribution has been published a provisional distribution study indicated that it was mainly used in East Anglia and suggested that its use was confined to the 1st century AD (Rudge 1965). Although the use of HPS was limited in terms of numbers, most sites in the area around the A120 road development have produced at least one quern of HPS including Stansted Airport (Roe 2002), Great Chesterford (Miller 1995), Colchester (Buckley and Major 1983), Kelvedon (Rodwell 1988) and Chelmsford (Wickendon 1988; 1992). The late date of the quern from Strood Hall is interesting because of the widely assumed 1st-century date of the use of HPS. Querns are rarely found in situ, so interpretation is always based on discarded and residual material, and the general lack of well stratified examples means it has not been possible to clarify the period during which HPS was utilised. The late 3rd-century example from Strood Hall, however, adds to others from later contexts, such as Ivy Chimneys (Buckley and Major 1999), which may indicate that its use extended beyond the 1st century. This issue will be clarified with further finds of HPS querns from well-stratified contexts.

Few of the quern fragments were complete enough for a detailed study of their typology. The HPS quern (SF 271) is of a typically early style and two other querns appear to be of the disc style (Strood Hall 1274 and Rayne Roundabout 197), which is generically Roman. The latter fragment may also be from a millstone rather than a hand operated rotary quern. Although the full profile of the quern does not survive, the circumference suggests the diameter may be in excess of 600 mm and too large to have been operated by hand. Unfortunately, only 5% of the circumference remains and it is difficult to be certain this estimation is correct.

Catalogue of rotary querns

Strood Hall

9. Two small fragments of rotary quern. Lava. Very weathered. Approximately 50 mm and 20 mm. Ctx 1298. Ph. 13.3.

10. Eight fragments of rotary quern. Lava. Weathered chunks. All between c 50–80 mm. Ctx 1674. Ph 12.1/2.

11. Two fragments of upper rotary quern. Lava. Slightly concave grinding surface and flat upper surface. Tapering towards centre. No evidence of grooves and edge fragment only. Possible it is from a millstone but less than 5% of the circumference remains. Diameter approximately 550 mm. 28 mm max thickness at edge tapering to 10 mm towards centre. Ctx 1274. Ph 13.1.

12. Upper rotary quern fragment. Millstone Grit. No edges or centre and possibly reused as one face is worn very smooth and is slightly concave. Pecked upper surface. Grinding surface worn smooth. Measures 50 mm thick all over. No diameter. Ctx 1600. Ph 13.1.

13. Fragment of upper rotary quern. Hertfordshire Puddingstone (HPS). Hunsbury style quern with almost flat grinding surface and steeply convex upper surface sloping down to edges of 30 mm thick. This is straight rather than bulging. Large circular and conical perforation, which probably functioned as a small hopper. Measures approximately 80 mm diameter on the upper surface. 15% remains. Diameter of approximately 300 mm x 114 mm thick at centre (max) to 30 mm at edge but tapered. Ctx 1292. Ph 12.3. SF 271.

14. Tiny probable rotary quern fragment. Lava. Very weathered, no original surfaces. Measures <15 mm. Ctx 1787. Ph 13.3.
15. Small probable rotary quern fragments. Lava. Very weathered. All measure <10 mm. Ctx 1737. Ph13.2/3.
16. Two small fragments of probable rotary quern. Lava. Both measure < 30 mm. Ctx 1736.13.2/3.
17. Probable rotary quern fragment. Lava. Very weathered. Measures <15 mm. Ctx 1877. Probably Roman.

Rayne Roundabout
18. Fragments of rotary quern. Lava. Five tiny fragments. All <8 mm in size. Ctx 1012, ditch 1060. AD 260–310.
19. Fragments of rotary quern. Lava. Approximately 10 small fragments. All <10 mm in size. Ctx 149. Late Roman.
20. Fragment of a lower rotary quern. Millstone Grit. Grinding surface is pecked and the base is crudely worked. One small portion of edge remains. Roughly flat surfaces though grinding surface is very slightly convex. Circular perforation is approximately 70 mm diameter and very slightly conical (wider at base). Measures approximately 440 mm diameter x 52 mm max thickness at centre. Ctx 161. Late Roman.
21. Fragments of rotary quern. Lava. Lots of very small weathered fragments. All <10 mm in size. Ctx 161. Late Roman.
22. Two adjoining fragments of upper rotary quern or millstone. Millstone Grit. Thin disc style quern with straight vertical edges. Grinding surface has clear concentric grooves while upper surface is crudely pecked. Only 5% of outer edge remains but quern appears to measure approximately 600 mm diameter x 27 mm thick. Ctx 197. Late Roman.

Other worked stone

The 19 other items of worked stone include 5 whetstones, 6 rubbers, 1 possible pot lid, 1 scraper, 2 probable pieces of building stone, 3 items of indeterminate function and 1 piece of possible whetstone material. Four of the whetstones were found at Strood Hall and one at Rayne Roundabout. These were made from a wide range of stone types including mudstone, Kentish Rag, Tufa and various sandstones. Three of these were irregular pieces of stone utilised as whetstones (Strood Hall ctx 1499, 1300, SF 655 and Rayne Roundabout ctx 1000). Two were fragments from rectilinear whetstones, one of mudstone (ctx 1184) and one of Kentish Rag (ctx 1380, SF 656). One piece of mica schist (ctx 1674) was unworked but is of a type commonly used for whetstones and may be an indication of the import of raw material rather than the finished item.

Other tools include a possible scraper (Strood Hall 1867) and six pieces of stone with worn surfaces, which appear to have been utilised as rubbers (Strood Hall 1329, 1682, 1608, Rayne Roundabout 197 and West of Panners Roundabout 44041). These were made from a variety of stones including one of probable diorite and one of basalt. Domestic items associated with cooking include a flat piece of stone (ctx 1052) with a curved edge which is burnt in a way that is reminiscent of items interpreted as pot lids (Shaffrey in prep; Caruana 1990, 161) and several cracked pebbles interpreted as pot boilers and likely to have been utilised in cooking. These were recovered from

Strood Hall (ctxs 1329, 1970 and 2074).

Two pieces of stone had very squared faces and were probably used as building stone, although it is not possible to pinpoint their function precisely (Strood Hall ctx 1409 and Rayne Roundabout ctx 197). There are also three small pieces of worked stone of indeterminate function. All the stone utilised is likely to have been widely available, if not from outcrops then from the wide-ranging boulders and erratics that exist in the region.

Catalogue

Strood Hall

23. Whetstone. Tufa. Flat piece of stone with one smoothed utilised edge. Measures 38 x 39 x 12 mm. Ctx 1499. Ph 12.3–13.3.

24. Fragment of probable whetstone. Fine-grained pink slightly micaceous quartzitic sandstone. Flat piece of stone broken at two ends. Smoothed on one side and with a groove down it. Burnt. Measures 55 x 65 x 18mm.Ctx 1300. Ph. 12.3. SF 655.

25. Elongate whetstone fragment. Possibly Kentish Rag. Rounded rectilinear profile with smoothed edges. Broken at both ends. Measures 47 x 15 x 11 mm. Ctx 1380. Ph 13.1. SF 656.

26. Fragment of rectilinear whetstone. Yellowish brown mudstone. Broken at both ends with roughly square cross section. All faces are smooth but one face has been worn into a concave profile. Measures 60 x 44 x 38 mm. Ctx 1184. Medieval.

27. Possible scraper. Pale brown medium grained quartzite. Flat slice of a round pebble. Possible use as a scraper with damage and abrasion along one edge. Measures 35 x 37 x 8 mm. Ctx 1867. Ph 11.2.

28. Possible rubber. Diorite porphyry. Small fragment with two smoothed edges. Could be just a pebble fragment. Measures 30 x 30 x 25 mm. Ctx 1682.

29. Possible rubber. Sandstone. Slice from a pebble shaped into hand holdable size. Two flat opposing faces, neither particularly smooth. Burnt. Measures 90 x 75 x 25 mm. Ctx 1329. Ph. 13.2.

30. Rubber. Brown fine-grained quartzitic sandstone. Roughly rectangular stone with rounded edges and smoothed on one face. Burnt. Measures 140 x 90 x 40 mm. Ctx 1608. Ph. 13.3.

31. Square chunk of probable architectural stone. Fine-grained pale pink quartzitic sandstone. Two flat faces. Slightly burnt. Measures 115 x 58 x 51 mm. Ctx 1409. Ph 13.

32. Small worked fragment of indeterminate function. One worked face but function unknown. Burnt. Measures 35 x 25 x 35 mm. Ctx 1260. Ph 13.3.

33. Worked fragment of indeterminate function. Fine grained iron sandstone, micaceous. Chunk of thinly bedded stone, which has one, curved and smoothed edge. Possibly used as a rubber. Measures 65 x 38 x 15 mm. Ctx 1968. Ph 13.1/2.

34. Unworked but natural resource. Pale green mica schist. Lump of pale green mica schist. It is unworked but is used for whetstones and might have been intended for such a purpose. Measures 135 x 45 x 30 mm. Ctx 1674. Ph 12.1/2.

Rayne Roundabout

35. Grinding stone/whetstone. Medium grained, slightly micaceous, well-sorted quartz sandstone. Fragment of stone with two possible

worked edges and one very smooth and slightly concave surface with fine scratch marks. Burnt. Measures 100 x 60 x 33mm.Ctx 1000. Ploughsoil. Modern.
36. Possible pot lid fragment. Fine grained slightly micaceous sandstone. Small worked fragment with one curved edge. Probably burnt, could be fragment from pot lid. Measures 25 x 28 x 11mm. Ctx 1052, ditch 1060. AD 260–310.
37. Possible structural stone. Fine-grained pale brown slightly grey purplish quartzitic sandstone. Slightly smooth on one side and burnt. Has squared edges and may have been utilised structurally. Measures 57 x 90 x 57mm. Ctx 197. Late Roman.
38. Possible rubber. Thick slice shaped from a pebble. Edges may have been used as a rubber. Measures 75 x 85 x 24mm. Ctx 197. Late Roman.
39. Rubbing stone. Millstone Grit. Worked chunk with two concave and smoothed opposing faces. Measures 120 x 76 x 68 mm. Ctx 197. Late Roman.
40. Item of indeterminate function. Dark grey sandstone. Has one curved worked edge and two flat parallel faces. Is heavily stained on one side. Measures 90 x 34 x 26mm. Ctx 197. Late Roman.

West of Panners Roundabout
41. Possible rubber. Worked corner fragment of possible rubber or saddle quern. Basalt. Measures >44 x 40 x 40 mm. Ctx 44041.

Medieval

Blatches
42. Hammerstone. Flint pebble abraded at both ends. Measures 80 x 50 x 40 mm. Ctx 1346. Ph 15.4, 14th century.

Glass

by Lorraine Mepham

Glass of late Iron Age or Romano-British date was recovered from three sites. The largest group came from Strood Hall (10 objects, 25 vessel and 2 window fragments), with single pieces from Parsonage Lane and East of Little Dunmow Road.

Strood Hall

Strood Hall produced the largest group of Romano-British glass from the A120 route: ten beads, twenty-five vessel fragments and two probable window fragments. Details of each piece are listed in the catalogue (see Table 4.74).

Beads
Ten beads were recovered comprising one melon, seven annular, one segmented and a tiny fragment of a second. Six of the annular beads (Cats 23–8) came from the fill of a cremation vessel (1614, cremation 1585, Period 11), and all six show signs of having been burnt on the pyre (as do other objects from the same context). Five of the beads are of similar colouring and form. They all have a diameter of c 20 mm, their original colouring appears to have been translucent blue/green, and at least three (Cats 23, 24 and 26) may have had marvered trails, although the distorting effects of the pyre burning have made this difficult to determine. The sixth bead (Cat. No. 27), which shows slighter evidence of heat distortion, is a translucent yellow/green colour, and is smaller than the others (diameter 13 mm). These annular beads are not particularly closely datable within the Roman period, but are seen

here in an early Roman cremation burial (mid to late 1st century AD).

The seventh annular bead (Cat. No. 19) is a tiny example (diameter 3 mm) in translucent yellow-green glass. Again, this bead could have a wide potential date range; examples are known from the late Iron Age and sporadically through the Roman period (Guido 1978, 66). This example came from a late Roman spread (1329, phase 13.2).

The complete segmented bead (Cat. No. 21) is in translucent blue glass, made from a tube, which has been pinched or crimped into four segments. Segmented beads are known from early Roman contexts, but are most common in the late 3rd and 4th centuries AD (Guido 1978, 92–3). This example derived from a late Roman layer (1333, phase 13.2). A small fragment of a second segmented bead (Cat. No. 20), also in translucent blue glass, came from the same late Roman spread as the tiny annular bead described above.

A single melon bead (Cat. No. 22) was found in a mid 1st-century AD pit (1666, phase 11.1). This is a turquoise frit example with degraded surfaces, and the type is common in 1st- and 2nd-century AD contexts in Britain (Guido 1978, 100).

Vessels

Twenty-five fragments derive from glass vessels (nine of these are almost certainly from a single vessel). Most are small and few can be attributed with any confidence to vessel form.

Two larger fragments in blue/green glass (Cats 16, 17), both base fragments with concentric ring decoration in relief, derive from square bottles, a common vessel form, particularly in the early Roman period. One came from a mid/late Roman pit (1742, phase 12.3–13.2), and one from a late Roman spread (1969, phase 13.2).

Three fragments are decorated: one with a horizontal self-coloured trail, possibly from just below the rim (Cat. No. 9: Fig. 4.25.1), one with vertical, self-coloured trails pinched to a 'spectacle' lattice (Cat. No. 1: Fig. 4.25.2) and one with a marvered, self-coloured trail and a band of abrasion (Cat. No. 11: Fig. 4.25.3). All three pieces are in colourless or very pale blue glass. Cats 9 and 11 are likely to derive from drinking vessels (see eg Price and Cottam 1998, figs 38, 40 and 48). Lattice trails, as Cat. No. 1, are, for example, found on funnel-mouthed jugs of 2nd-century AD date and later (ibid. 161; Cool and Price 1995, figs 13.5–7). All three of these fragments came from late 3rd- to late 4th/early 5th-century AD layers (1140, 1333, Phase 13.2).

Nine fragments from late 1st/early 2nd-century AD grave 1285 (Cat. No. 15) are heavily distorted by heat but almost certainly represent a single vessel burnt as a pyre good. The vessel is colourless or very pale blue, but the original form cannot be determined.

None of the other fragments (Cat. Nos 2–8, 12–14) are at all diagnostic. Most are in colourless or pale blue glass; there are no strongly coloured pieces. All were found in late Roman contexts (Phase 13.1–2).

Window

Two fragments from late Roman layers (1276, 1292, Phase 13.1) are probably window glass (Cats 6, 18). Both have the matt/glossy surface appearance characteristic of window glass made from the 1st to 3rd centuries AD, but the larger fragment (Cat. No. 18) has been slightly distorted, perhaps by burning.

List of illustrated vessels (Fig. 4.26)

1. Pale blue body fragment with unmarvered, self-coloured horizontal trail. Layer 1333, Phase 13.2.
2. Pale blue body with vertical trails pinched to form 'spectacle' lattice. Context 1140, unexcavated feature, Phase 13.2.
3. Clear body, very thin-walled, band of abrasion and marvered, self-coloured trail. Layer 1333, Phase 13.2.

Parsonage Lane

One piece of Romano-British vessel glass was found unstratified at Parsonage Lane. This is a small fragment of polychrome marbled mosaic, made from cane sections in shades of opaque green and yellow, with a small spot of opaque red (Fig. 4.26).

Polychrome mosaic glass vessels were constructed from coloured glass cane lengths or sections, fused together into a circular blank and shaped by sagging over or into a former. The technique has a long history in western Asia and the Mediterranean from the 8th century BC, but pre-Roman mosaic vessels are rarely found outside the Mediterranean regions. During the early Roman Empire (late 1st century BC to early 1st century AD), polychrome mosaic vessels were an important part of the luxury glass industry. Much of this glass was produced in the central Mediterranean region, probably in Italy. Given its date range, polychrome mosaic glass is not commonly found in Britain. Finds are largely confined to southern British sites which were either receiving pre-conquest continental imports, or which were early post-conquest establishments, such as Colchester where at least 22 such vessels have been found (Cool and Price 1995, 27–30). Although this was an unstratified find, the pottery indicates an early post-conquest date for the site, no later than c AD 70–80.

Illustrated object (Fig. 4.26)

Polychrome mosaic glass vessel fragment. Obj. No. 7903, Unstratified.

East of Little Dunmow Road

A single glass bead was recovered from pit 30116. This is a large annular bead (diameter 25 mm) in clear colourless glass with a band of opaque yellow glass, now slightly degraded, applied around the inside of the perforation (Fig. 4.26).

This is an example of Guido's Class 5 beads (Hanging Langford types), which have a date range in Britain from 2nd century BC to the 1st century AD, dying out soon after the Roman conquest (Guido 1978, 51–2).

Illustrated object (Fig. 4.26)

Colourless glass annular bead with opaque yellow band. Obj. No. 30905, context 30557, pit 30116.

Chapter 5 Human Bone

by Jacqueline I. McKinley

Introduction

Cremated human bone was recovered from 110 contexts distributed across eight of the sites spread along the length of the proposed route (Sites 9, 16, 28, 37, 42, 44, 48 and 49). A broad temporal range was represented amongst the deposits: 19 late Bronze Age (Sites 28, 42, 48 and 49), 12 late Iron Age (Sites 9 and 49) and six non-specific prehistoric (Sites 37, 44 and 16). However, the majority derived from the late Iron Age/early Romano-British (13 contexts) or early Romano-British period (62 contexts) and were from the cemetery at Strood Hall (Site 9).

Deposit types include the remains of urned (two late Iron Age, 19 late Iron Age/early Romano-British) and unurned (15 prehistoric and 5 early Romano-British) burials, most of the latter (75%) including deposits of pyre debris recovered as one with the remains of the burial. Other contexts represent the remains of discrete deposits of pyre debris within grave fills, fragments of bone apparently incidentally included in the fill of vessels forming grave goods or within the general grave fill, and one possible memorial/cenotaph deposit.

Unburnt human bone, the remains of a supine, extended and probably shrouded inhumation burial, was recovered from one grave at Site 9, situated within the confines of the cremation cemetery.

Methods

Three of the least disturbed urned cremation burials and 15 of the least disturbed unurned burials had been excavated in spits and/or horizontal divisions to allow greater detail of the formation processes to be studied. These divisions were maintained throughout analysis (the weights of bone from these contexts are shown together in Table 5.1 but separately within the archive).

Recording and analysis of the cremated bone followed the writer's standard procedure (McKinley 1994a, 5-21; 2000a). In addition, all the small fraction residues (1 mm and 2 mm) were scanned by the writer; where only small quantities of bone were present these were recovered for inclusion in the recorded bone weights and where large quantities were present an estimated proportional weight was taken and included in the bone weights (see Table 5.1; detail in archive Table 5.2).

The remains of the inhumation burial were insufficient for many measurements to be taken and it was not possible to estimate the stature of the individual or calculate any of the standard indices. Where possible a standard suite of measurements were taken (Brothwell and Zakrzewski 2004) and non-metric traits recorded (Berry and Berry 1967; Finnegan 1978). The degree of erosion to the bone was recorded using the writer's system of grading (McKinley 2004a, fig. 7.1-7).

Age (cremated and unburnt bone) was assessed from the stage of skeletal and tooth development (Beek 1983; Scheuer and Black 2000), and the patterns and degree of age-related changes to the bone

(Brothwell 1972; Buikstra and Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (Bass 1987; Buikstra and Ubelaker 1994). The variable integrity of the attributed sex is denoted in Table 5.1 as; '??' most likely, '?' probable and un-questioned.

Results

A summary of the results from analysis, by period and site, is presented in Table 5.1. Full details are in the archive.

Disturbance and condition

Some degree of disturbance had impinged on all the features from which human bone was recovered by truncation of the upper levels and fills as a result of ploughing. Some graves had been subject to more extensive intrusion due to the insertion of later features either in antiquity or more recently in the form of field drains. At least one grave at Site 9 (1386) had been disturbed by metal detectorists. The surviving depths of cremation graves across the route ranged from 0.06 m to 0.50 m, with the majority falling between 0.10 m and 0.25 m.

Eight of the cremation burials—four unurned and four urned (Sites 9 and 28; denoted by ** in Table 5.1)—were relatively undisturbed and are unlikely to have suffered any loss or pressure damage to the bone. The depth to which each of these graves survived was in the upper part of the range, between 0.16 m and 0.50 m. Other graves in this upper range had suffered greater disturbance, however, indicating that the depth of grave was only one factor influencing survival. Seven other Site 9 burials —one unurned and six urned—were subject to slightly greater disturbance (denoted by * in Table 5.1) and while it is unlikely that any bone was lost from these deposits there may have been some pressure damage to the bone. The surviving depth of the graves was generally shallower than those containing the less disturbed burials, with a range of 0.09-0.28 m. With one exception (unurned burial 21011 from Site 48), the highest weights of bone (>900 g) were all recovered from the least disturbed deposits.

With the exception of the bone from Site 16 (Chelmer River) and some of the less well oxidised bone (see below) from six of the Site 9 (Strood Hall) burials—which has a worn and chalky appearance—the cremated bone from all sites appears to be in relatively good condition. It has been demonstrated, however, that the trabecular structure of most of the axial skeleton and articular surfaces of the long bone is the first to be lost in soil conditions adverse to bone survival (McKinley 1997b, 245; Nielsen-Marsh et al. 2000). The natural geology across the length of the A120 route comprises boulder clay with gravel patches, the acidic nature of which may be expected to result in low recovery of trabecular bone. Almost all the cremation graves from the various sites contained some fragments of trabecular bone, but the quantities are highly variable ranging from only a few fragments to a maximum of c 23% of identified skeletal elements. In general, the prehistoric burials—most of which were unurned—each held only a few fragments of trabecular bone, with moderate representation in those from Sites 28 (Greenfields) and 48 (Ongar Road), and one from

Sites 49 (Grange Lane) and 44 (Strood Hall). The only prehistoric graves from which relatively substantial quantities of trabecular bone were recovered were the late Iron Age ones from Sites 9 (Strood Hall) and 49 (Grange Lane) both of which held urned burials. A higher proportion (c 60%) of the late Iron Age and/or early Romano-British burials from Site 9 (Strood Hall) contained moderate or relatively common trabecular bone. Whilst most of the burials from Strood Hall were urned, there is no clear distinction between urned and unurned burials in respect to the proportions of trabecular bone recovered.

The factors affecting the presence of trabecular bone within the burials are not consistent. The additional protection afforded by an urn was significant, but was clearly not the only factor. The common presence of fuel ash in many of the grave fills will have had a moderating effect on the natural soil acidity and will have assisted in bone survival, but the degree to which this occurred is difficult to measure. The length of time since burial is indicated as a possible factor. It is, however, possible that survival of trabecular bone is not the only explanation for its variable recovery. There may also have been an increase in its inclusion in the burials over time, although how this could be conclusively measured in the light of the known loss in acidic soil conditions presents problems (see below).

The worn and chalky condition of the bone from the Site 16 burial suggests some variation in the burial mircoenvironment not experienced elsewhere. The condition of the less well oxidised bone from the Strood Hall burials is probably related to these fragments retaining more of their organic components at the time of burial; however, not all poorly oxidised bone had this appearance so the condition must also have been influence by other extrinsic factors.

Given the common occurrence of fuel ash in grave fills (see Table 5.1), the bone from relatively few of the burials (eight, mostly prehistoric; four (c 67%) from Site 42, and one each from Sites 9, 16, 28, and 49) appeared charcoal stained; this suggests that the mere presence of fuel ash in the grave fill cannot have been a significant factor. It is likely that there was a variable in the mortuary practice which resulted in the bone becoming more absorbent, perhaps the use of oils or other semi-liquid substances poured over the bone after cremation but prior to final deposition. In the Romano-British burial, only a few odd bone fragments were stained which lends further support to this suggestion.

The bone from the Site 9 inhumation burial was very heavily fragmented, mainly due to ancient disturbance. About 70% of the skeleton was recovered with poor survival of trabecular bone, and variable erosion and abrasion (grade 1-2) to the remaining bone. Dark brown staining was observed on the lower limb bones, probably indicative of the presence of some form of organic covering at the time of burial.

Demographic Data

The remains of 44 individuals were identified within the cremated bone assemblage including 11 late Bronze Age (Sites 28, 42, 48 and 49), two late Iron Age (Sites 9 and 49), five non-specific prehistoric

(Sites 16, 37 and 44), six late Iron Age/early Romano-British (Site 9) and 20 early Romano-British (Site 9). The remains of a single individual—an adult female aged c 22-29 years—were recovered from the Romano-British inhumation burial at Site 9 (Strood Hall).

The cremated bone assemblage may include the remains of one other individual but there is some uncertainty due to the questionable nature of one of the deposits. A very small quantity (9.8 g) of bone was recovered from 'grave' 1307 on Site 9. The identifiable bone included fragments of neonatal and adult skull vault. Whilst the inclusion of such small weights of bone is not unknown from neonatal burials, the quantity of adult bone is grossly insufficient to represent the remains of a formal burial (representing less than 0.5% of the total expected bone weight; McKinley 1993). The grave does not appear to have been subject to the substantial disturbance which would have been required to remove all but this small quantity of bone (surviving depth 0.15 m, disturbance to one side of grave away from the vessel). The quantity of bone recovered, therefore, seem to be representative of that deposited. There are two possible explanations. The deposit may represent a cenotaph or memorial (McKinley 1997c, 71-2; 2000b, 42-31; in press) with the majority of the bone remaining after cremation having been taken for burial elsewhere; in this case, the remains of both the neonate and the adult from the deposit may not be represented elsewhere within the assemblage. Alternatively, the few fragments of adult bone may have formed a 'token' included in the neonatal burial and may have derived from an individual buried elsewhere within the cemetery. Such 'token' fragments of a second individual within a burial have been observed elsewhere, for example, in middle Bronze Age contexts from Westhampnett, West Sussex (McKinley forthcoming) and Langford, Nottinghamshire (McKinley 2003), though care in interpretation is needed since additional bones may enter a context via several mechanisms (McKinley 1994a, 6-11).

Prehistoric

The single late Bronze Age burial from Site 28 (Table 5.1) lay on the margins of the excavation and further burials may have lain to the south. The latter, together with the single burial from Site 48, included the remains of the only males from this period. The seven burials from Site 42—all adults except one subadult/adult, and including at least three females—were dispersed across the length of the excavation within three clusters of features, but none could realistically be described as a group of burials, the closest in proximity being c 10 m apart. Two unurned burials from Site 49—including the only immature individual from this period, a juvenile, and an adult female—were similarly distant from one another. These few burials add to the relative dearth of material from Essex for this period (Brown 1996, 29). The absence of immature individuals from the Site 42 assemblage may be of cultural significance but, given the small overall number of burials and the large area over which they were distributed, any such suggestion can only be tentative in the extreme.

Little can be said demographically with respect to the currently undated prehistoric burials: the single burials from Sites 16 and 37 and the small group of three from Site 44 appear similar to the other late Bronze Age deposits along the route. The distribution pattern of these burials in relation to other contemporary archaeological features is likely to reflect the significance of their location.

The single late Iron Age burial from Site 49 lay in the centre of the excavated area, within the general vicinity of the two late Bronze Age burials. Whimster (1981, 362-71) lists 43 sites in Essex where small groups or individual burials have been recovered, though larger assemblages were excavated from Mucking (30) and Stansted (14, including some early Romano-British; Sealey 1996, 58). A further small group of five urned and unurned burials has recently been excavated at Stansted (Framework Archaeology forthcoming).

Strood Hall cemetery

The one other burial conclusively of late Iron Age date was from Site 9 (context 2156) and lay on the north-west margins of the small, largely enclosed cemetery which continued in use into the 2nd century AD. Although the cemetery spans the late Iron Age to early Romano-British period, demographically it should be viewed as a whole; there is little to suggest the population utilising the cemetery changed, only the timing of their deaths and the trappings which accompanied them. Since only one individual could conclusively be dated to the late Iron Age, with six of late Iron Age to early Romano-British date and the rest early Romano-British (eight 1st century AD and the rest 1st-2nd century), little would be gained from attempting any population dynamics; the temporal overlap is too great and the numbers attributed to individual phase groups are too small for meaningful analysis.

Of the 28 individuals (cremated and inhumed) identified from Site 9, 14% were immature and 82% adult, the latter including 57% females and 26% males, with 17% remaining unsexed (Table 5.1). The adult age ranges attributed are generally broad due to a lack of ageing evidence, but the assemblage includes at least two young adults (18-25 years; 7%; male and a female) and at least six individuals over 40 years of age (22%; three females and three males). The larger proportion of females compared with males should be treated with caution since the unsexed adults could all be male; even were this so, however, there would still be a slightly higher percentage of females to males.

A similar proportion of immature individuals to adults has been observed within other late Iron Age cremated bone assemblages, for example 13% immature and 83% adults from the Iron Age phases at King Harry Lane, St Albans, Hertfordshire (Stirland 1989); 12% immature and 72% adult at Westhampnett, West Sussex (the rest subadult/adult; McKinley 1997c); and 15% immature and 85% adults from Owslebury, Hants. (13 individuals; Collis 1977). All 13 individuals from Icknield Way, Baldock, Hertfordshire were adult or subadult (McKinley 1990). Similar figures have been observed from early Romano-British cremation cemeteries, where

between 7.7% and 12.8% immature individuals have been recorded, for example at sites in Hertfordshire such as Puckeridge/Skeleton Green, Welwyn (Wells 1981), King Harry Lane (Stirland 1989) and Area 15, Baldock (McKinley 1991). Higher proportions of immature individuals have been observed at a few cemeteries, for example 29% from Brougham, Cumbria (mid-late Roman; McKinley 2004b) and 21% from St Stephens cemetery, St. Albans, Hertfordshire (McKinley 1992).

Although most of these contemporaneous cemeteries held no conclusive evidence for infants of less than 6 months (neonate) such evidence is not entirely absent. One neonate was recovered from the late Iron Age phase at King Harry Lane and three from the Romano-British phases (Stirland 1989), and two neonates were found in the St Stephens cemetery (McKinley 1992). Although the absence of neonatal remains from Romano-British cemeteries is generally viewed as a 'cultural norm' there clearly were exceptions, perhaps indicative of cultural variation, and there may be some significance in the observation that these recorded instances (including Strood Hall) were from a relatively restricted geographic area. There could, however, be other explanations for the absence of such individuals from cremation cemeteries and the various factors may not be mutually exclusive (see McKinley 1997c, 64 for further discussion). Whatever the reasons for the small number of immature individuals, it is unlikely that over a potential 120-250 year period the small domestic community which appears to have been using this cemetery were fortunate enough to loose only one infant and one child.

The disparity between the sexes in this case seems likely to be genuine but to a much lesser degree than the percentage distribution suggests. Inequality between the sexes is common in contemporaneous cremation cemeteries but is largely off-set by the high percentage of unsexed individuals within populations. From the late Iron Age cemeteries at Westhampnett, King Harry Lane and Icknield Way for example, 24%, 48% and 46% of adults respectively were sexed, with higher percentages of females at Westhampnett (20% to 4%), of males at King Harry Lane (48% to 16%) and equal numbers at Icknield Way (McKinley 1997c; Stirland 1989; McKinley 1990). It has been noted elsewhere by the writer that it appears to be easier to identify females amongst cremated remains, though the results from other studies suggest this is not always the case (McKinley 2000c, 266). It was observed that none of the Strood Hall assemblage showed strong masculine traits and that all individuals—both male and female —were generally fairly gracile.

An attempt at estimation of population size is hampered by the small size of the assemblage, the potentially broad temporal range (c 120-220 years), the broad overlap between ascribed sub-phases and the probability that all members of the population were not being disposed of in the cemetery (see above). It is improbable that the rate at which burials occurred remained constant over the whole term of use, more likely is a slow beginning and a final tailing-off with a concentration of deposits in

the middle phases. Only c 35% of the burials can be attributed to a relatively tight date range, including c 31% being made in the latter half of the 1st century. The nine individuals from these burials (one dual) include five adult females, three adult males and one 12-14 year old. Most were buried in graves within the enclosure with one (adult female) outlier.

Pathology

A few minor pathological lesions were observed in the remains of 15 individuals including one each from the late Bronze Age Sites 28, 48 and 49, and the non-specific prehistoric Site 44, and 11 of the individuals (cremated and unburnt) from the Strood Hall (Site 9) cemetery (39% of the population).

Ante mortem tooth loss was observed in five dentitions from the Strood Hall cremation burials (three females and two males); three in the maxilla and two in the mandible. The most extensive loss was seen in two males (from graves 1381 and 1755) where 6:7 maxillary teeth and 7:8 mandibular teeth respectively had been lost ante mortem. Most loss was of the molar teeth, with some anterior loss in one male (grave 1755). Single dental abscesses—both associated with ante mortem tooth loss—were observed in two mandibles, one female (grave 1868) and one male (grave 1755). Dental abscesses most commonly result from the spread of infection from a carious tooth, evidence for which is rarely recovered from cremated bone assemblages due to the characteristic loss of tooth crowns in cremation (McKinley 1994a, 11). Very small carious lesions were observed in the occlusal surfaces of two of the 27 teeth recovered from the inhumation burial (left maxillary and mandibular molars); moderate calculus was observed in the anterior teeth and dental hypoplasia—defects indicative of arrested growth due to illness or malnutrition (Hillson 1979)—in the maxillary second incisor crowns. Slight periodontal disease (alveolar resorption due to a gum infection) was observed in one male mandible (cremation grave 1287).

Cribra orbitalia is generally believed to result from a metabolic disorder connected with childhood iron deficiency anaemia, though there may also be a link with vitamin C deficiency and intestinal parasites (Molleson 1993; Robledo et al. 1995). Slight porotic lesions were observed in one late Bronze Age individual (juvenile 28021, Site 49) and the Romano-British inhumation burial from Site 9.

The presence of infection was indicated in the adult remains from cremation burial 16006 (Site 44). Patches of endosteal new bone were observed on several vault fragments (?distal parietal and superior occipital), indicative of an infection in the meningeal membrane. Slight, fine grained periosteal new bone was seen on several small fragments of humerus and ulna shaft (maximum single area 10 x 12 mm). The specific cause of these infections—which may have been directly related, lesions spreading form one foci—is unknown, and one of several factors could have been involved (Adams 1986, 50) although there was no sign of direct trauma. Its affects would have been debilitating to the general health of the individual and the endosteal lesions could have been related to the cause of death.

A small fragment of bone (6 x 7 mm, probably rib shaft) recovered from the late Bronze Age burial from Site 48 has two fine, parallel cut marks, 1.7 mm apart, running across its length. The marks were clearly made prior to cremation but whether they constitute peri or post mortem cuts is unclear (there were no signs of healing). The lack of clarity as to position and the small size of the fragment render further comment difficult but they may represent a traumatic injury inflicted at the time of death, or some post mortem manipulation of the body.

Lesions related to some form of joint disease were observed in the remains of seven individuals: one of the 11 late Bronze Age individuals (Site 48; 12.5%) and six of the 20 Romano-British individuals (Site 9; 30%). Lesions indicative of osteoarthritis (Rogers and Waldron 1995) were observed in one joint surface of one Romano-British individual. Degenerative disc disease, resulting from a breakdown in the intervertebral disc, generally reflects wear-and-tear and is related to age; two individuals (one late Bronze Age and one Romano-British) had lesions in the thoracic/lumbar, and cervical and thoracic areas of the spine respectively. Where they occur alone, osteophytes (new bone on joint surface margins) are largely seen as age-related; slight lone lesions were seen in one Bronze Age and three individuals from Site 9, across a range of spinal and upper limb joints (Table 5.1).

Exostoses (new bone at tendon/ligament insertions) and various types of destructive lesions (including pitting) may develop in response to a number of conditions and it is not always possible to ascertain the specific cause of individual lesions (Rogers and Waldron 1995). Pitting, probably reflective of the early stages of degenerative joint disease, was observed in the remains from two Site 9 individuals. Exostoses were observed in the remains of one late Bronze Age (Site 28) and five late Iron Age/Romano-British individuals; in four of the latter - all male - the lesions were in the patellae. All were lone lesions and are most likely to be indicative of repetitive minor muscle stress; the singularity of the location of lesions in the four males—reflecting repetitive strain on the extensor muscles of the knee—probably reflects work-related stress in this group, involving motion with the knee under strain as may be imposed whilst trying to manoeuvre a heavy weight on a regular basis.

General comment on the health, lifestyle and status of the population as reflected by the pathology would be of limited value. The few lesions observed are unlikely to reflect other than a small proportion of what existed; the absence of much trabecular bone within parts of the assemblage limiting the potential for observation of lesions.

Pyre technology and cremation ritual

Efficiency of cremation

The majority of the cremated bone from most of the deposits was white in colour, indicating a high level of oxidation of the bone (Holden et al. 1995a and b). However, some colour variation indicative of different levels of oxidisation—through hues of grey and blue to black (charred)—was

observed in variable quantities of bone fragments from most graves. Exceptions included five of the six late Bronze Age graves from Site 42 (83%) and four of the graves (16%) from the late Iron Age/Romano-British Site 9. There was no apparent distinction in terms of the deposit type, age and/or sex of the cremated individual.

In most cases, a minority—often only a few fragments—of bone within a deposit showed variable oxidation. This was confined in extent to one area of the skeleton in 45% of affected burials, two skeletal areas in c 28% (including prehistoric and Romano-British), three areas in c 18% (late Bronze Age and late Iron Age/Romano-British), and all four skeletal areas in 9% (all Romano-British). Bones of the lower limb were most frequently affected (64% of cases), elements of skull and upper limb less so (42%), and the axial skeleton relatively rarely (16% cases); the latter may be misleading, however, since the axial skeleton largely comprises trabecular bone which may have been subject to preferential destruction whilst in the ground (see above). Similarly, it should be noted that less well oxidised bone may also have been subject to preferential loss due to soil acidity. Amongst the skull fragments, the vault was most frequently subject to lower levels of oxidation; there was no pattern within the axial skeleton; in the upper limb, one or more of the main long bones were affected (hand bones being involved only in the late Bronze Age burial 1049); and in the lower limb variations were most commonly seen in the femur. There are several cases of variable oxidation across a single bone fragment, for example, the endo- and exocranial plates of the skull vault being white and the intervening diploe blue or grey; and the external surface of a long bone being white while the interior is blue or black (bone burns from the outside in). Two of the Romano-British burials from Site 9 (1586 and 1598) not only have extensive involvement of different skeletal areas, but most of the identified fragments were poorly oxidised being blue or black in colour with patches of white.

A small fragment of soft tissue residue was recovered from context 1387 (Strood Hall; Site 9). This very brittle, 'slag-like' material rarely survives in archaeological contexts due to its extreme fragility, but it has occasionally been recovered from other Romano-British deposits (McKinley 2000c, 269). Its presence demonstrates that charred human remains other than just the bone may have been included in burials and associated deposits of pyre debris.

Numerous intrinsic and extrinsic factors may affect the efficiency of cremation, a combination of which may come into effect in any one case. The incomplete oxidation of individual bone fragments—as seen in most instances here—are likely to reflect a specific factor related to a problem late in the cremation process: for example, a bone fragment falling outside the confines of the pyre or dropping down through it to become partly or fully buried within the fuel ash (the first cutting-off the heat and the latter the oxygen supply). Both these observations could indicate a lack of tending of the pyre throughout the cremation process. Incomplete oxidation of specific skeletal areas may reflect intrinsic

and/or extrinsic factors. For example, poor oxidation of the skull vault may be related to the peripheral position of the head on the pyre (insufficient heat), to the deceased wearing a leather/fur hat or hood (cutting off oxygen), or the head lying on a solid surface (deflecting the flame and cutting off oxygen supply); the mass of soft tissues around the hips and thighs slows down exposure of the bone in the area to burning. An overall shortfall—as seen in a few of the Romano-British remains in particular—suggest a more general problem: insufficient fuel for cremation, curtailing of the process possibly due to poor weather, or a cut-off in oxygen supply as may result if the individual was wrapped in or laid on a skin/fur.

Two of the Romano-British deposits from Site 9 (1455 and 1857) in addition to having variable oxidation in parts of the skeleton (the skull and lower limb in the former, the femur in the latter) also show slightly odd patterns of dehydration fissuring in the affected bone. The latter comprises chequered surface fissuring and longitudinal cracking generally seen in bone burnt dry, in addition to the normal curvilinear and lateral fissuring commonly observed in bone burnt green (McKinley 2000a, 405; McKinley and Bond 2001, 281-2). The presence of normal fissuring patterns indicates that the body was burnt fleshed/green; the discrete areas of different fissuring suggests that these areas may have been subject to secondary burning once already partly dehydrated, perhaps as a result of the first attempt at cremation being curtailed (?adverse weather or insufficient fuel). Although there are no references to this practice in Roman literature there is some ethnographic evidence for such a practice within the cremation rite from Aboriginal Australia (Hiatt 1969; McKinley 1994a, 80).

Although variability in degrees of oxidation is relatively common within the mortuary rite—complete oxidation of the organic components not necessarily being a requirement—the percentage of burials containing bone with varying levels of oxidation from Site 9 is high (83%) compared with c 66% urned burials and 50% unurned burials from the East London cemetery (McKinley 2000c, 268-9), c 23% from the rural cemetery at Westhampnett (McKinley 1997b), and c 5% from the northern frontier cemetery at Brougham (McKinley in press). Whether this apparently high level is reflective of deliberate variation in mortuary practice (?local/regional) or technical inefficiency is difficult to say as there is currently little comparative evidence from the area.

Weights of bone for burial

Both cultural and non-cultural influences may affect the weight of bone recovered from a deposit (McKinley 2000a). In the latter category lay such factors as the levels of disturbance, the influence of the burial environment (see disturbance and condition above), the age (immature versa adult) and, potentially, the sex of the individual (McKinley 1993). In the former category, the type of deposit will influence the degree of protection offered to the bone within the burial environment and the number of individuals within the deposit may be of relevance. Consideration of these 'measurable' factors leaves one more difficult to interpret, that of what influenced

the decision as to how much of the bone to include in the burial.

The weights of bone recovered from individual burials varied enormously from a minimum of 5.6 g from a disturbed deposit to a maximum of 1546.6 g from an undisturbed one, both being urned burials from Site 9 (Table 5.1). It has previously been demonstrated (McKinley 1994b) that the type of deposit and level of disturbance are primary factors in the average weights of bone recovered; this is demonstrated here by the shorter ranges and higher average weights for the undisturbed burials, and the higher averages from the urned burials compared with the unurned ones (Table 5.2).

With the exception of Site 9, the small numbers of burials and frequency of disturbance on most of the sites limits the potential for confident intra-site and phase comparisons. Within the Site 9 assemblage, factors of no apparent significance to the weight of bone within the burial include the number of individuals within the burial, the sex of the individual and the age of the adults. The one dual cremation/burial has a weight of 917 g, which is considerably less than that of several of the burials of individuals. The maximum bone weight from both urned and unurned burials was recovered from those of females, but the maximum weight from a male burial was also relatively substantial at 1286.9 g. The average weight of bone from the undisturbed burials was slightly higher for the females (823.3 g) than for the males (796 g), but this small difference is not significant. Although the maximum weight of bone (1565.6 g) was recovered from the burial of an older adult (>40 years), that of a young adult (c 18-22 years) also contained a high bone weight (1154.8 g), as did the undisturbed burial of a subadult (c 15-18 years; 969 g). A general scan suggests there was little significant difference in the average weights recovered from the different adult age categories.

The average weight of bone recovered from the undisturbed urned adult burials from Site 9 (873.7 g) represents c 55% of the average expected weight of bone from an adult cremation (McKinley 1993), that from the unurned burials c 33%. The maximum weight of bone (1546.1 g) is within the upper range of weights from cremation burials for the Romano-British period (McKinley 1997b; Table 5.3) and probably represents in the region of 90-95% of the total expected weight (c 19 g was recovered from redeposited pyre debris in the grave fill of this burial).

The weights of bone (Tables 5.1 and 5.2) from the two late Bronze Age singletons (Sites 28 and 48) fall in the upper range of weights recovered from contemporaneous cremation cemeteries (McKinley 1997a, 142). The low average from the late Bronze Age burials from Site 42 may be misleading in view of the probable loss of bone from these deposits, but the difference in weights between the singletons and the small groups of burials may also reflect a genuine cultural variation (see below).

The one conclusively late Iron Age burial from Site 9 falls within the upper range of weights recovered from burials of this date (Tables 5.2 and 5.3); the similarly dated burial from Site 49 is more commensurate with its slightly later neighbours on

Site 9, the level of disturbance probably rendering comparison with the Site 9 contemporary inappropriate. The range is tighter and the average higher than at Westhampnett, but appears similar to the geographically closer King Harry Lane, St Albans and Icknield Way, Baldock (Table 5.3), which could signal a region variation (though bone survival at Westhampnett was generally rather poor).

Cremation burials of any period very rarely, if ever, contained all the bone which would have remained at the end of cremation (McKinley 1997a; 2000a and b) and wide ranges in bone weights are common. What is unclear, however, is why such great variations existed; the only pattern in British burials to date appears within the consistently high weights recovered from early and middle Bronze Age singletons, commonly associated with barrows (McKinley 1997a, 142). This suggests that one potentially significant factor may be the 'status' of the individual, whatever criteria that may be measured by: wealth, occupation, or the esteem in which they were held.

Another unknown is what happened to the rest of the bone, that not included in the burial, which at times could apparently amount to c 98% of the bone (ie well in excess of 1000 g). Our knowledge of the components of pyre debris demonstrate that at least some bone remained amongst the rest of the debris (McKinley 1997a; 2000b). Numerous graves from various of the sites contained redeposited pyre debris in the fill (Table 5.1; see below); many of the unurned burials were lifted as one with the redeposited pyre debris as what would have comprised two (possibly more) deposits could not be distinguished in excavation (see below). Of the undisturbed graves containing redeposited pyre debris from Site 9, varying quantities of bone (0.3-165.7 g) were recovered from amongst the debris representing between <1% and 42% of the total weight of bone from the grave. However, both here and elsewhere where the debris has been recovered in association with the appropriate burial (McKinley 1997a), it is clear that what would have been the full weight of bone is not represented. The possible alternative locations of this 'missing' bone has been discussed elsewhere by the writer (McKinley 2000b, 42; in press) but may have included discard with other pyre debris, scattering of the bone or removal for specific use elsewhere, the latter potentially including distribution amongst relatives/friends, a practice for which there is some anthropological evidence (Hiatt 1969; Wells 1981, 291; McKinley 2000b, 42).

Fragmentation

Cremated bone is by nature fragmentary and brittle; dehydration during cremation leads to shrinkage, and the formation of cracks and fissures in the bone (McKinley 1994a; 2000a). Subsequent burial, with infiltration of soil into the fissures and the effects of wet/dry, freeze/thaw result in further fragmentation along the dehydration fissures, particularly if the bone is disturbed in the ground, and during excavation and post-excavation processing of the bone (McKinley 1994b; 2000a).

It was expected, given the acidic soil conditions in the area and

common disturbance to deposits, that bone fragment size would be relatively small, and such proved to be that case for all sites and periods (Table 5.4). The large, late Bronze Age singleton from Site 48 is likely to have been less disturbed than its contemporaries from Site 42, hence the slightly larger surviving fragment sizes. The differences between the Sites 9 and 49 Iron Age burials suggests, not surprisingly, that reduced disturbance helped preserved a larger fraction size in the former. The Site 9 late Iron Age/Romano-British figures support the normal observation that disturbance increases the level of bone fragmentation, but in this case the urned burials do not seem to have fared any better than their unurned counterparts. Where bone was recovered from amongst pyre debris within the Site 9 grave fills, the maximum fragment size is smaller than that from the associated burial, and the fraction distribution is similar or less. This may imply that bone within the pyre debris was subject to more robust manipulation during recovery from the pyre site, perhaps including being trampled-on to some extent. The degree of fragmentation which occurs as a result of excavation (no matter how carefully conducted) is demonstrated by comparison of the maximum fragment sizes from the urned burials excavated in spits (see burial formation process below) recorded pre-excavation and at the time of osteological analysis; there was a 5-69% reduction, with an average of 32%. There is no evidence to suggest deliberate fragmentation of the bone occurred prior to burial or redeposition of pyre debris.

Skeletal elements

Cremation burials generally comprise an (apparently) random selection of bone fragments from all skeletal areas. Incidental cases where this may not occur include deposits containing small quantities of bone (particularly <25 g), which may include heavily disturbed deposits or immature individuals. Bone fragments are classified as 'identifiable' only where they can be allocated to a particular bone and the ease with which this can be done depends on the degree of fragmentation and on the area of the skeleton represented; small fragments of skull, for example, are more morphologically distinctive than small fragments of long bone shaft. Where only small quantities of bone are present within a deposit, for whatever reason, the proportional amount of 'identifiable' bone may give a biased view of the skeletal elements present.

Across the entire assemblage a very wide range of between 5-65% of bone from individual deposits could be classified to skeletal element; for the late Bronze Age (Sites 28, 42, 48 and 49) the figure is 16-65%; for the late Iron Age (Sites 9 and 49) 36-41%; and for the late Iron Age/Romano-British (Site 9) 5-62%, with a shorter range of 23-62% for the undisturbed burials. In general there appears to have been a 'normal' distribution of skeletal elements, some identifiable fragments from all four skeletal areas being present in each burial. Most variation was observed in the skull and axial skeleton categories; a common observation reflecting the ease with which small fragments of skull may be identified and the fragility and consequential preferential destruction of trabecular bone which comprises a high proportion of the axial skeletal

(see disturbance and condition). With only one exception (see below), there is no evidence to suggest that specific skeletal areas were being preferentially included or excluded from the burials.

Very little or no skull was identified from two disturbed urned burials from Site 9; given the ease with which such fragments can be distinguished this is unusual and likely to represent a genuine absence. Burial 1520 (adult male) was recovered from a relatively deep grave (0.22 m) and contained an average quantity of bone (614.7 g), c 36% of which was identified to skeletal element, but only 1.1% of the identifiable bone comprise skull fragments and there is no vault. Burial 2149 (unsexed adult) is slightly different in that the grave had been heavily truncated (0.07 m deep); only 94 g of bone survived in the lower portion of the in situ vessel, just 11% of which was identifiable to skeletal element, none of which was skull. In this instance, although it cannot be stated that the burial contained no skull, if there it must have been confined to the upper portion of the vessel suggesting there may have been some ordered deposition of skeletal elements (see below). The absence or minimal presence of skull fragments in a burial is a very rare occurrence in any period of the rite. Similar distributions have occasionally been seen in Romano-British assemblages, for example at Puckeridge ('many'?; Wells 1981, 291), the Eastern London cemetery (one male; McKinley 2000c, 271) and Brougham (four burials, three males; McKinley in press). The significance of the observations is unclear—and that most of these deposits were apparently of males may be of additional relevance—but the suggested deliberate exclusion of skull fragments may be linked to its symbolic significance rendering it most suitable for some other ritual purpose in these instances; including Wells' suggestion (1981, 291) that these fragments were (sometimes) chosen in preference to others to distribute as momento mori (see above, weights of bone).

Tooth roots—the enamel and crown of erupted teeth commonly shattering into small fragments during cremation and subsequently being lost—and the small bones of the hands and feet are commonly recovered in cremation burials of all periods. Most of the burials from the A120 sites contain at least a few of these small skeletal elements (as distinct from small bone fragments), the frequency of occurrence within individual deposits showing a general decrease over time (Table 5.5). The greatest variability was seen in the Site 9 burials, c six of which did not contain any fragments of these skeletal elements; most were disturbed burials from which relatively small quantities of bone had been recovered (100-300 g), though one was of average size. Conversely, two or three burials held relatively common inclusions, such as 1475 with two tooth roots and fragments of 12 hand/foot bones. There was no significant difference between the urned and unurned burials, and no consistent variation between associated burials and deposits of pyre debris.

These small skeletal elements are most frequent in the prehistoric singletons from Sites 28, 48 and 9, all of which comprise large quantities of bone (>1000 g) which it may be excepted would give greater scope for inclusion of a wider diversity of skeletal elements. It is not the size of the burial alone

which is a factor, however, since the four Romano-British burials from Site 9 with >950 g of bone include substantially fewer of these small elements than the earlier burials: on average 2.5 tooth roots and 4.5 hand/foot bones per burial (little different from the general figures for the site).

The apparent scarcity of small bones from some burials could be associated with the mode of recovery of bone from the pyre site for burial (McKinley in press). Where relatively small quantities of bone were collected for burial the temptation may have been to concentrate on picking up the larger, more easily accessible fragments. Collection may have been by hand directly off the pyre site—possibly with bone fragments being raked together first—a process which would have produced a bias towards the larger fragments. Where the small elements are common, rather than hand collection of individuals bone from the pyre site there may have been en masse collection of the upper levels of debris with subsequent winnowing (by water or air) which would have facilitated easier recovery of small as well as large skeletal elements. The differences in the frequency of these elements may, therefore, reflect temporal variations in mortuary practice, and in some instances (late Bronze Age and late Iron Age) variations in practice between sites.

Pyre goods

These include items and offerings included in the primary part of the mortuary rite—items placed on the pyre—as opposed to grave goods added only at the time of burial.

Small quantities (0.1-15.9 g, mean 3.3 g; Table 5.1) of cremated animal bone were recovered from one late Bronze Age (10%; Site 49), one late Iron Age (50%; Site 9) and thirteen late Iron Age/Romano-British burials (54%). Amongst the latter there is a relatively even distribution between male and female burials (58% and 66% respectively), and one immature burial (25%). In each case the animal bone was recovered from the burial, with some also being found amongst the pyre debris in five graves (Table 5.1). There was no significant difference between urned and unurned burials (53% compared with 60%). Species identifications are given elsewhere (Chapter 5), but in about half of the burials the animal comprised bird, which occurred with both sexes and the immature individual.

The inclusion of cremated animal remains in late Iron Age and Romano-British burials is relatively common, and there are close similarities between the periods in terms of frequency of occurrence and the species recovered. There is limited British data for the Iron Age, but pig and domestic fowl tend to feature strongly both here and elsewhere in Europe (Meniel 1993; McKinley et al. 1997); Westhampnett, with its lack of bird and predominance of sheet/goat together with pig from the 27% of burials from which animal bone was recovered, is slightly at odds with the norm (ibid.). There is a wide range in the number of burials with animal bone from different Romano-British cemeteries, for example, 3.5% from Westhampnett (McKinley and Smith 1997), 13% from Baldock Area 15 (McKinley 1991), 36% from Puckeridge (Wells 1981) and 47% from St Stephens,

St Albans (McKinley 1992; in press). It has been noted elsewhere, both within the Romano-British period and beyond (eg McKinley 1991; 1992; 1994a; 2000c, 75), that a higher proportion of adults (40%) compared with immature individuals (14%) tend to be accompanied by animal remains.

Cremated animal remains, in deposits from any period, invariably represent (food) offerings, or in some specific instances, companions to the dead (Brøndsted 1965; Toynbee 1996, 50; Bond 1996; McKinley 2000a). In the Romano-British period the quantities of bone included are generally relatively low and the variety of species limited, pig and domestic fowl being the most popular (eg Rielly 2000, table 26, 76; Harman 1985). The choice of species may, however, also have carried ritual significance; the cock is the bird of Mercury, messenger to the underworld and escort of the dead (Black 1986), and itself a symbol of the new day (Wheeler 1985; Green 1994, 33), and there is reference to Roman graves not '…really becoming graves until the proper rites are performed and a pig is slain' (Cicero De Legibus II 22, from Toynbee 1996).

Small numbers of other items were recovered from deposits during the osteological analysis, including fragments of worked bone, iron, copper alloy and glass (Table 5.1). The two latter artefact types did not appear heat-altered; concluding whether iron has been subject to the heat of a pyre is not possible without microscopic examination. In addition, blue/green spot staining—commonly associated with the proximity of copper alloy to the bone during the cremation process—was noted to bone fragments from one late Bronze Age (21011) and two Romano-British burials (2156 and 1857); staining was to fragments of exocranial vault in two cases (2156 and 21011; both male) and the calcaneum (heel bone) in one (1857, female). None of the burials where staining was observed contained fragments of copper alloy, suggesting either that any fragments were left amongst the pyre debris or collected for reuse. The inclusion of the charred sloe stone within the late Bronze Age burial (Site 28) may have been fortuitous and unrelated to the cremation, but equally, it could have formed part of a pyre offering.

Grave goods

Ceramic vessels formed common grave goods at the Site 9 cemetery. In six of the graves, including three of those containing unurned burials, small quantities of bone (0.1-1.5 g) were recovered from one or more of these accessory vessels, the inclusion of the bone being an accident of disturbance to the grave fill in each case. In two other graves, 1452 and 1821 (Table 5.1), larger quantities of bone—amounting to 9% and 25% of the total recovered respectively—was found in accessory vessels. However, both graves had sustained considerable disturbance and truncation, and it is most likely that the bone was redeposited within the vessels subsequent to burial.

Dual burials

Only one burial, 1477 from Site 9, contained the remains of two individuals; the possible cenotaph deposit 1309 has been discussed above (see demography). The percentage of dual burials from Site 9 (4%) is within the range

commonly identified from all periods in which the rite was used (McKinley 1994a, 100-2; 1997a; 2000c, 272); a combination of adult female and young immature individual is that most frequently encountered, though older immature individuals have also been found replacing either of the former. In most cases, the evidence implies that these are burials of the remains from dual cremations as opposed to those of individual cremations combined at the point of burial (McKinley 1994a, 100-2; 2000c, 109-10; in press). In other Romano-British cemeteries the range of dual burials varies from 2% at Welwyn (Wells 1981) to 8% at Owslebury, Hampshire (Wells 1981) and Plot 2 at East London (McKinley 2000d, 272); though there are numerous cemeteries from which none have been recovered (McKinley in press).

Redeposited pyre debris

Pyre debris—predominantly fuel ash (McKinley 1998)—was recovered from the fills of graves from all periods and from all sites except 16. The inclusion of this material in grave fills is common throughout most of the temporal range and British geographic areas (McKinley 1997a; 2000b, 41-42; in press), and is indicative of amongst other things the proximity of the pyre site to the place of burial.

Amongst the prehistoric burials, only one unurned late Bronze Age, one unurned non-specific prehistoric and the two late Iron Age urned burials did not have any associated redeposited pyre debris. In the majority of graves pyre debris had predominantly, but not exclusively, been deposited over or around the formal burial (probably originally made in an organic container in most cases). At the time of excavation it was generally not possible to distinguish between the remains of the burial (bone concentration) and the deposit of pyre debris, the latter having intermingled with the former in the period between deposition and excavation. However, due to the method of excavation (see above) it was generally possible to largely distinguish the two deposits in analysis. Of the late Bronze Age burials from Site 42, 71% of the bone was recovered from the northern half of grave 14000, predominantly towards the lower half of the surviving grave cut; 80% of the bone was concentrated in the northern half of grave 14041; 74% in the eastern half of 14029; with a more even distribution in 14008, only slightly more (57%) of the bone being in the northern half of the grave. Further detail of the distribution may have been illustrated had the graves been quadranted, but the half sections admirably demonstrate how misleading such deposits could be (there being no distinguishable distribution during excavation) if they are not excavated in the appropriate manner. The late Bronze Age graves from Site 49 showed similar variations in the distribution of archaeological components within the grave fills: 63% of the bone from grave 28022 was recovered from its southern half, 42% from spit 1 of three; all except 6% of the bone from grave 28021 was recovered from the upper two spits of three, implying that pyre debris was deposited prior to the burial being made in this case as well as subsequent to it.

Nine of the Romano-British graves (including 40% of the unurned burials and 37% of the urned burials) had inclusions of pyre

debris within the grave fills, generally deposited around or above the burial. In two unurned burials where sub-divisions had been made in excavation, it could be shown that there was an unperceived concentration of bone in one half of the grave: 77% in the eastern portion of 1867 and 72% in the western part of 1870. The weights and relative proportions of the bone in each deposit type has been discussed above (weights of bone for burial).

At least one feature from late Bronze Age Site 42 appears to contain a formal deposit of redeposited pyre debris (McKinley 1997a, 139); the nature of two other deposits from this site is unclear (denoted cremation-related deposits; Table 5.1) but they may also comprise formal deposits of pyre debris. It is not clear why such deposits were made. From a purely practical view point, clearance of the pyre site would have maintained a 'tidy' cemetery, but there are features of these deposits —both those from the Bronze Age and other periods (McKinley in press)—which suggest they were made as a formal part of the mortuary rite.

Burial formation process

Details of the burial formation process could be further distinguished in the remains of three urned burials (one Iron Age and two Romano-British, all from Site 9) which had been emptied in spits (20 mm spits in two cases, 30 mm in one). In the Iron Age vessel from grave 1759, bone commenced 60 mm below the rim of the vessel. For the first 140 mm, the bone was confined to one side of the vessel indicating that it had been tipped or laid on its side for the bone to be inserted and not levelled out before burial. The majority of the bone (78%) was recovered from spits 5-8 of 11 (47% from spits 6-7); ie the central area where the vessel was at its broadest. Skeletal elements from each of the four skeletal areas were recovered at all levels (excluding spit 1 and 11 which contained <1 g of bone) and there was no ordered deposition in terms of skeletal elements and side. A similar lack of order was observed in the Romano-British burials from graves 1596 and 1755; in both cases, a large proportion of the bone (71% from the former and 77% from the latter) was in the lower half of the vessels. In the vessel from grave 1596, a large proportion of small bone fragments were recovered from the upper and central spits suggesting their fragmentation occurred after most of the vessel had filled with soil, though the few small bone of the hand and foot recovered were from spit 3 and 5 (seven spits in total).

Chapter 6 Animal Bone

by Emma-Jayne Evans with a contribution by Claire Ingrem

Introduction

The animal bone assemblage recovered from the sites along the A120 was generally very poor both in quantity and quality. The small size of the sample from most of the sites limits the conclusions that can be drawn with regard to animal husbandry. The largest assemblages are those recovered from the two main Roman sites at Strood Hall and Rayne Roundabout. The following report documents the assemblages recovered from the sites arranged in site number sequence.

Methodology

Identification of the bone was undertaken at Oxford Archaeology with access to the reference collection and published guides. All the animal remains were counted and weighed, and where possible identified to species, element, side and zone (Serjeantson 1996). Also, fusion data, butchery marks, gnawing, burning and pathological changes were noted when present. Ribs and vertebrae were only recorded to species when they were substantially complete and could accurately be identified, or were from an identifiable articulated skeleton in which there could be no doubt as to their species. Undiagnostic bones were recorded as small (small mammal size), medium (sheep size) or large (cattle size).

The separation of sheep and goat bones was undertaken using the criteria of Boessneck (1969) and Prummel and Frisch (1986), in addition to the use of the reference material housed at OA. Where distinctions could not be made, the bone was recorded as sheep/goat (s/g). Rodent teeth were distinguished according to their morphology using the criteria of Yalden (1977). Frog and toad were distinguished according to the morphology of the ilium. The size of fish was estimated using reference specimens of known size for comparison.

The condition of the bone was graded using the criteria stipulated by Lyman (1996), grade 0 being the best preserved bone and grade 5 indicating that the bone had suffered such structural and attritional damage as to make it unrecognisable.

The quantification of species was carried out using the total fragment count, in which the total number of fragments of bone and teeth was calculated, and this figure broken down to the total number of fragments identifiable to each species. In addition the minimum number of individuals (MNI) was calculated using the zoning method (Serjeantson 1996). The elements used for working out MNI do not include ribs, vertebra, loose teeth, tarsals and carpals unless these are the only elements present.

Tooth eruption and wear stages were measured using a combination of Halstead (1985) and Grant (1982), and Levine (1982), and fusion data was analysed according to Silver (1969). Measurements of adult, that is fully fused bones, were taken according to the methods of von den Driesch

(1976), with asterisked (*) measurements indicating bones that were reconstructed or had slight abrasion of the surface. Withers heights were calculated using Fock (1966), Kieserwalter (Boessneck and von den Driesch 1974, 334), and Matolcsi (1970).

Results

Site 1: Takeley Church

Nine fragments of animal bone in fair to poor condition (grade 3–4) were recovered from unphased features from Takeley Church. As well as four unidentifiable fragments, a cattle molar and metacarpal and an articulating sheep/goat radius and ulna were recovered. Also, a juvenile rabbit/hare tibia was recovered, which may be an intrusion by a wild animal.

Site 5: Frogs Hall East

Four bones in fair condition (grade 3) were excavated from Frogs Hall, a cattle molar from the late Iron Age, a cattle metatarsal from the medieval period and an unphased sheep/goat molar. An unidentifiable fragment was dated to the post-medieval period.

Site 9: Strood Hall

The condition of the bone from Strood Hall was very good, with the majority of the bone scoring 1 according to Lyman's grading, as illustrated in Table 6.1. Even though the bone was in such good condition it was highly fragmented resulting in only 23.3% of the total number of bones being identifiable to species. The species identified are shown in Tables 6.2 and 6.3.

As can be seen from Table 6.2 cattle dominate the assemblage from the early Roman to the late Roman period. However, of the five bones identified from pits from the late Iron Age/early Roman period only one bone, a metatarsal, is from cattle, with the other four being pig teeth. No further information can be gained from the bones from this phase.

Early Roman (Period 11)

Most of the bones from Period 11 came from ditches, as shown in Table 6.4. The total fragment count and minimum number of individuals indicate that cattle were the most abundant species, with the pelvis suggesting a minimum number of four. Butchery marks were noted on four bones, with the chopping of two metatarsals suggesting that the animals had been exploited for their marrow. Age at death using tooth eruption and wear stages could be estimated for four mandibles, giving ages of 8–18 months, two at 18–30 months and an adult. One unfused proximal tibia suggests that at least one animal died before reaching the age of 3.5–4 years.

Articulations were noted between a humerus, radius and ulna, and between an unciform, lunate, scaphoid and cuneiform, suggesting that these bones had suffered little disturbance after their final deposition. Although measurements could be taken of several bones, none could be used to calculate withers heights. Carnivore gnawing was noted on one tibia and one pelvis.

Two sheep bones were positively identified from this phase, and have been combined with the sheep/goat bones for this discussion. The presence of two right metatarsals suggests a minimum number of two

sheep/goat from this period. No butchery marks were noted on any of the bones, and age at death could only be established for one mandible, giving an age of 5–8 years. The presence of an unfused metapodial suggests that at least on animal died before reaching the age of 2 years.

Only two bones were measured, neither of which could give an estimate of withers heights. Six bones had been burnt, perhaps during cooking processes, or during disposal. None of the burnt bones came from the cremation vessel. Carnivore gnawing was noted on one metatarsal.

Other than a distal humerus and a mandible, all the pig remains were teeth, suggesting a minimum number of one. The horse remains also suggest a minimum number of one, with one radius being measured but not allowing for withers heights to be estimated. The only element identifiable as dog was part of a skull, a single ulna represented the domestic fowl and a single vertebra represented the rodent.

From the early Roman phase it can only be noted that the main domestic species are present, along with dog and domestic fowl. It can only be suggested that the main domesticates were kept for meat and possibly secondary products such as milk, leather, wool and traction, and domestic fowl was probably kept for meat and eggs. Dogs may have been kept for hunting and protection. The rodent vertebra is likely to be intrusive.

Early/middle Roman (Periods 11–12)

Most of the bones from the early to middle Roman periods were excavated from ditches (see Table 6.5). The presence of two right mandibles suggests a minimum number of two cattle, which have been aged at 18–30 months and senile. A humerus and metacarpal have been chopped, suggesting the exploitation of marrow. One of the mandibles had evidence of periodontal disease around the teeth. The minimum number of sheep/goat is one, with one mandible being aged at 5–8 years. Pig is represented by just three teeth and horse by a single tarsal.

Three amphibian bones (humerus, femur, tibio-fibula), possibly from one individual, four molars belonging to field vole and a mandible belonging to a mouse were recovered from ditches, along with a femur and unidentified long bones and vertebra of an unspecified rodent.

Other than the presence of the main domestic species, and the likely intrusion of small mammal and amphibians, no further information with regards to animal husbandry regimes can be gained from this period.

Middle Roman (Period 12)

The majority of the bone from Period 12 also came from ditches, (see Table 6.6). The presence of three right cattle scapula suggests a minimum number of three. Dismemberment cut marks were noted on several bones, and two metapodials had been chopped probably for marrow extraction. Five mandibles were aged, giving ages at death of 8–18 months for three mandibles, adult for one and senile for another. Fusion data suggests that at least one animal died before reaching the age of 1.5 years, another before 2.5–3 years,

one at 3–3.5 years, and another around 3.5–4 years.

Both carnivore and rodent gnawing was noticed on several bones, and a type 1 non-pathological lesion was noted on one glenoid. One mandible has evidence of burning around the mental foramen. Several articulations were noted between thoracic vertebrae from ditches 1429, and more from ditch 2091, and a calcaneus, astragalus, navicular-cuboid and an external and middle cuneiform from pit 1421. Also seen to articulate were an astragalus, calcaneus, navicular-cuboid, metatarsal, and 1st, 2nd and 3rd phalanges from ditch 1427. The articulating metatarsal was one of the bones that exhibited dismemberment marks. This suggests little disturbance had occurred to these bones after their deposition.

The minimum number of sheep/goat is one, with only one bone exhibiting butchery marks, a metacarpal that has been chopped probably for marrow extraction. Ageing was possible for two mandibles, both giving ages at death of 5–8 years. Although measurements were taken on one tibia, it could not be used to calculate withers heights.

The minimum number of pig is one, as is horse. Carnivore gnawing was noted on two horse bones, and the measuring of a complete tibia gives a withers height of approximately 15 hands (1.54 m). A mandible and maxilla of dog gives a minimum number of one, a metacarpal with carnivore gnawing gives a minimum number of one red deer, and a single ilium represents frog.

It can be suggested that cattle, sheep/goat and pig were processed for consumption, and the presence of older sheep/goat may be due to their exploitation for wool. The horse was possibly kept for traction or riding, and the dog for hunting and protection. It may also be suggested that the presence of red deer indicates that these wild animals were also exploited during this period, although it cannot be inferred how important wild species were in the diet of the local population.

Middle/late Roman (Periods 12–13)
Most of the bone from the middle/late Roman period was excavated from pits (Table 6.7). Again the overall numbers of species is low. Two left mandibles and two left metatarsals clearly give a minimum number of two cattle from this period. Butchery marks are noted on several bones indicating they had been dismembered and chopped probably for marrow extraction. Age at death could be estimated for three mandibles, suggesting ages of 18–30 months, 30–36 months and senile. An unfused proximal femur suggests that at least one animal died before reaching the age of 3.5 years.

Although measurements were taken of several bones, none could be used for calculating withers heights. Expansion of the proximal articulation of a 1st phalanx, with eburnation on the articulation, suggests one animal suffered from osteoarthritis, possibly caused by stress put on the feet during traction.

A minimum number of one sheep/goat is suggested by the bones present, with carnivore gnawing evident on a metatarsal suggesting the presence of dog on the site. A minimum number of one

pig can be inferred, with an unfused metacarpal suggesting that at least one animal died before reaching 2 years of age. All the horse bones present are teeth, with the exception of a metatarsal with carnivore gnawing and a sacrum. Two long bone fragments of amphibian were also recovered.

It can only be said that the main domestic species were present during the middle/late Roman period, which were likely to have been exploited for meat, traction and riding, and possibly secondary products such as milk, hide, wool and manure. Animal husbandry regimes cannot be established from such a small sample.

Late Roman (Period 13)

Period 13 produced the largest assemblage of animal bone from the site with most of the fragments coming from the two middens, 1206 and 1329 (Table 6.8). Although the total fragment count suggests that cattle dominate the assemblage, the minimum number of individuals suggests that cattle and sheep/goat are present in equal numbers, with four left calcana and four left tibiae present for cattle, and four right mandibles for sheep/goat. The presence of at least three foetal pigs, and a further two older mandibles, suggests that at least five pigs were present from this period. A minimum number of three horses are present, based on the presence of three right metatarsals.

Butchery marks were noted on many cattle bones, showing evidence of dismemberment, filleting and chopping through the shaft for marrow extraction. Although the measurement of many bones could be taken, none could be used to determine withers heights.

Age at death could be estimated using five mandibles, all giving ages at death as adult. Fusion data using an unfused 1st phalanx and a proximal radius suggests at least one animal died before reaching 1–1.5 years. A further two unfused distal tibiae give an age at death at before 2–2.5 years, three metapodials at before 2.5–3 years, two unfused proximal femurs before 3.5 years, and two unfused distal radii at 3.5–4 years. Carnivore gnawing was also noted on several bones, indicating they had been exposed for a time before their final deposition.

Pathologies were noted on two 1st phalanges, a type 2 non-pathological depression on the distal articulation of one, and the expansion and grooving of the distal articulation of another. This sort of pathology is often associated with the stresses placed on the feet of animals when they are used for traction. Another 1st phalanx had also been burnt brown/black.

A large proportion (66.2%) of the sheep/goat remains from this period are teeth. A single sheep horn core was identified from midden 1206 that has been incorporated into the sheep/goat remains for this discussion. Four mandibles were aged, giving ages at death of 1–3 months, 20–34 months, and two at 3–5 years. One unfused 1st phalanx suggests that at least one animal died before reaching 1–1.25 years of age, and two unfused metapodials suggest that at least another died before reaching 1.5–2 years. One metacarpal has been chopped

through the shaft, probably for marrow extraction

The majority of the pig bones from this period come from at least three foetal burials in midden 1329, the minimum number of which is obtained by the presence of three right pelves and three right femurs. The three foetal pigs may be from the same litter that were discarded at birth. Of the remaining pig bones, a 1st phalanx, carpal/tarsal and a skull all had dismemberment cut marks. Age at death could be established for three mandibles, which suggest the presence of one juvenile and two immature animals. Two unfused 1st phalanges also suggest that at least one animal died before reaching 2 years of age, as did an unfused distal metapodial.

As with sheep/goat, the horse bones primarily comprise teeth (79.5%). Butchery marks were noted on two bones, cut marks on the shaft of a metatarsal and a rib that had been chopped. Measurements were taken of two bones, one of which, a metatarsal, allowed a withers height of approximately 12 hands (1.23 m) to be estimated. Pathological changes were noted on another metatarsal, with considerable pitting of the proximal articular surface and new bone formation around the articulation indicating degenerative joint disease.

Just two canines represented the presence of dog whilst a femur and a tarso-metatarsus indicated domestic fowl. Of the wild species, three fragments of antler and a radius suggest red deer, and three metatarsals and an antler fragment represent roe deer. One red deer antler fragment has cut marks, and the radius has been chopped through the proximal articulation. Two roe deer metatarsals have been chopped probably for marrow utilisation, and the piece of antler has been burnt. A single hare scapula is likely to be intrusive.

All the small mammal and amphibian bones originate from the two middens on site, and are likely to be intrusive. These bones include one bank vole tooth, six vole teeth, three amphibian bones (a metapodial, tibio-fibula and vertebra), eighteen rodent teeth and bones, and one unidentified small mammal bone.

Although there is a reasonable sample size, it is still only possible to gain limited information about the animals kept during this period. It may be suggested that the main domestic species were kept in similar numbers, although it is unlikely that horses and pig were kept in similar quantities to cattle and sheep/goat, as they are far more limited in the products they yield. Pigs tend to be utilised only for meat and horses generally for traction and riding. Horses would rarely be kept solely for meat, but their remains may have been processed after their death, possibly even to feed the dogs, as it seems they have been during this period.

The presence of butchery marks on cattle and sheep/goat bones suggest they were utilised for meat and marrow, and dogs would have often been kept on site for hunting and protection. It can be suggested that the presence of several adult cattle and the pathologies on the feet indicate that cattle were also used for traction. The presence of foetal pig suggests that they were breeding within the vicinity of the site.

Although the majority of the deer remains were antler which could have been found as shed antler and brought back to the site, the presence of a red deer radius and roe deer metatarsals both exhibiting cut marks suggest that some hunting was undertaken at this site, and wild species played a role in the sustenance of the local population. It is not unusual to find domestic fowl from this period, as these birds were often exploited for their meat during the Roman period.

The overall distribution of the remaining bones from the Roman period is highlighted in Table 6.9. The minimum number of cattle is one, with age at death being estimated for one mandible at 18–30 months. Sheep/goat is only represented by one tooth, while three teeth represent pig. A scapula and a tooth indicate the presence of horse from this site.

Site 11: Highwood Farm

A total of 351 fragments of animal bones and teeth were recovered from the Iron Age site at Highwood Farm. The condition of the bone was good, with the majority of the bone scoring 2 according to Lyman's grading, as shown in Table 6.10. The good condition of the bone has resulted in 55.5% of the total fragments being identified to species. However, many of the identified bones and teeth are highly fragmented which has greatly increased the total fragment count, particularly of the cattle remains. All species present are shown in Table 6.11.

The small number of bones from the early/middle Iron Age came from pit 1017, and can only suggest that the main domestic species, cattle and sheep/goat were present during this period. The bones from the middle Iron Age primarily came from pit 110106, with the remainder coming from pit 1022, ditches 1003 and 1065, and gullies 1064, 1065 and 1066. The small sample size cannot reveal any more information other than that the main domestic species were present.

Most of the bone from this site comes from late Iron Age contexts, with most of the bone, 73%, coming from enclosure 2035 and the remainder coming from gully 2036, pits 2026, 2092 and 110403, and postholes 2022, 2034 and 2043. The total fragment count suggests that cattle were present in large numbers, although most of the remains come from highly fragmented mandibles and two skulls. There are also 47 loose teeth, likely to come from the fragmented mandibles and skulls present. The minimum number of cattle is four, based on the presence of four left mandibles.

One of the cattle mandibles was seen to have a malformed 3rd molar. Age at death could be established for six mandibles giving ages at death of one at 30–36 months, three as young adults, one as old adult and one senile. Dismemberment butchery marks were noted on an articulating metatarsal, navicular-cuboid and external and middle cuneiform. The metatarsal had also been chopped through the shaft, probably when removing the lower leg from the joint as part of the butchery process. Four of the cattle mandibles also had cut marks, indicating dismemberment, probably for removal of the tongue. It may be likely that the cattle

remains from this ditch represent primary butchery waste, where long bones have been dismembered and skulls and mandibles removed.

As with the cattle bones, many of the sheep/goat bones (62.5%) are teeth. The dog remains comprise a left and right mandible found in pit 2092, and are likely to come from the same animal. The fragment of red deer antler from enclosure 2035 is a worked fragment, likely to be a comb.

The small sample size and nature of the bones from this site makes it unwise to draw any firm conclusions as to animal husbandry techniques for any periods from this site, except that the main domestic species were present, and cattle were likely to have been butchered for their meat.

Site 12: Great Dunmow Round House

The remains from Great Dunmow Round House comprise four horse bones from ditch 120211 surviving in fair condition (grade 3), and dating from the late Bronze Age/early Iron Age. It is likely that these bones are from the same animal, and the presence of canines in the articulating left and right mandibles suggests that the horse may have been male.

Site 16: Chelmer River

Eight bones in good condition (grade 2) were excavated from Chelmer River, all from a single pit fill 16017 dating to the post-medieval period. The bones comprise seven articulating unfused lumbar vertebra and one unfused sternum of a pig. The lumbar vertebrae were all chopped down the sagittal plane, and it is likely that these remains are from the butchery of a single pig. The bones are from a juvenile, which is to be expected as most pigs are killed for meat when they are young.

Site 17: North of Clobbs Wood

Only one unidentifiable long bone was excavated in good condition (grade 2) from an unstratified context from this site. The bone was chopped through the shaft, probably for marrow extraction.

Site 20: Grange Lane

The condition of the bones was fair to poor according to Lyman's grading (Table 6.12). The relatively poor condition of the bone has only allowed for 27.2% of the excavated bone to be identified to species (Table 6.13).

Only seven bones were identifiable to species from the late Bronze Age. There are four cattle bones, three of which were from pit 28016 and one from gully 1040, two horse bones from ditch 1050, and a red deer bone from pit 28010. The two horse bones, a radius and ulna were fused together. Unfortunately, the small sample size means no further information can be gained from the animal bones from this period.

Most of the bones from this site date to the early/middle Iron Age period. The total fragment count and minimum number would suggest that cattle are the most abundant animals from the site during this period, although this may be due to preservation bias. Cut marks on two astragali are indicative of dismemberment, suggesting that cattle were processed for meat at this site. Age at death could only be

calculated for one mandible, giving an age at death as adult. An unfused pelvis suggests that one animal died before reaching 7–10 months and an unfused proximal humerus suggests another died before reaching 3.5–4 years. Withers heights could be calculated using one metatarsal, giving a height of 1.10 m.

Of the seven sheep/goat bones identified from this period, one metacarpal was positively identified as sheep. Age at death could be established for three mandibles, giving ages at death of 10–20 months for one mandible, and 20–34 months for the remaining two. The two pig bones present comprise a mandible aged as sub-adult, and a juvenile 3rd phalanx. It can be suggested that the right and left mandible of the horse represent a male, by the presence of canines. Dog is represented by a single tibia and mandible.

Red and roe deer represent the wild animals from this period. Of the five red deer bones present, one is a burnt piece of antler, and another is a piece of antler that has been chopped. A single roe deer humerus represents this species. A single unidentified frog/toad long bone is the only amphibian present and the 23 rodent and vole remains are teeth. These species are likely to be intrusive.

Again it is difficult to draw any conclusions from the early/middle Iron Age due to the small sample size, but it may be tentatively suggested that cattle were kept in slightly higher numbers than the other domestic animals. It may be fair to say that the cattle were processed for meat, and the withers heights, although only based on one bone which may not be representative of the entire population, gives a height expected for this time period (Grant 1984).

The age at death for sheep/goat suggests the animals were dying at the optimum age for meat production, and it is not unusual to find juvenile pigs, as they were often killed for their meat before reaching maturity. Horse would often have been kept for traction and riding, and dogs for hunting and protection. The presence of red deer and roe deer suggests that some hunting of wild animals occurred, and were probably caught for their meat.

Only one identifiable bone was excavated from the Iron Age phase, part of a cattle mandible from ditch 28019. No further information can be gained from this bone.

Site 22: Throes Farm

Only forty bones were excavated from Throes Farm, four dating to the early/middle Iron Age, and thirty-six to the medieval period. The bones survived in poor condition, with the majority of the bones scoring 4 according to Lyman's grading.

The four early/middle Iron Age bones comprise two unidentifiable fragments from ditch 108/150 and two cattle teeth from ditch 104/187. Of the 36 bones from the medieval period, most were small mammals recovered from sieving. Only one large mammal was identifiable to species, a cattle scapula from pit 113. Of the eleven small mammal remains three belong to rodent with one molar belonging to mouse and the other two, both incisors, were identified only as rodent yet differ in size, suggesting that at least two

individuals are represented. Amongst the four amphibian bones an ilium was identified as frog with the other specimens including a tibia-fibula and a vertebra, and it is possible that all belong to one individual. The amphibian remains and rodent incisors display evidence for burning.

Fish were also represented with two bones belonging to herring, an anterior abdominal and a posterior abdominal vertebra belonging to fish approximately 250 mm total length. Eel were also identified being represented by seven vertebrae (one post abdominal, the rest caudal), three of which belong to fish approximately 350 mm total length, the rest to smaller individuals. It is possible that the eel bones represent the exploitation of local waterways whilst the herring were probably purchased in a cured form.

Site 24: Blatches

The bone from Blatches has survived in good condition, as illustrated in Table 6.14. As a result 42.2% of the bone could be identified to species. It has also allowed for butchery and gnawing marks to be identified on some of the bones, and measurements to be taken. The species identified are shown in Table 6.15.

Most of the bone dates to the medieval period. The main species represented is cattle, with the other domestic species also present but in much lower numbers. Apart from two fragments found in pits 1295 and 137, all the cattle bones were excavated from ditches. A cattle tibia had been chopped through the shaft probably for marrow extraction, and a metatarsal has dismemberment cut marks around the proximal articulation. Carnivore gnawing marks were also noted on three bones possibly suggesting the presence of dogs around the site. Fusion data suggests that at least one animal died before reaching the age of 2–2.5 years.

The majority of the sheep/goat remains are teeth, with the only exceptions being a 1st phalanx and a radius. The radius had been chopped through the shaft, probably for marrow extraction. The pig bones do not exhibit any butchery marks and like the sheep/goat bones are found in both pits and ditches. One unfused 2nd phalanx suggests at least one animal died before reaching the age of 1 year, and a fully fused 4th metacarpal suggests another animal died after the age of 2 years. This suggests a minimum number of two. Three of the four horse bones were found in ditch 1116, with the fourth bone found in gully 1374. Measurements of the metatarsal have given withers height of approximately 14 hands (1.41 m), and the metacarpal a height of approximately 12 hands (1.22 m).

A crow humerus and a frog/toad long bone and vertebra represent the wild species with a further eight specimens belonging to amphibian with the range of elements (vertebrae, radio-ulna, femur and a tibio-fibula) suggesting that they may belong to a single individual. It is likely that these are intrusive species that have died naturally. A few fragments of fish are also present including one abdominal vertebra belonging to a herring having a total length between 235 mm and 300 mm.

The small sample size does not allow for any firm conclusions to be

drawn as to animal husbandry regimes from the medieval period, although it is likely that cattle were the more important of the domestic species, and that cattle and sheep/goat were exploited for their meat and marrow. It is likely that herring were purchased in a cured form.

Only seven bones were identifiable from the post-medieval phase. All the horse bones were excavated from pit 1166, and comprise four teeth and an articulating radius and ulna. The frog/toad bone from pit 1138 is likely to be from a natural death. No conclusions can be drawn about the use of animals kept at this site during the post-medieval period.

Site 27/28: Greenfields

The condition of the bone from this site ranged from very good to poor (Table 6.16). Although just over half the bones are in relatively good condition, the bone from this site is highly fragmented resulting in only 16.2% of the bones being identified to species (Table 6.17).

Only one bone was identified from the middle/late Bronze Age: a cattle radius from solution hollow 1057. Ten bones were identified from the late Bronze Age: nine cattle and one pig bone. Dismemberment cut marks were noted on one cattle humerus, and carnivore gnawing on cattle metatarsal suggests the presence of dog on the site. An articulating left and right mandible was aged at 18–30 months. A single canine represents pig. Other than the presence of these species, no further information about animal husbandry techniques can be established from the bones present.

As with the late Bronze Age, only cattle and pig are represented in the late Bronze Age/early Iron Age. Four cattle bones and two pig bones were identified; all excavated from fills 28051 and 28052. A pig distal femur was unfused, suggesting that at least one pig died before reaching the age of 3.5 years. As with the earlier phase, no further information can be gained from the bones from this phase.

The early/middle Roman period does not have any identifiable bones. All the main domestic species are represented in the middle Roman period. An articulating radius and ulna from pit fill 1069, and a metatarsal from solution hollow 1067 represents the cattle bones. The radius has cut marks on the distal shaft, suggesting that cattle were processed for meat.

Sheep/goat are represented by two teeth from solution hollow 1065 and 1066, and a metatarsal from pit 1070, with the metatarsal having cut marks on the shaft suggesting that they were processed for meat. An ulna from spread 28035, and a radius from pit 1070 represent pig. A horse metacarpal is the only horse bone present, excavated from solution hollow 1067.

It is not possible to establish animal husbandry techniques for the middle Roman period, although it is possible to say that all the main domestic species are present, and at least the cattle and sheep/goat were being processed for their meat.

Only one horse 1st phalanx is identifiable from the post-medieval period, excavated from ditch fill 28043.

Site 33/34: Rayne Roundabout

The condition of the bones from Rayne Roundabout was good, with the majority of the bone scoring 2 (Table 6.18). The good condition but highly fragmented nature of the bone from this site has allowed for 29.3% of the bones to be identified to species (Table 6.19).

A large proportion of the bones from this site come from the late Iron Age/early Roman period. The main domestic species are represented, with one sheep/goat bone being positively identified as sheep. This has been combined with the other sheep/goat bones for this discussion. The bones were mainly excavated from ditch 350, with a minimal number being excavated from other features (Table 6.20).

Ditch 350 produced 177 cattle bones from very fragmented articulating ribs, vertebra and a skull. An articulating tibia, astragalus and calcaneus, and a sacrum and lumbar vertebrae are also present in this ditch. The presence of articulating remains suggests that the bones have suffered little disturbance since their final deposition within the ditch and were covered over fairly quickly.

The total fragment count and minimum number of individuals suggests that cattle were present in larger numbers than the other domestic species, with sheep/goat the next most frequent, then pig and horse. This is not unusual as cattle are often the most dominant species in the Roman period.

Butchery marks were noted on several cattle bones, with dismemberment cut marks evident on a pelvis and radius, and another radius and tibia had been chopped through the shaft, probably for marrow extraction. The presence of butchery marks on the articulated sacrum, on an atlas, two vertebrae and two mandibles, along with the other butchered bones mentioned above may suggest that these remains represent the discarded waste of the primary butchery process, in which the animal is processed and the meat bearing bones are taken elsewhere, leaving behind the non-meat bearing bones.

Although measurements were taken of several bones, only one allowed for the estimation of withers heights, a metacarpal giving a height of 1.05 m. Age at death using tooth eruption and wear stages could only ascertained for one mandible, suggesting that at least one animal died an adult.

Pathological changes were observed on a 2nd phalanx, with expansion of the lateral aspect of the proximal articulation and osteophytic lipping around this expansion. It is often thought that this sort of expansion is due to stresses placed on the feet when animals are used for traction. Carnivore gnawing is present on two bones, a mandible and a metacarpal. This suggests that, although dog is not represented in the remains from this period, it is likely that they were present.

Of the sheep/goat remains only one bone, a metacarpal, exhibits butchery marks, in which it has been chopped through the distal articulation. This may be due to the dismemberment process, in which the lower limbs are discarded. Measurements were taken of four

bones, although none of these allowed for withers heights to be calculated. Carnivore gnawing was noted on two bones, again supporting the theory that dogs would have been present during this period. Two bones exhibited burning, possibly during the cooking process, or from the burning of domestic waste.

No butchery marks were noted on the pig or horse remains, and measurements could only be taken of one pig and one horse bone, but could not be used to calculate withers heights. Age at death could only be estimated on one pig mandible, giving an age at death of sub-adult. A type three non-pathological depression was observed on a pig ulna.

The small sample size of bone from this period does not allow for any conclusions to be drawn as to animal husbandry techniques. It can be suggested that cattle and sheep/goat were exploited for their meat, as is evident by the presence of butchery marks, but whether meat was the main product from these animals could not be determined. It is also likely that the pigs were kept for consumption, as they provide few secondary products, and are usually only exploited for their meat. Horses were likely to have been used for traction and/or riding. It is also evident that dogs were present during this period, as indicated by carnivore gnawing on several bones.

Only thirteen bones were identified from pits and ditches dating to the early Roman period comprising eight cattle, four sheep/goat and one pig. Only one bone exhibited butchery marks, a pig humerus which had been chopped through the shaft, probably for marrow extraction. No bones could be measured, and none could be used for estimating age at death.

Seven bones were recovered from the early/middle Roman period: three cattle, three sheep/goat and one horse bone, from layers 234, 236 and ditch 33024. None of the bones present have butchery marks, but two cattle mandibles could be aged, giving ages at death of 18–30 months. One medium sized radius has gnawing marks on the shaft, suggesting that dog were present during this period. Unfortunately, no further information can be gained from the bones from this period.

As with the early/middle Roman period only seven bones were identifiable to species from the middle Roman period: four cattle, one sheep/goat, one horse and one dog. Two cattle bones originated from ditch 293, with the remainder from alluvial deposit 205. The only information that can be gained from these bones is the age of one cattle mandible, giving an age at death as senile, and one sheep/goat mandible giving an age of as 3–5 years. The presence of an unfused proximal cattle radius suggests that at least one animal died before reaching the age of 1–1.5 years. Other than the presence of domestic animals, no further information can be gained.

Only two bones were identifiable from the middle/late Roman period: one cattle and one sheep/goat bone from ditch 1060. The majority of the bones from this site were recovered from the late Roman phase, in particular from the infilled valley stream, with a few other bones found in pits, ditches, layers and deposits (Table 6.21).

Although the total fragment count suggests that cattle are present in considerably greater numbers than the other domestic animals, the minimum number of individuals suggests that sheep/goat, with three left mandibles were present in higher numbers than the other domestic species, with two cattle and horse and one pig present.

Butchery marks were noted on five cattle bones, a femur, humerus, metacarpal and an unidentifiable metapodial that had been chopped, probably for marrow extraction, and an axis with dismemberment cut marks, suggesting waste from primary butchery processes in which the body is dismembered before being processed into joints of meat. Although measurements could be taken of several cattle bones, none of the measurements allowed for withers heights to be calculated. Age at death could not be established using tooth eruption and wear stages, and only one unfused pelvis can suggest that at least one animal died before reaching 7–10 months of age.

An articulating joint, comprising a tibia, astragalus, navicular-cuboid and a metatarsal were noted from the infilled stream valley. These bones may be a discarded lower limb joint derived from butchery, in which the upper, meat bearing limb is kept and further processed, and the lower limb joint is discarded. Also, the presence of articulating remains suggests that the bones underwent little disturbance after their disposal. Carnivore gnawing was noted on a metatarsal and an ulna.

The majority of the sheep/goat remains comprise loose teeth. A radius and tibia had both been chopped, suggesting the utilisation of marrow. Three mandibles could be used for age at death estimation, giving ages of 3–10 months, 3–5 years and 5–8 years, and carnivore gnawing was noted on a metatarsal. Measurements were taken of one tibia, but could not be used to calculate withers heights.

One pig femur had a cut mark on the proximal shaft, suggesting it had been processed, probably for meat. One metapodial was unfused, suggesting an age at death of before 2 years, as does a skull with unerupted 3rd molars. Carnivore gnawing was noted on a calcaneus.

No butchery marks were noted on any of the horse bones. Only one tibia could be measured, but could not be used to calculate withers heights. An unfused distal femur suggests that at least one animal died before reaching the age of 3–3.5 years.

A single humerus represents cat and a mandible represents dog from this period. Of the wild species present, two fragments of antler (one piece worked) are representative of red deer. A humerus represents frog/toad and a single tooth represents water vole.

Unfortunately the small sample size does not allow any firm conclusions to be drawn as to animal husbandry practices from this period. As can be seen, discrepancies even arise in the numbers of individuals present when the sample is this small, as demonstrated by the difference in the total fragment counts and minimum numbers of individuals of the domestic species. It may however be suggested that cattle

sheep/goat and pig have been processed for meat.

Other domestic species are present: horse, dog and cats. The presence of red deer antler does not suggest that deer were hunted from this period, as shed antler may have been found by the inhabitants and brought back to the site. The presence of frog/toad and water vole are likely to be an intrusive finds.

Seventeen bones were identified from the Roman period from a variety of pits (368, 1033 and 1039) and ditches (372, 375, 1025 and 1027). Two cattle bones had been chopped through the shaft, probably for marrow extraction, and the horse humerus is from a very young animal, possibly foetal/neonatal, and an indication that horses were being bred near the site. Carnivore gnawing was noted on two of the bones. An unidentified amphibian femur is likely to represent an intrusive species.

Only four bones were identified from the post-Roman period, three cattle and one sheep/goat from ditches 143 and 146. No identifiable bones were recovered from the post-medieval period.

Site 37: Parsonage Lane

The condition of the bone from Parsonage Lane ranges from very good to poor, with the majority of the bone in fair to good condition (Table 6.22). The reasonable condition of the bone has allowed for 50% of the bones to be identified to species (Table 6.23).

Only one element was identified from the late Iron Age/early Roman period, a dog canine from field boundary fill 7044. Most bone was excavated from early Roman period features, with cattle and sheep/goat representing the domestic species, and roe deer representing the wild species. The cattle bones were recovered from field boundary ditches 7068, 7076, 7140, 7083 and deposit 7036. No butchery marks were observed on any of the cattle bones, but age at death could be estimated for two mandibles, giving ages of 18–30 months and senile, and the withers height of one animal could be calculated using a complete radius, giving a height of 1.16 m. This height is what would be expected of this period (Grant 1984) but as this is based on only one bone, it cannot be suggested that this is typical for all cattle present at this site during the early Roman period.

The sheep/goat bones were recovered from ditch 7094 and 8020, and field boundary ditch 7076. As with the cattle bones, no butchery marks were noted on any of the three sheep/goat bones present, but age at death could be established for a single mandible, giving an age of 5–8 years. The roe deer is represented by a fragment of antler, and was recovered from deposit 7036. It cannot be suggested that roe deer were hunted at this time, as the antler may be a shed antler that has been found lying on the ground and brought back to the site.

The domestic animals present in the late Roman phase are cattle and pig, with all the bones excavated from pit 7015. Age at death could be established for a single cattle mandible, giving an age of 8–18 months, and an unfused distal radius suggests that at least one animal died before reaching the age of 3.5–4 years.

The pig remains comprise five teeth, four incisors and a canine.

Again domestic species are found in the Roman phase, with cattle, sheep/goat and dog each represented by a single bone. The cattle and dog bones were recovered from ditch 7080, and the sheep/goat from drainage ditch 7113.

Site 38: East of Parsonage Lane

The animal bones from this site were recovered in fair condition (Table 6.24), resulting in only 17.5% of the total fragments being identified to species (Table 6.25). This site contained a single Iron Age roundhouse and several features possibly associated with the structure. Most of the bone came from the foundation trench of the roundhouse (Table 6.26).

Cattle from this site are only represented by teeth and are found in both the foundation trench and the eaves-gully. Teeth, with the exception of an astragalus and a femur from the foundation trench, and a mandible from the posthole, also largely represent sheep/goat. The proximal femur was unfused suggesting an age at death of before 2.5–3 years for one individual, and the mandible was aged at 10–20 months. Six horse teeth were recovered from the foundation trench, along with a metacarpal. The left and right dog mandibles are probably associated with each other, and were recovered from the eaves-gully.

The distribution of the animal bones may suggest that horse were only deposited in the foundation trench and dog in the drip gully. However, it would be unwise to suggest that such a distribution is significant when based on such a small sample of bones.

Site 39: North of Frogs Hall

Site 39 produced 47 bones: 16 fragments from pit 12006 and 31 from pit 12024. Only six cattle and one sheep/goat bone are identifiable to species. The condition of the bone ranged from very good to poor, with the majority (66%) scoring 4 according to Lyman's grading. No butchery marks were evident on any of the bones, but age at death using tooth wear and eruption stages was possible on one cattle mandible, giving an age at death as adult.

Site 40: West of River Roding

Only three fragments of bone were recovered from this site, one medium sized rib, and two small unidentifiable burnt bone fragments, all dated to the medieval period.

Site 41: West of Stone Hall

Two bones in good condition were recovered, both from unphased pit 13001. Only one of these bones was identifiable to species, a sheep/goat rib with cut marks. No information can be gained as to the importance of animals at this site, only that sheep/goat may have been processed for meat.

Site 42: Stone Hall

Twelve animal bones in good condition were recovered from a late Bronze Age quarry pit from Stone Hall. Two cattle bones were identified, a tooth and a radius that had been chopped through the shaft probably for marrow extraction. Also identified were two

horse bones, a metatarsal and a skull.

Site 43: West of Strood Hall

The 64 fragments of bone were excavated from a late Bronze Age quarry pit 15012. The bone was recovered in very good condition, with the majority (81.3%) scoring 1 using Lyman's grading. The good condition of the bone allowed for 43.8% to be identified to species (Table 6.27).

Of the cattle bones, one unfused scapula exhibits dismemberment cut marks, and being unfused would suggest that this animal died before reaching 7–10 months. A radius has carnivore gnawing on the proximal articulation, suggesting that dogs were present around the site, even though no remains have been found.

Most of the sheep/goat bones are ribs (13 rib fragments), with two left pelves and a metatarsal also identified. A minimum number of two sheep/goat are present, with one fused and one unfused left pelvis. The unfused pelvis suggests that at least one animal died before reaching 6–10 months of age, and it also exhibits dismemberment cut marks. The metatarsal has been burnt, possible a result of cooking processes.

The pig remains all come from the same fill within the quarry pit (fill 15011). An unfused scapula suggests an age at death of before 1 year of age, and a left and right mandible both suggest an age at death as juvenile. It is therefore likely that all these remains come from one animal.

Site 48: West of Ongar Road

Eight bones were recovered in fair condition from this site, seven fragments from pit 21004, and one from posthole 21010. Unfortunately none of the bones were identifiable to species.

Site 50: East of Little Dunmow

The condition of the animal bone from this site was fair, with the majority of the bone scoring 3 according to Lyman's grading (Table 6.28). The fair condition of the bones from this site has allowed for an overall 23.7% of bones and teeth to be identified to species (Table 6.29).

Only one pig tooth from pit 30099 was identified from the early/middle Iron Age and only one bone from the middle Iron Age: a cattle tooth from posthole 30070. The majority of the bone was excavated from the late Iron Age/early Roman features (Table 6.30), in particular from ditches and roundhouse foundation trenches. The bones seem to be distributed about the site with no discernable pattern.

Cattle bones were the most abundant elements identified from this period, with butchery marks evident on five of the bones. As well as cut marks, the long bones were chopped, probably for the processing of marrow. Age at death was estimated using two mandibles, giving ages at death of 18–30 months and senile. The presence of an unfused distal tibia suggests that at least one animal died before reaching the age of 2–2.5 years. Carnivore gnawing was noted on a metacarpal, suggesting the presence of dogs on the site.

Of the twenty-four sheep/goat bones that were recovered from

this period two tibiae exhibited butchery marks, in which they had been chopped probably for marrow extraction. Four mandibles were used to establish age at death, giving the ages of two as 20–34 months and the other two as 5–8 years. Two left unfused distal tibiae suggest that at least two animals died before reaching the age of 1.5–2 years.

No butchery marks were noted on any of the pig bones, but two mandibles could be aged, giving ages at death of juvenile and adult. No long bones were present from which to obtain fusion data. A single tooth represents horse.

As with the late Iron Age/early Roman phase the bones from the early Roman period were distributed throughout the site within a number of different features. The sample size from this period is also too small to detect any distribution patterns that may be present. The distribution of bones is highlighted in Table 6.31. The number of cattle bones from the early Roman period is increased due the fourteen rib fragments identified. Butchery marks were noted on one rib fragment, and three thoracic vertebrae were seen to articulate, suggesting they had not been disturbed since their final deposition within the ditch.

Of the sheep/goat bones, one metapodial was positively identified as sheep. One radius had been chopped through the shaft and had cut marks on the proximal aspect of the shaft. Three of the bones (a calcaneus, an astragalus and the sheep metapodial) had been burnt, possibly as a result of cooking processes. One of the sheep/goat bones also exhibited carnivore gnawing, probably from the dogs present at the site at this period. Little can be said about the pig bones present, other than that one mandible could be aged, giving the age at death as immature. Single teeth represent both horse and dog.

Only one cattle bone was recovered from other features dated to the Roman period, a humerus from ditch 30432. The humerus has been chopped, probably for marrow extraction. Due to the small sample size and the nature of the bones, no information can be gained as to the importance of animals from this site. It can only be suggested that the main domestic species are present, and it is likely that cattle, sheep/goat and pig were processed for consumption.

Site 51: Stebbingford Farm

Four bones were excavated from this site, dating to the 11th to 12th century. Only one juvenile pig scapula was identifiable to species.

Site 53: Valentine Cottage

Four bones were recovered from this site dating to the Roman period, a medium-sized rib, two medium-sized long bones and a cattle radius. The radius had been chopped through the shaft, probably for marrow extraction.

Site 54: West of Panners Roundabout

A total of seven bones were excavated from the late Roman period from this site, six of which are unidentifiable to species. Of the unidentifiable bones, one fragment is burnt brown/black. The one identifiable element from the early Roman period is a fragmented cattle molar.

Chapter 7 Environmental evidence

Charred plant remains

by Wendy J. Carruthers

Introduction

Environmental samples were taken during the excavations and these were processed using standard methods of floatation. Following recommendations by the Environmental Manager, Dana Challinor, a total of 222 samples from 19 sites along the route of the road were assessed by the author. Seventeen further samples were assessed by Dana Challinor (OWA 2002). The assessments resulted in the full analysis of 91 samples from 5 of the sites. This report discusses the results of that analysis, including samples from the following sites:

Greenfields (Site 27/28): late Bronze Age pits and hearth; 4 samples (/14 assessed)
East of Little Dunmow Road (Site 50): late Iron Age to early Roman settlement; 10 samples (/20 assessed)
Rayne Roundabout (Site 33/34): late Iron Age/early Roman to Roman settlement; 8 samples (/8 assessed)
Strood Hall (Site 9/44): late Iron Age/early Roman to late Roman settlement; 45 samples (/104 assessed)
Blatches (Site 24): 13th to 14th-century settlement; 24 samples (/32 assessed)

Results

Quantities of charred plant remains were very variable from site to site, as was the state of preservation. Charring preserved almost all of the remains, but one flot, sample 101 from late Iron Age/early Roman ditch 350 at Rayne Roundabout, was found to contain a reasonable range of waterlogged plant remains. Tables 7.1–5 present the results of the analysis, site by site. Nomenclature and most of the habitat information follows Stace (1997).

Discussion

The charred plant assemblages from the A120 sites were not particularly remarkable on a site by site basis, but the range of periods covered in total provided an opportunity to study changes through time. The results are first discussed by period, then the changes through time are summarised, and finally comparisons are made with other sites in the area.

The late Bronze Age (Period 6)

The only site to produce useful quantities of charred plant remains from this period was Greenfields (Site 27/28) (Table 7.1), an occupation site producing a waterhole and features containing fire-cracked flint. The four productive pits and hearth from this site contained three different types of assemblage. Two of the pits (1015 and 1025) produced sparse assemblages consisting mainly of emmer (Triticum dicoccum) and spelt (T. spelta) crop-processing waste, with some hulled barley (Hordeum vulgare). Chaff fragments and a few weed seeds were present, as were a few cereal grains. Since grains are said to survive charring much more readily

than chaff (Boardman and Jones 1990), the original quantity of chaff burnt may have originally been much greater. This probably represents fine-sieving waste from piecemeal processing of grain prior to cooking (Hillman 1981).

The hearth (1019) also produced chaff and a few weed seeds, but the quantity of grain was much greater in this deposit, most of the identifiable grain being emmer/spelt wheat. Hulled barley was also present. The ratio of grain to chaff was c 2:1. Bearing in mind differential preservation once again, this assemblage could have originated as semi-processed grain in spikelet form that was being parched over the fire in order to remove the chaff prior to cooking.

In the three assemblages mentioned so far, the weed seeds provided little information about crop husbandry, since they were general weeds of waste and disturbed places such as docks (Rumex sp.), cleavers (Galium aparine) and chess (Bromus sect. Bromus). It is notable that chess was much more frequent in the sample from the hearth, probably because it is of a similar size to cereal grains and so would still have been present as a contaminant of the crop at the semi-cleaned spikelet stage (Hillman 1981). Because of its large size, fine-sieving (which removes small weed seeds and small chaff fragments such as glume bases) would not have been effective in removing this arable weed.

The third type of assemblage recovered from pit 1048 consisted entirely of general cultivated/waste ground weeds along with fine grass-type stem fragments and a few hedgerow fruit and nut remains. The charred grass stems may indicate the burning of hay, although there were few meadow taxa to support this suggestion. Thistles (Cirsium/Carduus sp.), clover/trefoil (Trifolium/Lotus sp.) and sheep's sorrel (Rumex acetosella) are common grassland and waste ground plants, the last of these reflecting the acidic nature of the soil.

Hazelnuts (Corylus avellana), sloes (Prunus spinosa) and rosehips (Rosa sp.) were represented by a few charred remains. Because large quantities of charcoal were present in the flot it is possible that the fruits and nuts had been burnt accidentally in a bonfire, hearth or during the clearance of scrub. However, at a time when the diet was fairly limited, it seems unlikely that wild food resources were not being fully exploited. This sample probably represents waste that had been burnt on a domestic hearth, such as food remains and waste bedding.

Six other late Bronze Age samples were assessed, mainly from West of Ongar Road (Site 48). The few charred plant remains recovered consisted of several barley grains, a little emmer/spelt wheat and a hazelnut shell fragment.

Late Iron Age to early Roman (Periods 9–11)

Three of the sites studied in detail produced evidence of late Iron Age to early Roman settlement:

East of Little Dunmow Road (Site 50) (Table 7.2).
This site occupies high ground to the west of Stebbing Brook valley. It lies on clay with gravel, with some large patches of calcareous-rich soils. Extensive evidence of

late Iron Age to early Roman settlement was uncovered at this site, including seven roundhouses, ditches, pits and postholes.

Ten samples, from pits, postholes, ring-gullies and ditches, produced reasonable quantities of charred plant remains. However, all but three of the concentrations were below 10 fragments per litre of soil sieved. Most of these sparse assemblages probably derived from general background burnt waste, in particular, the product of day-to-day final processing of small quantities of emmer and spelt spikelets.

The charred plant assemblages were typical of the period, containing primarily emmer and spelt wheat, with a little hulled barley. The single grain of naked barley recovered from posthole 48172 was more likely to have resulted from mutation within a hulled barley crop, rather than represent a crop in its own right. Naked barley is not recovered in large quantities from sites later than the middle Bronze Age. One sample contained a few oat grains (Avena sp.), although it is not known whether these were wild or cultivated. The range of weed taxa was typical of the period, with a few sheep's sorrel nutlets indicating the cultivation of acidic soils (providing these were growing as arable weeds and had not been introduced amongst other waste such as hay). Indicators of damp soils were notably absent, and leguminous weeds such as clover/trefoil (Trifolium/Lotus sp.) and small seeded weed vetches (Vicia/Lathyrus sp.) were frequent, as is often the case in Iron Age and Roman assemblages. Leguminous weeds are often early colonisers of nutrient-poor, disturbed soils (Warington 1924), as their nitrogen-fixing ability gives them a competitive advantage over other colonising weeds. The increase in these taxa as arable weeds during the late Iron Age and Roman periods probably relates to more intensive arable cultivation resulting in soil impoverishment.

Another arable weed that increases during this period is chess (Bromus sect. Bromus), a tall weedy grass thought to have been introduced with spelt wheat, since its changes in frequency coincide with those for spelt cultivation (Godwin 1976). One sample from Site 50 produced frequent chess caryopses: posthole 48172. This was the most productive sample from the site, containing so many cereal grains that the number of indeterminate grains had to be estimated. The interpretation of this deposit is discussed further below.

The three most productive samples (samples 30807 from ditch 30496, 30832 from ditch terminal 30280 and 30826 from posthole 48172) may have originally contained semi-cleaned spikelets rather than crop processing waste, since they were all grain-rich. Experimental charring by Boardman and Jones (1990) has shown that cereals are much more likely to survive charring than chaff fragments, so samples where grain and chaff are both frequent may originally have been much more chaff-rich. The state of preservation of the grain on this site was particularly poor, being vacuolated and highly fragmented, suggesting that a lot of the charring probably occurred at a high temperature.

Because of the poor state of preservation, it is difficult to determine what the balance was between emmer and spelt wheat.

The few identifiable glume bases and spikelets forks recovered suggested it may have been roughly equal. None of the weed taxa were particularly frequent in these three samples, except for chess in posthole 48172 (73 caryopses). On the basis of evidence from Danebury, Campbell (2000) suggests that this cereal-sized weed may have been tolerated or even encouraged to some extent during the Iron Age. It could be postulated that if the structure associated with posthole 48172 was used for the storage of spikelets, chess seeds may fallen down through the spikelets and accumulated in the posthole below.

The moderately rich sample from ditch 30496 (8.2 frags. per litre) may have contained mixed burnt waste, since a wider range of non-cereal taxa were represented including hazelnut shell and a lesser celandine-type tuber (Ranunculus ficaria-type). These may indicate the use of wild food resources, as discussed below.

Rayne Roundabout (Sites 33/34) (Table 7.3)

This low-lying site on boulder clay produced field systems, boundary ditches and peripheral enclosures indicating that a settlement probably existed nearby. In addition, a linear hollow running across the eastern area of the trench may have represented a stream valley, which had become backfilled during the late Roman period. Seven samples from five different features were examined from this site, four of which were dated either to Period 10 (late Iron Age-early Roman) (three samples from ditch 350) or Period 11 (early Roman) (a sample from ditch 376). One of the lower ditch samples, sample 101 from context 128, produced both charred and waterlogged plant remains. (A sample from the context below this, sample 102 from context 134, produced waterlogged remains with a very similar species range but sparser, so this sample was not included in the full analysis).

The samples from ditch 350 came from secondary deposits of dark, organic and charcoal-rich silt (contexts 128 and 165), and from an alluvial silt deposit overlying them (context 126). Context 165 produced a concentration of spelt (and possibly some emmer) crop processing waste. Apart from frequent chess caryopses, weeds were scarce in this deposit. No barley was present, but a possible grain of bread-type wheat was recorded. The charred plant remains in sample 101 from context 128 were less frequent, consisting more of grain and weed seeds than chaff fragments. However, three well-preserved grains of bread-type wheat were recovered, confirming the cultivation of this cereal. Although the evidence for bread-type wheat is slight, it should be remembered that, being a free-theshing wheat, it is less likely to become charred than the hulled wheats emmer and spelt, so it is probably greatly under-represented in charred assemblages. Sample 100 from the uppermost sediment was even less productive, yielding just a few poorly preserved cereals, chaff fragments and weed seeds. Presumably sample 165 was taken from a point much closer to the original site of deposition of the charred material than the other two samples, resulting in a better state of preservation and higher concentration of material.

The waterlogged plant remains in sample 101 provided an insight into the environment in and around the ditch. Since many of the seeds were woody-coated and the flot was dry when it was sent to the author, it is uncertain whether some, less robust remains may have been lost either in antiquity or post-excavation. The most abundant remains were the woody seeds of bramble (Rubus sect. Glandulosus) and elderberry (Sambucus nigra), again suggesting that some organic decay might have occurred. However, a reasonable range of taxa was recorded, including a few aquatic and marginal plants, grassland plants, weeds of disturbed ground and hedge/scrub. These results agree with the findings of pollen (ditch 265; Period 11–12 (see Druce, below) and insect (ditch 259, context 278; Period 11, see Robinson below) studies from nearby ditches, which suggested that the environment was primarily open grassland with areas of waste ground, scrub or hedgerows. It is interesting to see that bramble- and nettle-feeding insects were noted, since seeds from these taxa were common in ditch 350. Insects indicative of stagnant water and pondweed feeders indicated that the ditches held water for long periods, and this is supported by the presence of seeds from aquatic buttercups (Ranunculus subg. Batrachium) and semi-aquatics such as spike-rush (Eleocharis subg. Palustres) and sedges (Carex sp.), all of which are commonly found in shallow water and the muddy margins of water bodies.

The other sample from Period 11 from Rayne Roundabout was sample 117 from the top fill of an early Roman ditch, F376. This sample produced some poorly preserved emmer and spelt wheat crop processing waste, consisting primarily of chaff fragments, with very few cereal grains or weed seeds.

The cereal assemblages from this site contained a few charred weed seeds from damp ground taxa (ie spike-rush and sedges). This suggests that the cereals were being grown locally on the damp, clay soils, perhaps within the field systems excavated at Rayne Roundabout. The heavy clay soil would have suited the cultivation of spelt wheat and bread-type wheat better than emmer and barley. However, cultivation was probably only possible as a result of digging the drainage ditches, and these would need to have been kept in operation to prevent rotting off in poor seasons. It is notable that leguminous weeds were quite scarce in these samples, in comparison with Site 50, suggesting that it had been worthwhile investing effort in ditch digging to benefit from more nutrient-rich soils.

Strood Hall (Site 9) (Table 7.4)

This site produced evidence for a small Roman settlement, including roundhouses and paddocks/enclosures. A cremation cemetery was located to the north-west of the site.

Of the 45 samples examined, 15 samples were phased as Periods 9/10 to 11 (ie late Iron Age to early Roman). These included samples from five pits, a posthole, a ditch, three graves and a cremation pit. The samples from two of the pits, the posthole and ditch produced typical late Iron Age/Roman assemblages, containing small to moderate quantities of charred

cereal grains, chaff fragments and weed seeds. This type of charred waste is likely to be the result of piecemeal dehusking of stored spikelets prior to cooking. Both emmer and spelt wheat were identified from well-preserved glume bases. No barley or oats were recorded. Leguminous weeds were quite frequent and no seeds from damp ground species were identified from these samples.

The seven samples from the graves and cremations also all produced low levels of cereal remains, but in this case very little chaff and few arable weed seeds were present. Most of the grain was too poorly preserved to be identified even to the level of genus. It is likely that either a little processed grain had been ritually deposited and burnt with the cremations, or that redeposited domestic waste was present. Most of the non-cereal remains were from plants characteristic of damp, ungrazed grasslands, heaths and marshy areas on acidic soils. These included taxa such as sedges (Carex sp.), spike-rush (Eleocharis subg. Palustres), bristle club-rush (Isolepis setacea), yellow rattle (Rhinanthus sp.) and possible broom seeds (cf. Cytisus scoparius). Most notable were the occurrences of grass-sized stem fragments and stem bases in three samples, and several charred tuberous stem bases of onion couch grass (Arrhenatherum elatius var. bulbosum) in six of the seven samples (26 'tubers' in total). Since the dry tubers of this plant preserve well when charred but grass stems do not, this material could be the remains of turves, hay, marsh hay and heathland vegetation burnt as fuel during the cremations. Alternatively, the turves could have been burnt beneath the cremations. Onion couch tubers are one of the most frequently occurring type of charred remains recovered from cremations of all periods. There is some evidence suggesting that these inedible tubers might have been deliberately gathered for ritual purposes during the Bronze Age (Allison and Godwin 1949). However, Robinson (1988) points out that they could also have been used as tinder, as they burn well when dry. As suggested here, other authors have interpreted the remains as material burnt in situ or as fuel during cremations. The very close association that charred onion couch tubers appear to have had with graves and cremations in these samples, does support earlier suggestions of deliberate gathering specifically for ritual purposes. None of the other samples from this site produced onion couch tubers, so they do not seem to have been used as tinder in domestic fires and ovens, or have become burnt accidentally underneath bonfires.

Two other samples were notable in character. Sample 1 from pit 1069 was the only sample phased as Period 9/10. It produced a concentration of poorly preserved emmer/spelt crop processing waste. Since quite a few cereal grains were present it is possible that some waste grain or spikelets had also been burnt and discarded. Bread-type wheat grains were surprisingly frequent (20 grains) in the sample. As has been noted above, this free-threshing cereal is less likely to become charred than hulled wheat grains. Sample 1 produced the largest quantity of free-threshing wheat to be found in all of the A120 samples prior to the medieval period. However, since a small accident or the deliberate burning of spoilt grain could have

brought about the preservation of these few grains, and since only one sample from this phase was available for study, no suggestions can be made as to changes in the cultivation of this crop through time.

The last sample from this phase produced an unusual small assemblage composed of only three taxa: cleavers seeds (Galium aparine; 10 seeds), cf. ground ivy nutlets (cf. Glechoma hederacea; 8 seeds) and oblong-shaped tubers that are characteristic of lesser celandine (Ranunculus ficaria; 26 tubers). These three taxa are likely to occur together in damp hedgerows and woodland margins, or damp grassland abutting woods and hedgerows. The fact that tubers were charred as well as seeds could suggest that burnt turves had been present amongst the waste deposited in pit 1512. However, an alternative explanation, which perhaps better fits the fact that only these three taxa were present in relatively high numbers, is that the remains represent deliberately gathered seeds and tubers. All three taxa have long been valued for a variety of medicinal and culinary uses, according to Grieve (1931, 1992 edition) and other documentary sources. The dried and roasted seeds of cleavers are one of the best substitutes for coffee (ibid. 207), and all parts of the plant (apart from the roots) are effective as a diuretic and tonic. Grieve (ibid. 442) states that ground ivy was one of the most important plants used from early Saxon times to the reign of Henry VIII to improve the flavour, longevity and clarity of beer, particularly prior to the introduction and widespread use of hops. The whole plant is also used as a diuretic and tonic. Lesser celandine has an alternative common name of pilewort, arising from the use of the 'pile-like' tubers as an internal and external cure for piles (ibid.181). Both Gerard (1597) and Culpepper (1826) recommend its use as a cure for piles. Its medicinal use is as an astringent and in ointments. The archaeobotanical record for lesser celandine tubers dates back as far as the Mesolithic, where the frequent presence of charred tubers amongst a large deposit of edible food remains such as hazelnut shells and apple pips on Colonsay, Southern Hebrides, confirms its value to prehistoric people (Mason and Hather 2000). Once boiling or roasting removes the toxicity of the plant, the tubers can be consumed as a vegetable or ground into flour. Mason and Hather (ibid.) provide a detailed account of the ethnobotanical evidence for this taxon.

Mid to late Roman and 'Roman' (Period 12–13)

Rayne Roundabout (Site 33/34) (Table 7.3)

Three Roman and late Roman samples from this site came from the natural hollow, ditch 375 and pit 368. All three samples consisted primarily of emmer/spelt chaff fragments, although only the deposit in ditch 375 produced a high concentration of burnt cereal processing waste (>260 fragments per litre). No bread-type wheat and only one grain of barley was recorded from the three samples. Very few leguminous weed seeds or wet ground plant remains were recovered. The most frequent arable weed in the concentrated chaff deposit was chess (13 seeds).

Samples from a palaeochannel revealed during earlier excavations

(RARR 00) and small samples from a thick ash layer in ditch 265 (context 391, taken with pollen samples in three spits) produced concentrations of burnt cereal processing waste (CPW). Because these deposits were so rich they were not fully quantified, but were characterised by examining small subsamples and then scanning the remaining material to check for variations. They were found to consist of c 95% spelt chaff and 5% emmer chaff (percentage of identifiable glume bases and spikelet forks), with very few cereal grains or weed seeds. The predominant weed taxa were chess (Bromus sect. Bromus) and the large seeded grass, Lolium perenne-type. These large seeded weed grasses would have been difficult to remove from the crop using sieving or winnowing, as they are of a similar size and density to the cereal grains. Seeds of plants preferring damp to wet soils were very scarce (one sedge seed noted) and leguminous weed seeds were not particularly frequent.

The remains have the character, therefore, of a quantity of spelt spikelets that had already been cleaned of most of the weed contaminants. The spikelets had been parched and pounded to release the grain, and fine-sieved to remove the small, heavy chaff fragments such as glume bases and spikelet forks from the clean grain (Hillman 1981, stage 12). This assemblage consisted of the fine-sieving waste that had been removed (ie numerous glume bases and spikelet forks but relatively few weed seeds). The waste had been burnt, perhaps being used as fuel, and had then been deposited in the ditch and channel. This stage in the processing may have taken place close to these features, in the central area of Site 33. Alternatively, it may just have been the burning that occurred nearby, perhaps through the use of chaff for fuel in an oven or kiln. All three spits through the deposit were almost identical, indicating that either the waste from spelt crops were repeatedly being burnt and deposited in the same area, or that a single, very large deposition had been made.

Later Roman sites often produce charred deposits of this type, demonstrating that on some sites spelt wheat was being cultivated and processed on a large scale. The fact that considerable quantities of fairly pure spelt CPW were being burnt and deposited at one time suggests the following: firstly that spelt was being grown at a surplus on these sites. Secondly, it was being traded as fully cleaned grain rather than spikelets. Full processing of large quantities of grain at one time would not be wise for domestic purposes, as naked grains do not store well in damp climates, being more vulnerable to sprouting, fungal and insect attack. For this reason hulled wheats were probably stored in spikelet form in the British Isles (Hillman 1981), and were processed piecemeal as required, producing much more mixed and dilute types of charred assemblage (more like the assemblages described above as 'general background waste'). Full processing, however, would reduce bulk for trading. Evidence of stored clean grain has been recovered from the Roman granary at South Shields (van der Veen 1988) and from storage deposits in London (Straker 1984).

The large quantities of chaff produced at sites of this type would be a valuable resource in their own

right, as chaff can be used to bulk up animal fodder, or can be used to fuel ovens and kilns. A review of Roman corn-driers by van der Veen (1989) revealed that out of twenty-one sites, eight produced evidence for the use of spelt CPW as fuel. Therefore, it would have been worthwhile storing the CPW in barns to keep it dry until it was needed.

The waste from earlier stages of processing is much less common on all types of site, possibly because coarser, bulkier waste such as straw may have been removed nearer to the fields, away from the settlement. It would also have been a useful resource, being used for bedding, fodder, thatching etc., and could have been stored in barns or stacks in the fields. The most significant problem is that it does not preserve well by charring (Boardman and Jones 1990) so the evidence has probably been lost on most archaeological sites.

Strood Hall (Site 9) (Table 7.4)

Twenty-nine samples from Periods 12 (mid Roman), 13 (late Roman) and 21 (Roman general, AD 43–400) were examined from this site. Out of these, six produced concentrated CPW deposits, containing primarily emmer/spelt glume bases and spikelet forks (ie fine, dense chaff) with a few small weed seeds. These rich CPW samples came from three pits (features 1534, 1330, 1916), a ditch (1998) and a midden in the central area of Site 9. Samples 1 and 81 from the earlier phase of occupation were also located close to this area. It is likely, therefore, that the final stages of removing grain from spikelets, or at least the burning of waste from this process, were taking place in this area during the late Iron Age to later Roman periods.

As with the CPW deposits at Sites 33/34 (Rayne Roundabout) the main crop represented by the burnt waste was spelt wheat. Where chaff fragments were well-enough preserved to enable identifications to species level to be made, 92% of the identifiable glume bases and spikelet forks were from spelt, whilst 8% were identifiable as emmer wheat. Even allowing for some preservation bias due to the more robust nature of spelt chaff, it is clear that spelt had become the principal crop in the region by this period, or at least that it was the only crop that was being processed on a large scale.

Bread-type wheat (Triticum aestivum-type) grains and/or rachis fragments were recovered in small numbers from seven of the twenty-nine samples (24%), amounting to 22 grains and 4 rachis fragments. Although sample 1 from the Period 10 produced almost this number of grains on its own, none of the other earlier samples produced bread-type wheat (1/19 = 5%). Thus, charred bread-type wheat grains were more widely distributed around the site in the later Roman period, suggesting increased cultivation of this free-threshing cereal. As noted previously, free-threshing cereals are probably under-represented in the charred plant record, so it may have been a more important crop than the data suggests.

Barley was present in only four of the twenty-nine samples, amounting to just seven grains. Since only one fragment of barley chaff (rachis) was recovered, it is likely that very little attempt was

made to grow barley on the poorly-drained, clay soils.

No oat grains were positively identified, although twisted oat awn fragments were present in eighteen samples and were frequent in two of the cereal processing waste samples. This discrepancy could relate to the use of oats for fodder (perhaps in place of barley), as fodder grains would not need to come into contact with fire, but the readily-identified twisted awn fragments would have been widely distributed around the site and might be all that was left of the papery oat chaff when it was burnt as waste. As no well-preserved oat grains complete with floret bases were recovered, it was not possible to tell whether the awns had come from cultivated or weedy oat species. However, if the oats had been growing as weeds amongst the spelt wheat they would have been much more likely to have become charred as crop weeds, than if they were separate crops of oats grown specifically for fodder. The fact that charring had not occurred supports the suggestion of small-scale oat cultivation for fodder.

The weed taxa associated with the concentrations of CPW were generally similar to those found on other sites of late Iron Age and Roman date in the area (Stansted Airport; Murphy 1997): primarily docks (Rumex sp.), small-seeded legumes (Vicia/Lathyrus sp.), chess and large-seeded, perennial rye-grass type (Lolium perenne-type) seeds. Chess was much less frequent than in the Rayne Roundabout samples, suggesting that, although very similar in character, these crops had been kept separate from the Rayne spelt crops c 10 km east of Strood Hall, and seed corn had not been shared between the sites.

Perennial rye-grass-type seeds were particularly frequent in many of the samples from this site, amounting to 47 seeds in the Period 10/11 samples and 195 seeds in the Period 13 samples. The CPW samples produced most of these seeds and the grave/cremation samples contained none, confirming the status of this taxon as an arable weed, rather than a meadow species that had been deposited in burnt hay. The author has recovered this taxon from a number of Iron Age and Roman sites in central England, such as Prickwillow Road, Ely (Carruthers 2003), Oundle, Northants (Carruthers forthcoming a) and the A43 Road Scheme (Carruthers forthcoming b). Godwin (1976) lists Roman records from Verulamium and Isca (Helbæk 1964). Grass seeds can be difficult to identify as there are overlaps in morphology between the seeds of different species, and chaff fragments are rarely preserved. For these reason the remains have been denoted cf. Lolium perenne. It should be noted that the slender shape and faintness of the hilum distinguish it clearly from L. temulentum, darnel, an introduced arable weed fairly commonly found in medieval assemblages. Perennial rye grass is characteristic of rich, heavy soils in lowland Britain, on grassy waste places and rough ground (Hubbard 1954). It has been widely cultivated in the last 300 years, since modern cultivars are highly productive grazing grasses. It can also grow as a crop weed, and was recorded in 26% of the crops surveyed recently in the Countryside Survey 2000 (CS2000, Question 3; Firbank and Smart www.cs2000.org.uk).

In addition to these weed contaminants, some of the CPW samples produced relatively large numbers of seeds from damp ground taxa, including sedges, spike-rush and club-rush (Schoenoplectus sp.). It is notable that amongst the rich CPW samples, where Lolium perenne-type seeds were frequent, wetland taxa were scarce or absent, and vice versa (Table 7.5).

No obvious differences in the cereals were observed between the samples, so this may simply indicate differences in soil moisture (eg cereals growing close to drainage ditches and cereals growing in the central, drier areas of the fields). Lolium perenne prefers moderately moist soils and fairly high light availability (Hill et al. 1999), so it probably does not fare well in wet ditch margins overgrown with rushes and sedges.

Seven samples produced small numbers of seeds from stinking chamomile (Anthemis cotula), a weed of cultivated and disturbed land indicative of heavy, damp soils. It was notable that four of these samples were from ditches, one from a midden and one from a layer. Only one was from a pit and only two came from the rich CPW deposits. This may be because, being a small-seeded weed that can also occur in large seed heads, it had been removed at earlier stages of processing (prior to the semi-cleaned spikelet stage), when most of the large and small contaminants would have been sieved and winnowed away. This is a weed that tends to increase in occurrence into the medieval period, probably due to increased cultivation of bread-type wheat on heavy soils. However, there was no obvious association of stinking chamomile with bread-type wheat in the Roman samples. In the medieval samples from Blatches much greater numbers of stinking chamomile seeds were recovered from a larger proportion of the samples. It was not present in the Period 10/11 assemblages.

Although only a few emmer/spelt grains were noted as having sprouted and/or collapsed due to germination, twelve of the later Roman samples contained detached extended coleoptiles (sprouts). In a couple of CPW samples these were frequent (midden sample 123; pit 1916 sample 105). Storage of grain under damp conditions can cause sprouting, and the absence of quantities of sprouted grains suggests that this may be the explanation in this case. However, large quantities of sprouted spelt grain have been recovered from Roman deposits in the past, providing evidence for the production of malt for brewing (eg Isca: Helbæk 1964; Catsgore: Hillman 1981). Murphy (1990, revised 1997) suggested that some of the sprouted spelt wheat from one of the Stansted Airport sites may have been used to produce malt, so some of the intensive growers of spelt in the area were almost certainly using spelt for the production of malt for brewing.

Medieval (13th–14th century)

Blatches

Twenty-four samples from pits, postholes, beam slots, ditches and gullies were examined from this site (Table 7.6). The site contains a developing farming settlement of 13th to 14th-century date.

The charred plant remains recovered from the samples were typical mixed cereal assemblages in a fairly poor, vacuolated and fragmented state of preservation. A number of grains had oozed sap on charring, suggesting that they had been fairly unripe when they came into contact with fire. The remains were not eroded, however, so they had probably been deposited soon after charring

Free-threshing wheat, barley, oats and rye were recovered from all three phases examined (15.3 to 15.5), but wheat was by far the most frequent cereal preserved by charring in all cases (Table 7.7). Differences in the percentages of barley, rye and oats across the phases may not be significant, since in each case only one or two rich samples were responsible for the higher percentages. For example, in phase 15.4 two rich samples from pit 1409 (samples 1 and 2) contained relatively frequent rye grains (27 grains in total). This could be the result of a single charring event, perhaps the burning of waste fodder or an accidental fire in a storage area. It is interesting to note that this feature also produced most of the evidence for leguminous crops (peas and beans) from the site. Non-cereal food remains have less chance of coming into contact with fire than cereals (because cereals for human consumption need to be parched or dried during processing) and so tend to be greatly under-represented in charred assemblages. This problem of under-representation probably also applies to cereals that were primarily used for fodder, such as barley, oats and rye, since fodder crops would not need to be dehusked or dried prior to storage and grinding, and so would have less opportunity to become charred. This supports the suggestion that the minor cereals—barley, oats and rye—had all been primarily grown for fodder, although no doubt they would have been a useful fall-back in years when the free-threshing wheat did less well. Oats and rye are also more tolerant of poor, acidic soils, so they may have been grown in small quantities on patches of land that would not have been suitable for growing wheat. The weed evidence lends some support to this suggestion, in that seeds from an arable weed indicative of acidic soils, corn spurrey (Spergula arvensis), were only recovered from samples 1 and 2, the samples producing the largest quantity of rye. Another common weed of damp, clayey, disturbed and cultivated soils, stinking chamomile (Anthemis cotula) was present in 17 of the 24 samples, providing evidence for the type of soil on which the principal crop, free-threshing wheat, was being grown.

For the wheat grains, the identification has been left at 'free-threshing wheat' because both bread-type (Triticum aestivum-type) and rivet-type (T. turgidum-type) free-threshing wheats were being grown. The evidence for this was somewhat scant, since only a few of the free-threshing wheat rachis fragments were well enough preserved to be tentatively identified as Triticum cf. turgidum (due to a slight bulge at the point of glume attachment and the retention of a stump of glume base; Moffett 1991). The morphology of grains is too variable to be used in separating the species (Jacomet 1987), but both the rounded bread-type and more elongated, hump-backed rivet-type wheats were observed.

Since the development of criteria for separating these two free-threshing wheats, an increasing number of medieval sites, particularly in central and southern Britain, have produced evidence for the cultivation of both species (Moffett 1991). As both the growth habits and cooking properties of the wheats are different, there are advantages in growing the two species. Rivet-type wheat grows on a long straw that has been valued for thatching. Its strongly awned ears are said to be bird resistant but it has a long growing season. The flour is used to make biscuits and pastries. Bread-type wheat produces gluten-rich flour, which helps to make a well-risen loaf of bread. Its shorter straw may be less likely to lodge, but it has a high soil nutrient requirement.

Other crops being grown were peas (Pisum sativum), Celtic beans (Vicia faba var. minor) and possibly cultivated vetch (Vicia cf. sativa). (Identificatons for the first and last of these were made on the basis of hilum morphology.) As noted earlier, these taxa are not often preserved by charring, so it impossible to determine how important legumes were to the economy. The results from examining both charred and mineralised faecal material from Saxon Hamwic (Carruthers forthcoming) suggest that legumes may have been consumed in almost equal quantities to cereals. If grown in rotation with cereals the nitrogen-fixing ability of bacteria in their root nodules can be of great benefit in improving soil fertility. Legumes are also protein-rich and can be stored and ground into flour as easily as cereals. Cultivated vetch was grown as a fodder crop in the medieval period, but people also consumed it in times of famine.

There is a little evidence for the use of wild hedgerow fruits and nuts, such as crab apples, elderberries, blackberries and hazelnuts (10 samples), but no evidence for the use of imported fruits and spices. Unfortunately, charring does not often preserve this type of material so it is dangerous to place too much significance on negative evidence. However, the fact that some wild foods and legumes were preserved, but no cultivated fruits were found does suggest that the farmstead was certainly not consuming luxury foods on a regular basis. This fits in with other evidence from rural settlements, as discussed below.

Changes through time

As the numbers of samples from each phase and each site vary a great deal, it is not easy to make comparisons and trace changes through time for the A120 samples. Small differences in the soils at each site will have affected the choices made by the occupants as to which crops to grow, since some cereals are better suited to damp soils than others. Another factor to be taken into account is that the period covered was a time of climatic change, with increased cold, wet weather around the late Bronze Age, followed by warmer, drier weather up to the later Roman period (Turner 1981). The precise details of these changes vary depending on the author, although most agree that deterioration in the first millennium BC was sufficient to have affected arable cultivation. Fortunately, work carried out on sites associated with Stansted Airport has helped to clarify some trends (see below), but some of these studies are still underway. For

these reasons, the following interpretations should be viewed as provisional until further evidence is available.

Crop plants and associated weeds

The few samples from the late Bronze Age at Greenfields (4 samples) provided evidence for the cultivation of emmer and spelt wheat, probably in roughly equal proportions, and some barley. Although the number of barley grains was not great, this cereal was found in all three samples producing cereal remains and was more frequent than in any of the Iron Age and Roman samples. Only a few leguminous weed seeds and no seeds from wetland plants were present. Lolium-type grass seeds were not found, and it is likely that this taxon had not yet been introduced into the area. In comparison with the later samples, these remains suggest that fairly low intensity cultivation of the better-drained, more fertile soils in the area was taking place during the Bronze Age.

The three sites producing late Iron Age/early Roman assemblages differed a little in the range of crops grown, and this is likely to relate to differences in the local soils. The principal crops on all of the sites appears to still have been emmer and spelt wheat, although the usual caveats concerning the under-representation of fodder crops and free-threshing cereals should be taken into account (as noted above). At East of Little Dunmow Road (10 samples) the two hulled wheats, emmer and spelt, seem to still have been grown in roughly equal quantities. Barley was present in four out of ten samples and oats could have been a minor crop. On the low-lying site at Rayne Roundabout the damper soils appear to have suited spelt and bread-type wheat better than emmer or barley. Two samples produced a little bread-type wheat and spelt glume bases were over 20 times more frequent than emmer glume bases. Weeds of damp soils were present in the samples, whilst they were absent from the East of Dunmow Road samples. Leguminous weeds were much more frequent in the Dunmow Road samples than at Rayne suggesting that the moist soils at Rayne may have been more fertile. Strood Hall also produced many more spelt glume bases than emmer (c 10 times more) and one sample contained several bread-type wheat grains, but wetland plant remains were only present in the cremation and grave samples (probably deriving from turf or hay remains). Legumes were quite frequent at this site, so perhaps the clay soils were not as rich as at Rayne. No barley was found in these samples. A few Lolium-type grass seeds were found in the Dunmow Road and Rayne samples but they were quite frequent in some of the Strood Hall samples. Conversely, chess was numerous in a posthole sample from Dunmow Road and a ditch sample from Rayne, but was fairly infrequent in the Strood Hall samples. Perhaps these tall weed grasses occupied the same niche in the arable weed community, as they are not often both present in large numbers on archaeological sites in the author's experience.

The most notable change in the mid to late Roman samples was the increased occurrence of deposits of concentrated cereal processing waste (CPW). Five samples from Rayne (two from a Period 11–12

ditch and two from a Period 13 channel deposit) and six samples from Strood Hall produced charred deposits so rich in glume bases and spikelet forks that they could not be counted. Only three large samples of CPW were recovered from the Period 10/11 phased samples. Estimations of the proportions indicated that at both sites over 90% of the identifiable chaff fragments were from spelt, the remainder being emmer wheat. Only traces of bread wheat and barley grains were present, suggesting that the crops had consisted of fairly pure spelt, with perhaps a few relict plants from previous crops.

The predominant weed taxa were chess and Lolium-type grasses, with chess being a little more frequent at Rayne but Lolium-type grass definitely dominating at Strood Hall. This suggests that the soil conditions, and perhaps crop husbandry regimes, favoured Lolium-type grass at Strood Hall, since it was the principal weed at this site for several centuries of cereal cultivation. Modern cultivars of Lolium perenne certainly grow vigorously on rich, heavy soils, and it is still fairly common as an arable weed (Countryside Survey 2000). It would be interesting to see how chess and Lolium sp. compete under different arable regimes. Wetland plants were not well represented in the later Roman Rayne samples, perhaps due to drainage ditches dug in the earlier phase. Although in many of the Strood Hall samples wetland plant remains were scarce, two samples from pit 1534 and a sample from a nearby gully terminal 1438 produced frequent spike-rush nutlets. This could derive from the deposition of a particular type of burnt waste, such as thatch or marsh hay.

Strood Hall is the earliest site to produce stinking mayweed seeds (Anthemis cotula). This weed of disturbed and cultivated soils is indicative of heavy, damp soils. It is rarely found in charred plant assemblages earlier than the Iron Age, and its occurrence may relate to increased cultivation of heavier clay soils assisted by the development of iron-tipped ploughshares (Jones 1981). It first appears in the mid 2nd-century samples at Strood Hall, and was recovered in small numbers from seven mid to late Roman samples in total. It was mainly recovered from ditch or midden samples, rather than the concentrated CPW. As noted above, this could be because the small seeds would be easily sieved and winnowed out of the crop prior to the semi-clean spikelet stage of processing, so it is more likely to be found in the waste from these early stages, than in the stored spikelets or waste from processing spikelets.

Of course, increased recovery of concentrated CPW in the later Roman samples could be due sample bias and chance, but these large, ashy deposits are so obvious during excavation that they are unlikely to have been missed if they had occurred in the earlier phased features. Increased occurrence of deposits of this type has also been observed at many sites around the British Isles, such as in the Arrow Valley, Warwickshire (Moffett and Ciaraldi 2000). This is discussed further below.

Unfortunately there is then a gap in the sequence, the next evidence of arable cultivation being from the medieval farmstead at Blatches. By

this time free-threshing wheat had taken over in most parts of the British Isles as the principal crop plant, although barley, oats and rye are usually also present in medieval assemblages. The extent to which these minor cereals were grown varies according to the nature of the surrounding soils, so that in Wales, for example, oats are far more frequent. At Blatches it was difficult to tell how important the other three cereals were, as a few rich samples in each subphase skewed the data (see Table 7.7).

In common with several other sites in central and southern England, both bread-type and rivet wheat were being cultivated, although it was impossible to determine the balance between these two free-threshing wheats. The leguminous crops, peas, Celtic beans and cf. cultivated vetch were also likely to have been important, possibly being grown within a crop rotation system, or some maybe being grown on a garden scale. Again, the biases of preservation by charring make it difficult to know precisely how important legumes were in comparison with cereal crops, but evidence from middle Saxon charred and mineralised faecal deposits at Hamwic, Southampton, suggest that they were probably being consumed as frequently and in similar quantities to cereal-based foods (Carruthers in preparation).

Changes in cereal cultivation over the four broad phases in the A120 sites, therefore, indicate that from fairly low intensity cultivation of emmer, spelt and barley during the late Bronze Age, the occurrences of emmer and possibly barley decrease with increases in spelt wheat during the Iron Age and Roman periods. By the later Roman period spelt wheat was being grown fairly intensively at least on some of the sites, perhaps in order to supply towns and military bases in other parts of the British Isles. Free-threshing wheats may have begun to be grown in greater quantities on some sites in the later Roman period, but it was not until the medieval period that they became the dominant cereal grown for human consumption. No information was available for the Anglo-Saxon period from the A120 sites.

Minor crops such as oats and rye were probably being grown on the poorer, acidic soils for fodder from the Roman period, or possibly earlier, although very little evidence of these was found until the medieval period. Large legumes such as peas and beans were important in the medieval period, perhaps being used as part of a crop rotation system, but no identifications were confirmed in earlier periods. Weed taxa suggested that soils were becoming impoverished on some sites by the late Iron Age/ early Roman period, and that on some sites damp, heavy soils were being cultivated.

Wild food resources

The charred remains of native hedgerow fruits and nuts occurred sporadically throughout the phases studied. The only deposit where these remains were fairly frequent was the late Roman midden at Strood Hall, which produced 80 fragments of hazelnut shell, hawthorn and Prunus sp. stone fragments. This demonstrates how important it is to examine a wide range of context types wherever possible, as the burnt waste from different activities was obviously being deposited in different places.

Table 7.8 shows that some hedgerow foods, such as hazelnuts, were being consumed throughout the periods examined and on almost all of the sites. It is not possible to determine how important these wild foods were to the economy of each site, as the remains may not have become burnt very often (see Challinor (charcoal) and Druce (pollen) below for incidence of hazel).

It is also impossible to know how much use was made of native plants for vegetables, flavourings and medicinal purposes. The recovery of several seeds from three useful taxa in one Period 10/11 pit does suggest that certain wild herbs were used. It seems inevitable that the use of native plants for food and for medicinal purposes would have been widespread, particularly since there was no evidence to suggest that the diet had been varied by the importation of exotic foods from abroad. Native waste ground plants such as mallow (Malva sp.) can be used as a leaf vegetable and the seeds can be eaten as a snack. The introduced plant cotton thistle (Onopordum acanthium) has a number of uses: the use of down from the seeds to stuff mattresses, the extraction of oil from the seeds for cooking and lighting, boiling and eating the stems as a vegetable, and medicinal uses mentioned by Pliny (1st century AD) ranging from curing a crick in the neck to curing rickets and convulsions.

Comparisons with other sites in the region

Due to many years of development associated with Stansted Airport, a large number of other sites have been excavated in the area over the last 19 years. Eight sites at Stansted Airport excavated during the 1980s have been discussed in a report by Peter Murphy (Ancient Monuments Report 129/90 revised in 1997). As with the A120 excavations, these sites range in date from the late Bronze Age to the medieval period, with a hiatus during Anglo-Saxon times. Very similar results were obtained from the work carried out by Murphy, probably because the same range of clay soils was being cultivated.

As at the A120, low densities of cereal remains were present in the late Bronze Age and early-middle Iron Age Stansted samples, primarily consisting of spelt and emmer grains and chaff, a little cf. bread-type wheat and a few grains of barley and oats. Weed seeds were sparse, and occasional charred remains of hazelnut shell, sloe stone and rose seed were recorded.

The late Iron Age/Roman samples at Stansted produced some large assemblages, and these appear to have been almost identical to the late Iron Age/early Roman and later Roman CPW samples from the A120. They consisted of spelt processing waste, with traces of emmer, hulled barley, oats, rye and cf. pea. Some differences were seen between Murphy's late Iron Age and Roman sites. The Roman site (Duckend Farm) produced CPW samples containing frequent stinking chamomile seeds (33% samples) and sprouted grains, while the late Iron Age/early Roman site (Airport Catering Site) on heavier soils producing no concentrated processing waste or stinking chamomile seeds. Only the final stages of processing appear to have been carried out at this earlier site, suggesting that it was receiving semi-processed crops from other

farms. Duckend Farm, on the other hand, was growing spelt on a large scale, some of which may have been used for the production of malt. Similar differences were seen between the A120 sites of East of Dunmow Road and Strood Hall. The late Iron Age/early Roman site of Dunmow Road produced fairly low concentrations of waste, one grain-rich sample and few weed seeds, but the later Roman samples at Strood Hall producing large CPW-rich deposits and the only records of pre-medieval stinking chamomile (24% samples). Unfortunately, because the sites are not contemporary it is difficult to determine whether the differences relate to the local soil conditions or to changes through time. As noted above, increased spelt production in the later Roman period has been observed on other sites, such as in the Arrow Valley, Warwickshire (Moffett and Ciaraldi 2000). In this region, very similar spelt CPW deposits were recovered from later Roman deposits, but not from earlier ones. It was suggested that, with spelt processing being carried out on a large scale, the chaff would have been a useful by-product, which may have been stored for use at a later date. There was evidence that it had been used as fuel in a corn-drier, and it was suggested that chaff was also probably used in other hearths, ovens and kilns. No structures of this sort were found amongst the later Roman A120 sites, but it is very likely that they had existed, with such high-intensity spelt cultivation taking place.

Anglo-Saxon environmental evidence was lacking at Stansted, as it was at A120. However, Murphy notes that palynological results from a channel at Stansted Brook indicated that arable cultivation was taking place during this period.

Medieval samples from Stansted Airport examined by Murphy produced a similar mix of bread-type and rivet-type free-threshing wheat, with a little barley, several oats (some sprouted) and virtually no rye. As at the A120, peas, beans and cultivated vetch were grown, but there was also a little evidence for flax. The evidence for rye was a little more convincing from the A120 samples than at Stansted, but this may well be due to chance since these minor cereals occurred sporadically, their preservation relying on chance burning events. Again, the general picture was very similar for both locations.

Further work is currently underway on sites associated with Stansted Airport that were excavated in 2000 and 2001. These have been assessed (see Oxford Archaeology archive reports by W Carruthers, R Pelling and G Carter) and will shortly be fully analysed. Similar results are emerging from late Iron Age, Romano-British, medieval and post-medieval samples from these sites, but for once, a few possible Anglo-Saxon samples may be analysed. Several samples producing large quantities of grain and weed seeds rather than chaff have been found, so these may add missing details to the story, hopefully including more evidence from weed ecology. In addition, a few waterlogged and mineralised samples were present, and these have great potential for increasing the information about the surrounding environment and non-cereal aspect of the diet. It would be very interesting to determine, for example, whether imported fruits and spices were being consumed by a population that

would appear to have been relatively wealthy at times (in that they were producing large quantities of surplus grain), but was also rural. Most rural farmsteads appear to have consumed few luxury foods, but the evidence could be biased due to increased occurrences of mineralised faecal and waterlogged deposits in urban situations. Further work is clearly necessary.

Wood charcoal

by Dana Challinor

Introduction

The assessment of the charred plant remains and charcoal from the environmental samples demonstrated that charcoal was well preserved at a number of sites and from a range of periods (Carruthers 2002; Challinor 2002). Of particular interest were the cremation burials from the Roman cemetery at Strood Hall, as there has been little publication on charcoal from cremation deposits of this date in Britain (Gale 1997). Consequently, the samples selected for charcoal analysis were chosen from a range of funerary deposits and associated contexts (unurned burials; urned burials; grave fills; redeposited pyre debris), with the aims of investigating regional Roman cremation practices, and the continuity and change within burial practices over time by comparison with earlier burials. In two burials, different samples from the same context were examined to test whether there were any spatial differences in the distribution of pyre debris. A couple of samples of domestic debris were also examined to provide comparative data, and the assessment results are included in this report where appropriate.

Methodology

Thirty samples were selected for charcoal analysis on the basis that they came from reliable and suitable contexts. The quantity of charcoal varied: some of the samples contained significantly less that the intended minimum of 100 fragments, and others were so rich that they needed to be subsampled. This was carried out, where necessary, using a riffle box. The samples were then divided into fractions using a set of sieves and fragments > 2 mm were identified. The charcoal was fractured and sorted into groups based on the anatomical features observed in transverse section at x10 and x20 magnification. Representative fragments from each group were then selected for further examination using a Meiji incident-light microscope at up to x400 magnification. Identifications were made with reference to Schweingruber (1990), Hather (2000) and modern reference material. A total of 3254 fragments were examined.

In addition to species identification, the maturity of the wood was assessed where the condition of the wood permitted it. Combined methods of ubiquity or presence analysis and quantification by fragment count have been used in this report. It is acknowledged that there are differential rates of fragmentation in charcoal and that quantification by fragment count is not always reliable, but this method has been used in this report to demonstrate relationships between individual taxa. Classification and nomenclature follow Stace (1997).

Results

The results by fragment count are given in site order in Tables 7.9–7.13. Nine taxa were positively identified. The taxonomic level of identification varied according to the biogeography and anatomy of the taxa:

- Pinaceae: Pinus sp. (pine), tree, the sole native species is P. sylvestris (Scots pine) but P. pinea (stone pine) was introduced by the Romans and there is macrofossil evidence for P. pinea from Roman contexts in Essex (Murphy 2001). While it is possible to distinguish between the species (Gale and Cutler 2000), the preservation of the charcoal from the A120 was not sufficient to examine the ray features and tracheid/ray pitting in detail.
- Fagaceae: Quercus sp. (oak), tree, two native species not distinguishable anatomically.
- Betulaceae: Corylus avellana (hazel), shrub or small tree, sole native species. Alnus glutinosa (alder), sole native species.
- Rosaceae: Prunus spp. includes P. spinosa (blackthorn), P. avium (wild cherry) and P. padus (bird cherry). The charcoal from the A120 was identified as P. spinosa on the basis of ray width. One narrow roundwood fragment from Strood Hall could not be confidently assigned to this category since it was too small to examine in tangential section. Maloideae, subfamily of various shrubs/small trees including Pyrus sp. (pear), Malus sp. (apple), Sorbus spp. (rowan/service/whitebeam) and Crataegus sp. (hawthorn), rarely distinguishable by anatomical characteristics.
- Aquifolicaeae: Ilex aquifolium (holly), shrub/tree, sole native species. The identification of this species at Greenfields is tentative as the fragments were too small to check the ray width in tangential section, and there is a possibility of confusion with Prunus spinosa. However, the pore distribution in transverse section appeared to be distinct from the Prunus fragments identified in the same sample.
- Aceraceae: Acer campestre (field maple), tree, sole native species.
- Oleaceae: Fraxinus excelsior (ash), tree, sole native species.

The preservation of the charcoal was generally good, although the majority of the fragments were less than 4 mm in transverse section. Indeterminate fragments were not identifiable because of poor preservation or an unusual cellular structure. Many were distorted due to knots in the wood and in several samples the charcoal was vitrified, having a glassy appearance indicative of high temperatures. It is likely that these indeterminate fragments represent additional specimens of taxa positively identified at the site.

Discussion

Woodland resources

Given the nature of the contexts analysed it is difficult to infer much about the woodland environment. However, it is possible say that mixed oak/ash deciduous woodland was exploited as a resource for fuel wood from the late Bronze Age through to the Romano-British period. Hedgerow species such as blackthorn and hawthorn-type and field maple were also utilised. The presence of field maple in the

assemblage indicates relatively mature woodland, as maple is confined to the later stages of woodland succession (Thompson 1999). The hazel recovered from Grange Lane is supported by the pollen evidence for hazel scrub in the late Bronze Age period at this site (see Druce below). The assessment on the middle Iron Age samples from Highwood Farm (Site 11) suggests that there was consistency in the availability of woodland resources; a similar range of species (oak, ash, hawthorn-type, etc) was noted in the samples. While the molluscs (see Allen below) and the pollen (see Druce below) from the A120 show that the landscape was widely cleared in the late Bronze and Iron Age, there is no evidence in the charcoal record to indicate pressure on woodland resources.

Bronze Age

Charcoal assemblages from eight cremation burials were examined: one from Greenfields (Site 28), five from Stone Hall (Site 42) and two from Grange Lane (Site 49). All of the assemblages represent redeposited pyre debris and there was no evidence for in situ cremations. A sample of redeposited pyre debris from a pit, rather than the burial itself, was also examined from Stone Hall. Only two domestic contexts, from Greenfields, produced suitable charcoal for analysis. All of the samples were dated to Period 6, the late Bronze Age.

Cremation assemblages

The analysis of the cremation charcoal shows that eight of the nine assemblages were dominated by a single taxon comprising more than 75% of the sample. This careful selection of fuel wood for the pyre has been interpreted as part of the burial ritual (Thompson 1999). It is certainly a trend that is apparent at other Bronze Age sites (eg Challinor forthcoming; Straker 1988; Robinson 1988). However, it is interesting that there is a surprising diversity in the main fuel wood used on cremation pyres at the A120 (). Two burials were dominated by oak (1048 and 28006) and three by ash wood (14000, 14042, 14111). These trees have good burning properties and would provide the heat required for human cremation. Certainly, oak is commonly recovered from deposits of pyre debris of Bronze Age date (Smith 2001). Ash seems to be less commonly utilised as a fuel wood, possibly due to its usefulness for structural and artefactual purposes (although oak is also a valuable timber in this respect and is usually more widespread). The presence of so much ash in the cremations along the A120 confirms that there must have been a plentiful supply of this species.

More unusual is the dominance of hawthorn-type charcoal in two of the burials (14002 and 14029) and the redeposited pyre debris in 14039. Hawthorn-type and other shrubby species, such as blackthorn, are usually found as smaller components of the pyre fuel and were probably used as kindling and infilling between the larger log structures (McKinley 1994). However, the assemblages from Stone Hall demonstrate that in these burials hawthorn-type formed the main structure/fuel wood for the pyres. There was also a significant quantity of blackthorn in 14029. The burning properties of the Maloideae family would depend upon which species was selected

but they are all moderately dense grained wood which make a reasonable fuel in sufficient quantity. It does seem a strange choice, however, when one considers the physical difficulties in felling thorny hedgerow trees like hawthorn or blackthorn, particularly when the quantity of wood required is considered. Ethnographic studies suggest that 300 kg of firewood is required to cremate one body (Richard Wright pers. comm.). It seems more likely that cherry and apple/pear were being used as fuel woods.

The fact that the two burials dominated by hawthorn-type charcoal were both possibly female adults may be significant. Unfortunately, it is not possible to compare these with the other Stone Hall burials as these could not be sexed. It is also interesting that the only assemblage dominated by hazel (28004) was from the cremation of a juvenile. However, the choice of fuel wood is not consistent as another possibly female adult burial (28006) produced an assemblage composed entirely of oak. The only perceived advantage in using apple, pear or cherry wood as a fuel is that they produce a pleasant scent when burning (Edlin 1949). Given the unpleasant aroma of burning flesh, this may have been an important factor in fuel wood selection, although it may equally have related to cultural rather than practical considerations. Of course the fact that all of these species produce edible fruits may have been significant (symbolic offerings or food for the deceased). It is particularly interesting, therefore, that cremation 1048 did produce charred food remains, hazelnuts, sloes and rosehips (see Carruthers above), but the charcoal assemblage was composed entirely of oak.

Domestic contexts

Two samples from Greenfields, from hearth 1019 and pit 1068, were analysed. These samples were chosen because they dated to the late Bronze Age and would provide evidence of the composition of domestic fires to compare with the cremation samples. However, it proved impossible to look at context-related variation at the A120 as there were too few suitable samples for charcoal analysis. There are, nevertheless, two interesting observations to be made from this limited study. Firstly, the fact that the hearth sample, which is associated with crop processing activities (see Carruthers above), is dominated by oak shows that the use of this species was not restricted to ritual fires and/or structural or artefactual purposes. Secondly, pit 1068 produced a range of species, which is likely to represent the taxa most commonly gathered on an ad hoc basis (ie what was easily available on the woodland floor).

Romano-British burials

The charcoal from eleven burials from Strood Hall was analysed (eight from Site 9 and three from Site 44). In contrast to the Bronze Age cremation assemblages, there is great consistency in the choice of fuel wood, as all of the samples were dominated by either oak or ash (Taxonomic composition of Roman cremations (based on fragment count)) . The occasional fragments of other taxa (hawthorn-type, blackthorn/cherry, pine etc) are likely to be from kindling, although it is also possible that some do not represent fuel and were included in

the pyre either accidentally or as pyre goods. The use of pine may be significant since evergreens have been associated with mortuary practices both symbolically and as the coffin wood (Gale and Cutler 2000). Burial 16004 is distinct from the other burials in that almost 40% of the charcoal assemblage was maple. This pit contained the remains of a possibly female adult, but this does not shed any light on the choice of fuel, as other probable female burials did not produce any maple.

The examination of the spatial distribution of the pyre debris within the burials did not demonstrate any significant patterns. The samples analysed from burial 1733 were all composed of oak heartwood, regardless of their location in the grave. Similarly, the various samples from grave 1509 (from an urned burial, grave fill and fill of an ancillary vessel) all produced similar assemblages of almost equal quantities of oak and ash. In general, any differences in assemblages were minor, with the exception of burial 1862 where the unurned burial deposit was clearly dominated by oak but the grave fill was mostly ash. Given that most of the Roman cremations produced a mixture of ash and oak, this is not in itself that significant. It does, however, suggest that, given the bias of the hand retrieval of the bone and associated fuel debris from the pyre, a single sample may not always give an accurate reflection of the pyre composition. This is the exception (at least within the limitations of this study) and it is worth noting that context 1511 was interpreted as pyre debris that had been deliberately placed around the margins of burial 1509, yet the other samples in that burial yielded the same taxonomic composition.

Conclusion

The results from the analysis of the Bronze Age charcoal are consistent with evidence from other Bronze Age sites, even though there were no comparable analyses found within the immediate locality. The choice of fuel wood for the pyres differed from burial to burial, in contrast to the Roman cremation burials, which showed a distinct consistency in the selection of fuel wood. The Roman assemblages at Strood Hall show that the pyre structures were composed of ash and oak, with occasional kindling from other taxa. The common use of these species throughout all the phases of the Roman period at the A120 shows that there was no pressure on woodland resources. The frequent use of oak, ash and maple seems to be consistent with cremations in general, perhaps because these species are usually easily available and provide good-sized timbers/poles. Oak and ash were probably used as they were the most effective fuel woods for cremation purposes and for the pyre structure itself. It is suggested that the use of hedgerow species in the Bronze Age cremations may relate to aroma and/or seasonal fruiting. Certainly, the importance of aroma in the Roman ritual is well documented and the Romans were known to have thrown perfume bottles on cremation pyres to mask the unpleasant smell (Barber and Bowsher 2000, 68). It may well be that the Bronze Age solution was to include pleasant-smelling logs on the cremation pyres.

Pollen

by Denise Druce

Introduction

A limited programme of palynological assessment from three sites, Greenfields (Site 27/28), Grange Lane (Site 20) and Rayne Roundabout (Site 33/34) was undertaken (OWA 2002). Two monoliths were taken from the subcircular hollow interpreted as a glacial pingo from Greenfields but pollen proved very sparse and the sample was not deemed worth further analysis. A single monolith was taken from the fills of ditch 1108 at Grange Lane. The palynological assessment provided evidence for the preservation, although of variable quality, of pollen from this site. The sequence did exhibit a change in the pollen spectra suggesting that the environment may have changed during the period when the fills were accumulating. At Rayne Roundabout, a single monolith was taken from the fills of Roman ditch 265. The palynological assessment provided evidence for the preservation of pollen and suggested a mixed pastoral and arable landscape around the site. The following report discusses the results of the detailed pollen analysis on the samples taken from Grange Lane and Rayne Roundabout.

Grange Lane: pollen analysis from the fill of ditch 1108

Ditch 1108, which may be of middle Iron Age date (see Chapter 2), was cut into a periglacial scar and appeared to be aligned on the entrance of a middle Iron Age enclosure. The ditch terminal (1117), which cut two middle Iron Age ditches, was sampled with a monolith tin in order to carry out palaeoenvironmental analysis on the ditch fills. The stratigraphy recorded on site was of glacially deposited mixed chalky boulder clay overlain by clayey loam plough soil. The stratigraphy recorded within the monolith tin consisted of:

Depth from top of tin (m): 0–0.20 mid-dark brown clay

0.20–0.40 dark grey/brown clay

0.40–0.51 light grey/brown sandy clay

Following the palynological assessment (OWA 2002) it was recommended that a programme of pollen analyses should be undertaken, concentrating on the lower fill (1118) of the terminal. The assessment showed that pollen preservation was variable from the site but the sequence did exhibit a vegetation change during the period when the fills were accumulating. A fuller analysis may identify whether the change was 'real' or caused by differential preservation.

Methodology

Twelve subsamples were taken from the monolith from 1117 and these included two from the upper fill (1142) (mid to dark brown clay), and ten from the lower fill (1118) (dark grey-brown clay and light grey-brown sandy clay). The samples were prepared using standard procedures (Faegri et al. 1989) and mounted in silicone oil. Two exotic (Lycopodium) spore tablets were added to each sample to provide a standard counting reference and to determine pollen concentrations. The pollen slides were examined with an Olympus BH-2 microscope using x400

magnification routinely and x1000 for critical identifications. Counting continued until a sum of either 300 land pollen grains or Lycopodium spores was reached. Pollen identification was carried out using the standard keys of Faegri et al. (1989) and Moore et al. (1991), and the reference collection held at Oxford Archaeology North. Cereal-type grains were only taken to a general level as many were crumpled and/or in a poor state of preservation. Microscopic charcoal was present in all of the samples and was counted in relation to the number of exotic spores. The charcoal results are shown on the pollen diagram. Plant nomenclature follows Stace (1991).

The pollen counts were entered into the TILIA/TILIAGRAPH software (Grimm 1991) and are presented as a percentage pollen diagram. The pollen sum includes total land pollen, the aquatics are shown as the percentage of total land pollen plus aquatics, and the Pteridophytes/Bryophytes as total land pollen plus Pteridophytes/ Bryophytes. The total concentration of land pollen in each sample was calculated using TILIA and are shown on the pollen diagram.

Results (Fig. 7.3 insect diagramme)

A count of 300 land pollen grains was not reached in any of the samples. The lowest counts are from the samples taken from the upper fills, which is probably a reflection of poor pollen preservation. The counts for aquatics and Pteridophyte spores, however, were extremely high.

Poaceae (grass) and Cichorium intybus-type (dandelion types) taxa dominate the herbaceous taxa throughout the record, reaching over 60% and 40% respectively. Other herbaceous taxa include cereal-type, Chenopodiaceae (goosefoot), Solidago virgaurea-type (daisy type), Brassicaceae (cabbage family) and Potentilla-type (cinquefoils). Cichorium intybus-type pollen could be over represented in the diagram due to its robust nature and ease of identification even when degraded. The arboreal taxon includes Pinus (pine), Quercus (oak), Alnus (alder), and Corylus avellana-type (hazel), the latter dominating the lower two thirds of the diagram and reaching 40% of total land pollen. Levels of Equisetum (horsetails) and Pteridophyte (fern) spores are high at the site. Sparganium (Bur-reeds) and Sphagnum moss are also present.

Some cereal-type pollen is present in the lower half of the diagram but disappears at 0.3 m depth. Gramineae values decrease towards the middle of the profile and are replaced with higher levels of tree and shrub pollen. This increase is primarily due to higher levels of Corylus avellana-type pollen with some Pinus. This trend is reversed at 0.26 m depth, with Gramineae levels returning to former levels, and Corylus avellana-type and Pinus pollen declining. This decline in tree and shrub pollen coincides with an increase in the levels of microscopic charcoal, with a peak at 0.22 m depth.

Corylus avellana-type pollen disappears at 0.18 m depth and is replaced by higher levels of the other arboreal taxa. A decrease in Gramineae and increase in Liguliflorae and Cruciferae accompany this. Herbaceous pollen diversity and pollen concentrations decline in the top third of the

diagram, which coincides with the shift to the upper fill.

Discussion

Interpreting the pollen data from features such as ditches, as is the case for this site, has to be carried out with some degree of caution. Features such as ditches are likely to contain pollen from a variety of different sources including regional and local vegetation and pollen deposited via streams and from material eroded from the channel sides (Dimbleby 1985). Pollen records from ditches that are associated with archaeological sites may also contain records of material that was bought onto the site from a distance or record taxa from functional material such as bedding or fodder that may create an over-representation of specific taxa.

Some degree of caution has also to be applied when interpreting pollen data with low counts. Therefore only a speculative account can be given. Important to this site, however, were the high levels of Equisetum and Pteridophyte spores, which probably represent a component of the vegetation growing immediately in and around the ditch.

The environment during the deposition of the lower fills appears to consist of disturbed grassland and hazel scrub, with limited cereal cultivation taking place nearby. Hazel levels increase during the deposition of the lower fills up to a depth of 0.28 m, and then decline to be replaced by high levels of grass pollen. This decline in hazel coincides with a period of increased burning activity. Therefore it is possible that hazel scrub was being cleared for agricultural purposes.

Tree and shrub pollen increases at a depth of 0.18 m. However this coincides with a shift in sediment deposition type and a decrease in pollen concentration. The level of herbaceous pollen diversity decreases and dandelion type pollen reaches levels of 40% total land pollen. As dandelion type pollen is a robust grain, which survives well in a variety of deposits/conditions, it is more likely that this change in the pollen record is as a result of differential preservation rather than any 'real' vegetation change.

Conclusion

The environment during the deposition of the lower fills of ditch 1108 consisted of disturbed grassland and hazel scrub, with some cereal cultivation taking place nearby. This analysis has identified and confirmed the speculation that regeneration in tree and shrub, primarily hazel, actually took place during the accumulation of the lower fills, which possibly reflects the abandonment of the area. Increased burning activity later on, however, coincides with a decrease in hazel scrub and a return to more open conditions. This may represent increased clearance activity but there is little other palynological evidence to support intensification in farming practices at this time. A vegetation change appears to occur at the top of the diagram, during the accumulation of the upper fills, but this is more likely to be as a result of low pollen counts and/or differential preservation.

Rayne Roundabout: pollen analysis from the fill of ditch 265

The excavation revealed a NE-SW, possibly natural, infilled hollow that had been continually cut and recut, probably acting as a boundary and performing a drainage function. Such features are seen as peripheral to any settlement. However the occupation debris recovered from the site suggests that any settlement would have been nearby. Ditch 265 formed part of a ditch system west of the hollow that ran in the same alignment. A monolith (106) was taken from the fill in order to carry out palaeoenvironmental investigations. The stratigraphy recorded within the monolith comprises:

Depth from top of tin (m): 0–0.20 mottled brown clay
0.20–0.21 mottled brown clay with charcoal
0.21–0.22 mottled brown clay with charcoal and flint
0.22–0.31 charred material
0.31–0.33 mixed charred material and clay
0.33–0.45 dark brown 'organic' clay with iron staining and charcoal
0.45–0.50 dark grey sandy clay with occasional charcoal
0.50–0.63 boulder clay

Following the palynological assessment in 2002 by Oxford Archaeology North it was recommended that a programme of pollen analyses should be undertaken on the fill beneath the band of charred material as there was the potential to learn about the possible landuse in the vicinity of the ditches. The pollen from the lower samples indicated the preservation of moderately high pollen concentrations and suggested a mixed pastoral and arable landscape. It was felt that a full analysis on these samples might provide additional information about the Roman economy and farming practices. However, the pollen preservation within the upper part of the monolith and above the charred material was poor. Therefore it was decided that a full analysis should be concentrated on the lower fills of the ditch.

Methodology

Twelve subsamples were taken from the monolith and these included one from the upper clay, one from the clay with charcoal and flint immediately above the charred material, and one from the charred material itself. The remaining nine were taken from the lower clay deposits. The samples were prepared using standard procedures (see Grange Lane above for details). Cereal-type grains were only taken to a general level as many were crumpled and/or in a poor state of preservation. Microscopic charcoal was present in all of the samples, often at levels too dense to count. However any noticeable differences are discussed in the text. Plant nomenclature follows Stace (1991).

The pollen counts were entered into the TILIA/TILIAGRAPH software (Grimm 1991) and are presented as a percentage pollen diagram. The pollen sum includes total land pollen; the aquatics are shown as the percentage of total land pollen plus aquatics, and the Pteridophytes/Bryophytes as total land pollen plus Pteridophytes/Bryophytes. The total concentration of land pollen in each sample was calculated using TILIA and is shown on the pollen diagram. There are no significant changes in the pollen assemblages and therefore the diagram has not been divided into local pollen assemblage zones.

Results (7.4 Schematic profile across eastern side of Pincey Brook)

A count of 300 land pollen grains was reached in all of the samples apart from the two from the upper clay and the sample taken from the charred layer, the latter being completely devoid of pollen.

Pollen from herbaceous taxa dominates the pollen assemblage throughout the record, with a maximum of c 95% of total land pollen. Tree and shrub pollen was less than 15% total land pollen. The major component of the herbaceous pollen is Poaceae (grass), and other taxa include cereal-type grains, Plantago lanceolata (ribwort plantain), Apiaceae (carrot family), Fabaceae (pea family), Cichorium intybus-type (dandelion type), and Solidago virgaurea-type (daisy type). The latter two groups could be over-represented in the diagram due to their robust nature and ease of identification even when degraded. The peak in Cichorium intybus-type at 0.4 m depth, for example, coincides with a peak in indeterminate grains and therefore may be over-represented at this level.

The major, if somewhat limited, components of the tree and shrub pollen are Alnus (alder), Quercus (oak), and Salix (willow), with traces of Betula (birch), Pinus (pine), Ulmus (elm) and Corylus avellana-type (hazel). Values for trees and shrubs are slightly higher at the base of the profile and, in the main, this can be attributed to higher levels of Salix (willow). Levels of Sparganium (bur-reeds) are also higher at this level, which may suggest slightly wetter conditions. The peak in pollen concentration at 0.44 m depth may reflect this in that preservation is likely to be improved under such conditions.

A change is registered at 0.34 m depth that marks a temporary decrease in Poaceae and increase in both arboreal and non-arboreal taxa. Alnus, Salix, and Quercus values increase slightly, and Pinus appears for the first time. Plantago lanceolata, Filipendula (meadowsweet), Artemisia (mugwort), and Chenopodiaceae (goosefoot family) pollen grains increase slightly, and other herbaceous taxa also increase very slightly at this level. Centaurea scabiosa (greater knapweed) also appears for the first time.

Arboreal pollen levels fall and this is accompanied by an increase in cereal-type grains at 0.32 m depth, which is taken from the material immediately below the charred layer. This may be significant in that the assessment showed the charred layer to be rich in crop processing waste that was dumped into the ditch (see Carruthers above). The charred layer itself was devoid of pollen, possibly due to lack of preservation, or simply because pollen was not airborne during the processing of the grain. A study carried out investigating the presence of cereal pollen on cereal grain/waste (Robinson and Hubbard 1977) revealed that cereal pollen, and indeed other types of pollen, can arrive in a feature where it has adhered to plant remains. However, it was apparent that pollen grains would not survive the burning process, and therefore its absence in the charred layer is not surprising. Although the presence of cereal pollen in the deposit underlying the charred layer may suggest that cereal crops

were being grown nearby, it is also possible that it was generated during the processing of the crops.

The top of the diagram records a slight increase in arboreal taxa and persistent levels of Plantago lanceolata, Chenopodiaceae and Caryophyllaceae (stitchwort family). Values for Brassicaceae (cabbage family) also increase. However, the pollen data from this level has to be treated with caution as a combination of relatively low pollen concentration and high indeterminate grains may mean that the data is skewed. High levels of Pteridophyte (fern) spores in the top sample may also be an indication of this as such spores are resistant to corrosion. Conversely, however, an increase in Pteridophyte spores alongside an increase in arboreal pollen may signal a slight regeneration in trees and shrubs growing in the locality. Cereal-type pollen disappears for the first time also.

Discussion

Interpreting the pollen data from features such as ditches, as is the case for this site, has to be carried out with some degree of caution. Such features are likely to contain pollen from a variety of different sources including regional and local vegetation, and pollen deposited via streams and from material eroded from the channel sides (Dimbleby 1985). In some cases the vegetation actually growing in and around the ditch may completely mask the pollen from the local and regional area. Pollen records from ditches that are associated with archaeological sites may also contain records of material that was bought onto the site from a distance or functional material such as bedding or fodder, which may create an over-representation of specific taxa. Additionally, there is likely to be material actually produced on site such as crop processing debris, which, as is the case at this site, may be dumped into features.

The pollen data from the fill from Ditch 265 records an open landscape with evidence of both arable and pastoral farming activity. The local area was primarily grassland with limited trees and scrubs growing possibly at some distance from the site. Initially willow and bur-reeds made up some of the vegetation growing on the margins of the ditch when conditions were slightly wetter. This vegetation appears to have declined later which possibly allowed an increase in airborne pollen reaching the ditch as levels of both arboreal and non-arboreal pollen increase at this point. The herbaceous pollen indicates a mixed farming economy, comprising taxa associated with both cultivated and grazed ground.

An increase in cereal pollen is suggested at 0.32 m depth and this is interesting as it occurs just prior to the dumping of the crop processing waste in the ditch. This may suggest that cereal cultivation was taking place nearby. However, it is also possible that the cereal pollen at this level was produced as a result of crop processing. The relatively poor preservation of the cereal-type pollen grains meant that identification to species level was impossible.

Though speculative, it appears that the top of the sequence from the ditch records a slight regeneration in tree and shrub cover in the region. This is accompanied by the disappearance of cereal grains in the pollen record that may indicate

a reduction in cereal cultivation in the area. Levels of microscopic charcoal also decline in the top of the profile. However, the landscape at this stage was still primarily open, with grass pollen and taxa of disturbed ground still dominating the diagram.

Conclusion

This analysis has corroborated the evidence from the earlier assessment that the landscape during the infilling of the ditch was open, with evidence of both arable and pastoral activity. The pollen data has also shown slight changes in both the local and regional environment and has provided evidence for increased cereal cultivation prior to the dumping of the crop processing waste in the ditch. A slight regeneration in tree cover in the region, plus the disappearance of cereal pollen and a decrease in microscopic charcoal during the later stages of the infilling of ditch 265 may indicate a reduction in activity in the area at this time.

Insect remains

by Mark Robinson

Introduction

Excavation on Site 33 at Rayne Roundabout discovered some early Roman boundary ditches peripheral to a Roman settlement, some of which contained waterlogged sediments. Four samples were assessed for insect remains and one, Sample 104, was found to contain material well-enough preserved to provide useful information. Sample 104 was from context 278, the primary fill of linear ditch 350, dated to AD 43–80. A sample of 5 litres was washed over onto a 0.25 mm mesh, subjected to paraffin flotation to recover insect remains and sorted. The remains were identified and the results listed in Table 7.14 Coleoptera from Rayne Roundabout ditch 350 and Table 7.15 Other insects from Rayne Roundabout ditch 350, nomenclature for Coleoptera (beetles) following Kloet and Hincks (1977). The results for Coleoptera have been displayed by species group after Robinson (1991) (7.5 Schematic profile across eastern side of River Roding).

Interpretation

The numerous examples of the small water beetle Helophorus cf. brevipalpis suggested that the ditch held stagnant water. Other water beetles included Hydrobius fuscipes, which tends to favour stagnant water habitats with dead plant material on the bed. The occurrence of the weevil Tanysphyrus lemnae indicates that the surface of the water in the ditch was probably covered by its host plant, Lemna sp. (duckweed), while the weevil Notaris acridulus was perhaps feeding on emergent or waterside sedges. There were a few beetles of waterside mud in the ditch, such as Platystethus cornutus gp. Otherwise, the remainder of the terrestrial Coleoptera were probably from the surrounding landscape.

Conditions appear to have been relatively open. There was only a single member of the Species Group 4, the scolytid (bark beetle) Scolytus intricatus, which feeds on Quercus sp. (oak). Some hedgerow or waste-ground vegetation was suggested by the beetles Anthonomus cf. rubi, which often feeds on Rubus fruticosus agg.

(blackberry) and Brachypterus urticae, which feeds on Urtica dioica (stinging nettle). The nettle-feeding bug, Heterogaster urticae, was also present. Grassland was probably a major component of the landscape. The beetles of Species Group 11, with larvae which feed on the roots of grassland plants, such as Agriotes sp., comprised 5% of the terrestrial Coleoptera. There was a strong presence of the scarabaeoid dung beetles of Species Group 2, which comprised 13% of the terrestrial Coleoptera. They included four species from the genus Aphrodes. These beetles feed on the droppings of larger herbivores. It is very likely that domestic animals were concentrated in the vicinity of the ditch. There was less evidence for cultivated ground although some of the beetles, for example, Agonum dorsale and Ceutorhynchus erysimi are often associated with weedy disturbed ground.

There was no certain evidence from the insects for the proximity of the settlement. A single specimen was discovered of the synanthropic beetle Ptinus fur but it also occurs in birds' nests as well as in indoor habitats. A worker of Apis mellifera (honey bee) was also found. There are several Iron Age and Roman records of honey bee from Britain, including a Roman site outside Godmanchester, Cambs, where the quantity of remains suggested bee-keeping on the site (Robinson unpubl.). It is plausible that bee-keeping was widespread in Iron Age and Roman Britain and was occurring at the Rayne Roundabout settlement.

Molluscs

by Michael J. Allen

Introduction

Snail preservation along the A120 sites was locally highly variable and this is typical of the non- and weakly calcareous geology. As a result only four sites were sampled for snails. Shell preservation from 23 samples was moderate to poor and only three sites produced any contexts with sufficient shells to attempt to address specific and project research questions. The assessed flots identified from one other site are also included.

Samples of approximately 2000 g were processed by Oxford Archaeology with flots retained on 0.5 mm mesh (cf. Evans 1972), with the residues unfractionated (contra Evans 1972). Following assessment of the flots, the residues of the selected samples were fractionated and sorted by Sarah Wyles, and the shells identified by Sarah Wyles and Michael Allen (Tables 7.16 and 7.18–19). Shells from the flots from Grange Lane were identified (Table 7.17), but the residues were not sorted. Mollusc nomenclature follows Kerney (1999) and the results are presented in Tables 7.16–19. Classification of species groups is after Evans (1984).

The data considered are from middle Iron Age ditches at Highwood Farm, Site 11 (Table 7.16) and an Iron Age ditch at Grange Lane, Site 20 (Table 7.17). Romano-British samples were examined from Rayne Roundabout, Site 33/34 (Table 7.18) and Strood Hall, Site 9 (Table 7.19).

Land snail data are referenceable over only fairly short distances and

therefore provide evidence of site, rather than landscape based, environments, habitats and land usage. Greater interpretative power is possible by employing species diversity indices (see Allen in French et al. 2003, appendix 1), but here shell numbers are not high enough to facilitate meaningful analysis, nor are the numbers of samples or sites great enough to enable intersite comparison. Habitats common to more than one site at any one period might indicate the nature of the wider landscape, but may just suggest similar land use on contemporaneous sites. Shell numbers are never high enough to enable very detailed local land use and habitat reconstruction; they are, however, sufficient to allow useful comment on the nature of local environments, habitats and land use.

Iron Age

By the middle Iron Age at Highwood Farm it is clear that any climax woodland had been removed from the local and immediately surrounding landscape. The lack of rupestral species and the composition of the shade-loving elements of the assemblage suggest that open country conditions had been long established and that clearance probably extended well beyond the site.

Although ditch 1048 contained pitifully few shells, these are all species more typical of open cleared landscape. Ditch 1051, however, provides more evidence and allows the possibility of examining changes in the local land use (Table 7.16). The assemblages in the primary fill suggest that this ditch was constructed in pre-existing open landscape, and the preponderance of the xerophile species Vallonia excentrica suggests relatively open dry short grassland. Contradicting this is the presence of the amphibious species Lymnaea truncatula which lives mostly out of water and is common on floodplain grassland. It is the species which is host to sheep liver-fluke (Fasciola heptica). Other species are those typical of longer, more mesic grassland. We suggest that these may reflect short grazed grassland, in an area subject to river flooding, and with high winter groundwater tables which facilitated longer, danker herbaceous vegetation colonising the ditch. As for change in the local landuse through the ditch infill history, there seems to be little. Certainly L. truncatula is restricted to the primary fills, but damp shady herbaceous vegetation continues to persist and is probably largely restricted to the ditch itself. Shell numbers decline significantly, and when the ditch was nearly completely infilled (context 1013), there are only a few shells present and these are the freshwater species Gyraulus albus. It is tolerant of many aquatic habitats, but not drying out, so we must assume that these are flood victims, washed over by floodwater, rather than indicating permanent water in the now almost infilled ditch.

We can suggest that the data here represents established grazed pasture with taller vegetation in a ditch prone to containing water in the winter months. Certainly the lack of other xerophiles (Helicella itala) and of species common in trampled grassland (Chappel et al. 1971) suggest that there is not intensive grazing, trampling or great human activity at this

particular location. The slim evidence from the possibly Iron Age ditch 1108 at Grange Lane confirms an open, pre-established, probably farmed (grazed) landscape.

Romano-British

Few Romano-British contexts were suitable for mollusc analysis. At Rayne Round-about there is evidence of waterfilled features. For instance the late Roman hollow containing layer 223, produced an entirely 'aquatic' assemblage. The dominant species, Planorbis planorbis, is a freshwater species enjoying well-vegetated shallow pools or ditches and is characteristic of features subject to summer drying (Kerney 1999, 58). Both of the other species, Anisus leucostoma and Lymnaea truncatula, are considered to be amphibious (Robinson 1988). This hollow, therefore, is likely to have survived as a swampy well-vegetated pool that dried out in the summer. It does not, unfortunately, provide any information about the surrounding landscape or land-use other than to indicate possible local near-surface groundwater tables.

The impoverished assemblage from post-Roman ditch 143 indicates an open landscape but with some herbaceous vegetation. This feature too seems to have contained water, and there is possibility of brackish (estuarine) water as a result of local flooding (Hydrobia).

A single sample from an early Roman cremation burial, although not an ideal context for representative molluscan assemblages, contained a small assemblage typical of dry open grassland.

Post-Roman

A single shallow gully 351 from Rayne Roundabout was analysed on the basis that it was probably Romano-British. The feature, however, remained unphased, but the molluscan assemblage (Table 7.18) includes a whole adult specimen of Candidula interstecta which is through to be a medieval introduction (Kerney 1966). The assemblage indicates long, herb-rich, grassy vegetation (cf. Cameron and Morgan-Huws 1975). The presence of Caryhium minimum suggests very damp conditions locally, and this is confirmed by the aquatic species. Approximately 75% of the aquatic assemblage comprises two amphibious species. However, the presence of 56 Pisidium valves (ie 27 MNI) tends to suggest more permanent standing water.

Discussion

The assemblages from all the A120 sites examined indicate an Iron Age and Romano-British lowland pasture, with little intensive use of the local landscapes. In this respect it can be seen to be similar to the Iron Age to Romano-British lowland pasture landscapes such as Aston Clinton, Bucks; Hartson Mill, Cambs; West Fen Road, Ely, Cambs (Allen 2003); Stagsden, Beds (Allen 2000), and Shillington, Beds (Allen 2004).

None of the sites investigated indicates either heavy grazing pressure or intensive human activity. Without exception all are indicative of lowland pasture with high groundwater tables and deeper features subject to ponding and puddling. Obviously some local variation occurs. This picture seems to reflect the general indications from other sites such as North

Shoebury (Murphy 1995), and south Essex (eg Wilkinson 1988; Murphy 1996).

Report on the stratigraphy revealed in an auger survey

by Martin R. Bates

Methodology

Two auger transects were drilled as part of the evaluation across the Pincey Brook and the River Roding floodplains. A total of three auger holes were drilled on the east side of Pincey Brook and three to the east of the River Roding at distances of 5 m, 15 m and 25 m from the active river channels. The objectives of the investigation were to record the stratigraphic sequences present in the core samples, identify the presence of buried channels beneath the floodplain and to comment on the palaeoenvironmental potential of any deposits identified.

The auger holes were drilled using a dynamic probe auger capable of recovering 1 m long undisturbed core samples. A maximum core diameter of 80 mm was used to recover samples from the uppermost 3 m of sediment resting beneath the modern floodplain surface. The drilling technique allows for the continual recovery of core material to enable a full record of the stratigraphic sequences to be obtained.

On returning the cores to the laboratory they were cut lengthways and cleaned. Descriptions of the sedimentary sequences were made using standard geological terminology (Jones et al. 1999) and colours were recorded using a Munsell Soil Colour Chart. Full descriptions of all boreholes are provided in Tables 7.20–25. After recording all cores were wrapped in plastic, sealed and labelled prior to storage.

Results

Full descriptions of all sequences recorded are provided in Tables 7.20–25. The results from the survey are limited due to the low numbers of boreholes that were drilled (this was a result of the land access difficulties). This has resulted in difficulties in interpreting the significance of the results in terms of the three-dimensional distribution of features in the floodplain area. However, recovered core quality was good with minimal distortion of the sediments noted and only minimal loss of sediment.

The two areas investigated exhibited very different sequences of sediments and are discussed individually prior to drawing conclusions relevant to the broader aspects of the project.

Transect T1 E: Pincey Brook

Three boreholes were drilled along a transect on the eastern side of the Pincey Brook (7.4 Schematic profile across eastern side of Pincey Brook). These auger holes revealed a sequence of sediments dominated by fine-grained clays and silts typical of the types of sediments usually found accumulating on the surface of floodplains away from the main river channel (BH 1, 0.00–1.95 m; BH 2, 0.0–1.1 m; BH 3, 0.0–1.05 m) (Tables 7.20–2). The sediments underlying this upper sequence are more complex and probably represent lateral facies variants related to position on the

floodplain surface. Within BH 1 organic sediments were noted between 1.95 m and 2.0 m and below 2.75 m. These are likely to have accumulated in very low energy conditions on the river floodplain perhaps in channel cut-offs or oxbow lakes. A grey clay-silt was present between these two organic units. Boreholes BH 2 and BH 3 contained evidence for similar fine grained clay-silts but also evidence for the presence of a major sand/gravel bar (BH 2, 1.50–1.85 m and BH 3, 1.30–1.55 m). The presence of root casts and calcareous nodules suggest these sequences may have been subjected to weathering or soil forming processes implying the presence of buried landsurfaces at depths of 1.10 m and 1.85 m in BH 2 and 2.35 m in BH 3. None of the boreholes drilled penetrated beyond fine grained sediments into the coarse basal gravels typically found beneath the floodplain of most southern British rivers.

This evidence suggests that prior to the deposition of the most recent floodplain sediments across the site area the floodplain floor appears to have been very dynamic environment with evidence for a number of different environments of deposition preserved within the stratigraphic stack. Furthermore some circumstantial evidence suggests that former land surfaces may be present within the sequences.

Transect T2E E: River Roding

Three boreholes were drilled along a transect on the eastern side of the Roding river (7.5 Schematic profile across eastern side of River Roding). A similar sequence of fine grained floodplain sediments to those present in the Pincey Brook transect were present beneath the modern ground surface in all three boreholes (BH 1, 0.00–1.50 m: BH 2, 0.00–1.00 m; BH 3, 0.00–1.20 m). Stratified beneath the floodplain fines were thick sequences of sands in boreholes BH 2 (1.00–2.40 m) and BH 3 (1.20–2.90 m). Sand was absent in BH 1. These sands appear to be active channel sands perhaps deposited in sand bars. The basal deposits in all three boreholes were gravel. This gravel appeared typical of late Pleistocene gravels deposited under cold climate periglacial conditions in braided channel environments. Rooting horizons possibly indicating the presence of a buried surface was noted in BH 2 at a depth of 1.10 m.

The evidence indicates that three very different river systems are represented within the sequences from the Roding valley. These indicate that higher energy river flows were responsible for sediment deposition of both the basal gravels and the sand bodies. Modern conditions were only attained after sand deposition ceased.

Discussion

The results of this study are limited by the restricted number of boreholes that were drilled as part of this study. Consequently it is difficult to use the conclusions drawn from a study of these boreholes to make statements regarding the remainder of the route corridor. However, the following points can be made:

1. The investigation has revealed that complex stratigraphies exist in both study areas.

2. Organic sediments were recovered from BH 1 at Pincey

Brook. These sediments may contain suitable material for palaeoenvironmental analysis.

3. The nature of the floodplains in both areas was significantly different in the past when compared to the modern floodplains. A variety of geomorphological situations may be inferred from the sediments preserved.

4. Evidence has been described in the form of root casts and the presence of carbonate nodules that indicate buried landsurfaces may be present within the sequences. The presence of such surfaces may be of archaeological relevance.

5. Definitive statements regarding the age of the sediments cannot be made without radiometric dating or archaeological finds. However, it is likely that, with the exception of the basal gravels in the Roding transect (probably dating to the late Pleistocene), all the finer grained sands and silts present in both transects are of Holocene age.

6. The finer grained sequences present in the Pincey Brook transect were not bottomed into the late Pleistocene gravels. The thickness of the Holocene sediments in this area remains unknown.

This study has indicated that assumptions about the subsurface environments preserved within the valley bottom regions of the route corridor cannot be generalised. Differing geomorphological situations may exist within all valleys crossed and this implies that the archaeological and palaeoenvironmental potential of the areas may differ. Furthermore it is difficult to determine, on the basis of present evidence, the age of the sediments. However, it is likely that the differing patterns of sedimentation present in the different areas suggest accumulation during different time periods.

Chapter 8 Assessment of fieldwork methodology including a phosphate study

by Jane Timby with a contribution by J Crowther

Assessment of fieldwork methodology

This chapter briefly assesses the methodology employed on a large infrastructure project such as the A120 in the light of the results of the archaeological work. As noted in the introduction the upgrading of the A120 set in motion an extended programme of archaeological work along the new proposed route. Between 1990 and 2003 four main phases of archaeological investigation have been undertaken: fieldwalking, evaluation, excavation and watching briefs.

The road corridor runs for 19 km through rural Essex between Junction 8 of the M11 at Stansted Airport and Panners Roundabout on the south-west edge of Braintree. It is between 40-65 m wide and covers a total area of approximately 115 ha. Overall some 1.5 million cubic metres of earthworks were involved and 32 structures built as part of the road construction project. The scheme, costing some £75,000,000, was, at the time, the largest engineering project to be commissioned by Essex County Council.

The road work has allowed a detailed study of an east-west transect across the boulder clay landscape of north-west Essex, an area that has received relatively little detailed archaeological study in the past but which to a certain extent complements the work completed and in progress at Stansted Airport. The density of material revealed at Stansted suggested that previous perceptions about limited use of claylands prior to the medieval period needed reviewing and that the A120 corridor could be equally productive. This indeed proved to be the case and the subsequent archaeological work revealed a history of activity and use dating back until at least the Neolithic period.

The first response to the proposed roadworks was carried out by ECC in 1990. This consisted of a fieldwalking survey and trial-pit survey under the direction of Maria Medlycott (full details are outlined in CD/Chapter 2). Monitoring of contractors trial pits was also carried out in this year. The fieldwalking combined with aerial photographic evidence, trial pits and metal detector finds resulted in the identification of some 36 sites of potential archaeological interest, as well as four areas of palaeo-environmental potential. Essex County Council also carried out a programme of documentary research in 1991 (Medlycott 1992).

The methodology used for the fieldwalking was based on that successfully developed for Stansted Airport and subsequently used for other projects in Essex (Medlycott and Germany 1994). Over the Spring and Autumn of 1990, 85% of the route was walked in 20 m transects. The remaining 15% was inaccessible being under permanent pasture, woodland, made ground or within the boundaries of the airport. Table 8.1 summarises the date of the finds recovered during the fieldwalking exercise including cropmarks and metal detector finds.

Of the defined 36 sites, 9 sites had evidence of prehistoric activity, a density of one site for every 21 hectares surveyed. These sites were largely defined by spreads of burnt or struck flint. Ten sites showed evidence of Roman activity in the vicinity, mainly defined from spreads of ceramic building material and pottery, and less frequently worked stone. This works out at a density of one site to every 19 hectares surveyed. Apart from a late Saxon coin from Takeley no specific Saxon finds were found during the fieldwalking. Medieval sites were more prolific with 14 potential sites on the proposed route, one site to every 13.5 hectares surveyed. Most sites were defined by finds scatters with at least two, Clobbs Farm (Site 17) windmill and Stebbingford farmstead (Sites 25/26) identified from cropmarks. Twelve sites represented the post-medieval period, one site to every 15.8 hectares. Some of the sites were associated with still standing buildings, others from scatters of ceramic building debris and other domestic debris.

As a consequence of the fieldwork, one site, a medieval farmstead at Stebbingford (Site 25/26) was initially evaluated and then excavated by Essex County Council (ECC) in 1993. An area of approximately one hectare was investigated revealing a mid 12th- to mid 14th-century farmstead comprising four buildings, a yard, field-system and horticultural area.

No geophysical survey was carried out prior to archaeological investigation, possibly because it was felt that the geology would be non-responsive to this type of approach. Traditionally it has also been the case that aerial photography has not been of great value when looking at clay sites. This view is now changing as more and more evidence is being accumulated for the survival of cropmarks on clay. What has become apparent is that different weather and crop conditions (ie time of year) need to be flown compared with non-clay geologies. This methodology has been used with some success on the Bedfordshire claylands (Mills 2003).

The Oxford Archaeology Unit, between May and November 2000, carried out a field evaluation of 19 sites. Of the 36 sites originally identified by ECC as having potential for the survival of below ground archaeological remains, 30 were specified within the brief produced by ECC as requiring investigation by trial excavation. During 2000 access was initially gained to 19 of these sites and the work accordingly carried out. In summary, of the 19 sites investigated, 15 produced archaeological remains, and 4 produced no archaeology.

Once confirmation was received from the Highways Agency that work on the new trunk road was to proceed ECC prepared a second archaeological brief for further evaluation and excavation on identified areas of archaeological importance. A further stage of work was undertaken between March and November 2001 by Oxford-Wessex Archaeology to complete the evaluation work on the 11 sites not previously investigated and to undertake excavation on 15 sites. Seven of the sites from this phase of work produced no archaeology or archaeology of such poor quality that no further work was required.

During the summer of 2002 a watching brief was carried out during the construction works and as a consequence a further 17 sites were recorded. In addition an evaluation was carried out at Stebbingford Quarry prior to its use as a borrow pit. Six of these sites coincided with sites previously investigated. The site numbering system introduced by ECC was extended, each new investigation being given a new site number.

In total some 54 sites were designated of which 47 were investigated, not all of which yielded archaeology. Most of the sites were fairly uncomplicated and typical of rural locations where there has been a long regime of agricultural use. As a consequence ploughing appears to have destroyed much of the upper levels. Overall some three sites yielded artefactual evidence of earlier prehistoric activity; twenty-one located later prehistoric activity; seventeen produced Roman archaeology or finds, including one major site comprising a farmstead and associated cemetery at Strood Hall; one site produced a probable Saxon building; and eleven provided evidence of medieval activity. In some cases the indication of activity was limited to occasional finds of a specific date rather than tangible archaeology. In the case of the wooden building at Takeley the dating was determined by a radiocarbon date as there was no associated cultural material.

The chronology indicated by the fieldwalking/metal detecting finds can be compared with the excavated evidence (8.1 A120: comparison of fieldwalking evidence against the excavated evidence). Not surprisingly the fieldwalking evidence shows a bimodal pattern with a low level of 'prehistoric sites', some indeterminate, principally revealed from flint. The Iron Age is difficult to identify from fieldwalking: flint technologies have almost disappeared, artefacts such as pottery have a low survival rate due to low firing and there is little other cultural material. Some of the burnt flint could well date to this period (from cooking pits and hearths). A second peak starts from the Roman period where the number of sites indicated from fieldwalking almost matches those revealed in excavation. This is a direct result of the higher survival rate of Roman tile and pottery and a more prolific and diverse cultural assemblage. Moving into the more recent period the number of medieval and post-medieval finds identified from the fieldwalking appear to exceed the archaeological evidence. One possibility is that the scatters are the result of field manuring or represent dumped material from larger scale soil moving where ground has been built up or levelled.

Looking at the data in more detail, of the nine locations identified from the field walking with possible prehistoric activity (Sites 7, 8, 11, 18/19, 25/26, 27/28, 30-2, 35 and 36) seven were evaluated and four taken to excavation. Sites 7, 18/19, 27/28 all produced evidence of middle or late Bronze Age occupation with redeposited pottery of that date from Site 11. Sites 11 and 27/28 produced Iron Age features and finds whilst Site 8 just produced enigmatic prehistoric activity. A few redeposited finds suggesting some prehistoric activities in the vicinity were recovered from sites 25/26 (Medlycott 1993) but none from sites 30-2. One possibility is that such traces had been destroyed

either by ploughing or later archaeology. Nearly all the sites investigated archaeologically produced stray flint finds, perhaps hinting at a denser frequency of sites, traces of which no longer survive. Eight sites upon excavation also produced later prehistoric features not picked up from the fieldwalking (Sites 2, 6, 9, 12, 16, 17, 20 and 22).

Nine locations (Sites 2, 4, 9, 10, 14, 18/19, 25/26, 27/28, 30-2) were highlighted from the fieldwalking exercise as potentially Roman, to which can be added Site 1, Takeley on the basis of other finds from the locality. Sites 33/34 were not covered by the fieldwalking survey as these lay against the edge of the existing Braintree Bypass and were not available for fieldwalking at the time of the survey. Eight of these were excavated and of these four produced Roman features and in one case a substantial Roman settlement site (Site 9). Archaeological work at the time of the construction of the Braintree Bypass had already highlighted the existence of a Roman site at Rayne Roundabout (Site 33/34) and this was partially investigated in 1987 (Smoothy 1989). Sites 1, 4, 14,18/19, 25/26 did not locate Roman features but Roman archaeology was located at Site 5, 17 and 24. Takeley is perhaps the most surprising in terms of no apparent Roman archaeology given the quantity of material from the locality suggesting a Roman building and possible associated cemetery (see Medlycott CD/Chapter 2) but does emphasise the lottery of trench location. Some of the other surface finds may have been from manuring debris from nearby settlements.

Perhaps surprisingly three additional Roman sites came to light in the watching brief which had not been identified on the ground; Site 38, East of Parsonage Lane, Site 53, Valentine Cottage, and Site 54, West of Panners Roundabout. One contributory factor may be the lack of durable building materials used at these sites, but all produced small assemblages of Roman pottery. In addition a moderately large Iron Age/early Roman site was discovered at Site 50, East of Little Dunmow Road. Most of the other watching brief observations relate to later prehistoric activity and no new medieval sites were revealed.

The percentage of sites of different dates from the recently published Stansted Airport work (Havis and Brooks 2004) has been compared to that from the A120 (8.2 Comparison of Stansted and A120 sites by date). This is based both on finds and archaeology. Both broadly share the same geology, but the archaeological work at Stansted is more site targeted with larger excavation areas whilst the A120 is essentially a linear transect of defined width constrained by the road layout.

The A120 perhaps shows a slightly higher incidence of early prehistoric evidence but with the exception of Strood Hall, this is mainly from stray flints. The early Bronze Age is noticeably absent from both but the middle Bronze Age becomes visible from the A120 work. There is a well-defined surge in activity at both locations from the later Bronze Age/early Iron Age. The middle and later Iron Age phases are better represented at Stansted but both locations show a close correspondence in the Roman period and a corresponding dearth

of evidence in the Saxon period. Medieval activity is slightly better represented at Stansted with a higher incidence compared to the Roman period whilst levels along the A120 broadly match the density of evidence in the Roman period. Both areas show a similar drop in the post-medieval period, most of which probably survives in the present landscape.

The Stansted long-term car park project was one selected as part of a pilot study to examine archaeological decision making processes (Hey and Lacey 2001). Stansted long-term car park was evaluated by ECC and excavated by Framework Archaeology. As with the A120 project the geology was boulder clay and the recent land use arable. The project was subjected to an array of evaluation techniques comprising desk-based assessment, fieldwalking, partial geophysics and excavation. No evaluation trenching was undertaken and, as the whole area of development was excavated, no watching brief.

For the most part the A120 evaluation trenches were randomly laid out with trenches set both perpendicular to one another N-S and E-W as well as angled NW-SE and SW-NE. These proved useful in detecting linear features (ditches and gullies) and hence were useful for detecting enclosed settlement sites and areas of enclosed landscape. Trenching proved less effective in locating isolated features such as pits and to a certain extent buildings and other complex often ephemeral structures. It is also possible that some sites along the road corridor did not register at all, particular those of the prehistoric and Saxon periods where features tend to be more dispersed and artefact retrieval is likely to be low.

Of all the A120 sites evaluated by trial trenching, 14 were not taken further (Sites 3, 4, 8, 12, 14, 17a, 18, 19, 21, 23, 29 and 30-32). Only one of these sites appeared to be immediately adjacent to archaeology as revealed by the subsequent watching brief: Site 12 sandwiched between Site 46, an extension of the Iron Age settlement at Highwood Farm (Site 11) and Site 47 which only produced slight archaeological remains was deemed insignificant. This would suggest that the evaluation trenches proved moderately effective in determining the presence of significant archaeology and that a 5% sample strikes a useful balance between the requirement for certainty and the need to keep costs as an acceptable level.

The conclusions of the Hey and Lacey study was that evaluation projects over broader areas recorded consistently higher results than those on linear schemes but the differences were slight especially for desk-based assessment and geophysical survey (2001, 16).

Conclusions

It is clear that the fieldwalking and associated studies for the project area were moderately effective in identifying areas of potential archaeological interest, especially those with more durable artefactual material. There is no doubt that machine trenching has proved, in this case, a more effective method for determining the exact nature of the sites, providing an improved level of information particularly with regard the prehistoric sites.

However, even this is not infallible as demonstrated by the unexpected finds from Takeley. Although sites had been identified, many of the evaluation trenches were randomly located without knowledge of subsurface features from cropmarks or geophysical plots. It has been demonstrated that random trench location for a 2% sample can be a high-risk strategy (Hey and Lacey 2001). The 5% sample applied here seems to have been a useful compromise.

Also, as revealed by the watching brief, many of the sites proved to be more extensive, as opposed to intensive, in terms of locating features and some completely new sites were encountered. This has implications in terms of site interpretation. The evaluation trenches did appear useful in focussing attention on areas of importance, although the nature of this often changed once a larger area had been stripped. The watching brief effectively located five to six new prehistoric sites (38, 43, 48, 50, 52 and possibly 54), with six extensions to pre-existing sites (39, 41, 42, 44, 46 and 49). A further four Roman sites were uncovered (37, 50, 53 and 54) and one medieval kiln production site (40). In conclusion, the watching brief provided much valuable additional information that would have been lost had this stage not been included in the overall project design.

Clay geology such as that across NW Essex is generally not thought conducive to geophysical survey, but effective surveys have been undertaken at Westhawk Farm and Thurnham villa, Kent, both located on clay. The features, mostly Roman in date, were very responsive (ibid. 18). Geophysical survey has also been undertaken on the boulder clay east of Bedford (Northamptonshire Archaeology 2001) and this combined with aerial photographic survey highlighted a number of Iron Age and Roman settlement layouts. This would suggest there might have been some potential on the A120 project particularly for Iron Age, Roman and medieval sites but geophysical survey perhaps might have not picked up the more ephemeral prehistoric or Saxon features. There would seem to be more potential in having fieldwalked flint subjected to detailed analysis by an appropriate specialist as this could prove informative in terms of potential site identification and chronology.

The subsequent identification during the post-excavation phase of work of the post-built structure at Takeley as Saxon, albeit on the basis on a single radiocarbon date, which holds its own risks, is a salutary lesson in making assumptions. This was initially assumed in the field to be an isolated medieval barn or similar, on the basis of the lack of associated cultural material and a superficial similarity to other dated structures. It is thus highly possible that other undated features could belong to this period, although resources have to be considered against return and it would have been impractical to radiocarbon date samples on a larger scale.

Phosphate analysis

A programme of phosphate analysis was undertaken at East of Little Dunmow Road with a view to establishing the potential of soil analysis to provide additional insight into the nature and patterns of human activity on the site. The

assessment did not appear to show great potential and the work was not taken further. The assessment report is included here as it provides a useful methodological exercise. The nature of the site itself and the constraints of dealing with a site of limited extent where only the significant archaeology was exposed in watching brief conditions, perhaps rather than the geology, may have been the reason for the generally poor results.

Assessment of loss-on-ignition, phosphate and magnetic susceptibility of soils from the al20 project, Essex

by John Crowther

Introduction

Analysis was undertaken on 20 bulk samples of soils supplied from the late Iron Age to early Roman settlement, with a view to establishing the potential of soils analysis to provide additional insight into the nature and patterns of human activity at the site. The samples were taken from: (i) a grid across the natural within and outside (ie 'control' samples) the subrectangular enclosure; (ii) fills of the ditch around the enclosure; and (iii) specific contexts associated with the settlement. Analysis focused on phosphate and magnetic susceptibility, both of which are widely used in the analysis of archaeological soils and sediments:

Phosphates: Phosphates are present in all organic material (plant tissue, excreta, bone, etc.). As they are released by organic decomposition processes, they tend to form insoluble compounds and thus become 'fixed' within the mineral fraction of soils and sediments. Many forms of human activity (including the pounding of animals) lead to phosphate enrichment and, under favourable conditions, this may remain detectable for 102-103 years (see reviews by Bethel and Maté 1989; Crowther 1997; Heron 2001).

Magnetic properties: χ (low frequency mass-specific magnetic susceptibility) in soils and sediments largely reflects the presence of magnetic forms of iron oxide (eg maghaemite), this being dependent upon the occurrence of iron and of alternating reduction-oxidation conditions that favour the formation of magnetic minerals. Enhancement is particularly associated with burning, but is also caused by microbial activity in topsoils (see reviews by Clark 1990; Scollar et al. 1990). χmax is a measure of maximum potential magnetic susceptibility, determined by subjecting a sample to optimum conditions for susceptibility enhancement in the laboratory. In general it will tend to reflect the overall iron concentration of a sample. χconv (fractional conversion), which is expressed as a percentage, is a measure of the extent to which the potential susceptibility has been achieved in the original sample, viz: (χ/χmax) x 100.0 (Tite 1972; Scollar et al. 1990). In many respects this is a better indicator of magnetic susceptibility enhancement than raw χ data, particularly in cases where soils or sediments have widely differing χmax values (Crowther and Barker 1995; Crowther 2003).

In addition, determination was made of loss-on-ignition (LOI), which provides an approximate

measure of the organic matter concentration.

Methods

Analysis was undertaken on the fine earth fraction (ie <2 mm) of the samples. LOI (loss-on-ignition) was determined by ignition at 375ºC for 16 hours (Ball 1964). Phosphate-P (total phosphate) was determined following alkaline oxidation of the sample with NaOBr, using the procedure described by Dick and Tabatabai (1977). A Bartington MS1 meter was used for magnetic susceptibility measurements. χ/max was achieved by heating samples at 650°C in reducing, followed by oxidising conditions. The method used broadly follows that of Tite and Mullins (1971), except that household flour was mixed with the soils and lids placed on the crucibles to create the reducing environment (after Graham and Scollar 1976; Crowther and Barker 1995). The Pearson product moment correlation coefficient (r) has been used to investigate relationships between the properties analysed, with statistical significance being assessed at the 95% confidence level (ie p = 0.05).

Results and discussion

The results are presented in Table 8.2. Overall, the samples analysed are largely minerogenic, with the majority of samples having a LOI of <4.00%. They display quite wide variability in both phosphate-P (range, 0.523-2.76 mg g-l) and χ (range, 7.04-55.3 x 10-8 m3 kg-l). With regard to the χ data it should be noted that none of the values recorded are especially high, particularly in view of the fact that the χmax values are all in excess of 1000 x 10-8 m3 kg -1 (range, 1160-2520 x 10 8 m3 kg-1). On the basis of these data, only those samples with χ values >20 x 10-8 m3 kg' and χ values >1.00% can be regarded as showing possible signs of magnetic susceptibility enhancement. Even in the case of sample 48887, which displays the highest values (55.3 x 10-8 m3 kg-1 and 3.33%, respectively), the evidence for enhancement is not particularly strong. Over the 20 samples analysed, χ is so very strongly correlated with χ conv (r = 0.970, p<0.001) that in any future work on the site it would be reasonable to assume that χ provides a good measure of the degree of susceptibility enhancement (ie there would be little need to undertake further determinations of χ max).

Samples from grid of 'natural' inside and outside the enclosure

In total, more than 100 samples of the natural subsoil were taken on a 1 m grid across the enclosure, with an additional 8 samples being taken as 'controls' from two areas (on the NE and SE sides) immediately outside the enclosure. Of these, 8 and 2 samples, respectively, were analysed in this preliminary assessment.

Apart from sample 30870 (located in the NW part of the enclosure), which has a phosphate-P concentration of 0.974 mg g -1, the range of phosphate concentrations recorded within the enclosure (0.523-0.665 mg g-1) is little different from that recorded in the two control samples (0.590-0.630 mg g-1). All of the samples have a low LOI, which is characteristic of minerogenic subsoils. However, over the 10 samples analysed there is some variability in LOI (range, 2.75-3.84%) and, interestingly, there is a significant correlation (r =

0.633, p = 0.05) between the phosphate-P and LOI. Whilst this relationship could reflect elevated organic inputs in certain parts of the enclosure, the fact that the concentrations of organic matter are so low across the site suggests that conditions are favourable for organic decomposition. In these circumstances, it seems doubtful that variations in surface organic matter inputs c 2000 years ago will be detectable in the present subsoils. Perhaps a more likely explanation is that the variations in LOI reflect differences in the depth at which samples were taken within the soil profile (ie a higher LOI (and phosphate-P) could indicate locations where the sample was taken from slightly further up the soil profile; see discussion in Crowther (1997) with regard to the possible effects of inconsistencies in sampling depth).

Fills of ditch around the enclosure

The six samples from the ditch display variations in LOI which appear to reflect the relative age of the fills. Thus, the four lower fills have a consistently lower LOI (range 2.54-2.91%) than the samples of the upper fill (3.52%) and recut fill (4.14%). This may simply reflect differences in age, with the younger fills having been subject to a shorter period of organic decomposition. The recut fill along the NE section of the ditch appears to show very clear indications of phosphate-P enrichment (2.54 mg g-1 in sample 48887), though perhaps this fill is too recent to be of archaeological significance. The lower fills are potentially of much greater interest since these are likely to have been affected by runoff and inputs from within the enclosure. Unfortunately, there are no 'control' samples with which these phosphate concentrations may be compared. However, the fact that these fills generally have a lower LOI than the subsoils within the enclosure, yet have a higher phosphate-P concentration (range, 1.03-1.57 mg g-1), does indicate possible enrichment. The reasons for the differences in phosphate-P concentration between the various sections of the ditch cannot be established with any degree of certainty. Possible factors could include patterns of grazing and/or grazing intensity within the enclosure and the source of the sediments, in particular the extent to which sediments were derived from within or outside the enclosure. The highest concentration was recorded in sample 48882 from the SE Terminus, which may indicate that this section of the ditch received more runoff and sediment from within the enclosure. None of the lower fills shows signs of χ enhancement.

Specific contexts

Of the four samples analysed from other contexts on the site, two merit comment. Sample 48888 (charcoal-rich posthole fill), has a much higher LOI (7.10%) than any of the other samples analysed. The charcoal itself may partly account for the elevated LOI, depending in the amount present. Despite the presence of charcoal, the fill displays no signs of χ enhancement, which suggests that the wood was not burnt in situ. Sample 30805 (charcoal-rich pit) displays clear evidence of phosphate enrichment (phosphate-P, 2.76 mg g-l) and some degree of χ enhancement. Whilst the low level of enhancement again suggests that the burning did

not take place in situ, in this case (cf. 48888) it would appear that some burnt minerogenic material has been incorporated within the sediments (possibly from a hearth area?).

Conclusions

It should be emphasised that this preliminary assessment is based on only a relatively small number of samples. It would, therefore, be dangerous to draw any firm conclusions. Overall, however, the results are somewhat disappointing and do not reveal particularly strong signs of phosphate enrichment or χ enhancement. In relation to the specific groupings of samples:

i) The natural subsoil from the enclosure displays no clear enrichment in phosphate-P when compared with 'control' samples from outside, and the variability observed within the enclosure cannot be attributed with any degree of confidence to variations in grazing patterns and intensity in the past. Analysis of further subsoil samples would not seem justified.

ii) The lower ditch fills show possible signs of phosphate enrichment, which may be a result of animal grazing within the enclosure. Somewhat higher concentrations were recorded in the fill of the SE terminus. It would be interesting to know whether this is simply attributable to runoff patterns related to the topography of the site.

iii) As is often the case, it is the samples from specific contexts (pits, postholes, etc.) that tend to exhibit the greatest variability in LOI, phosphate-P and χ. Analytical data can often provide valuable insight into these contexts (as illustrated by the two of the four samples analysed in this assessment).

Appendix 1 – Tables

Chapter 1

Table 1.1 Sites investigated along the A120 road corridor

Site No.	Site Name	Site Code	Evaluation 2000	Evaluation 2001	Excavation 2001	Archaeology	Period
Targeted sites							
1	Takeley Church	TATC 01	Yes	-	Yes	Yes	Neo, RB, Saxon
2	Warish Hall	TAWH 01	No	Yes	Yes	Yes	LBA, LIA/RB
3	Fanns Wood	TAFW 01	No	Yes	No	No	RB? finds
4	Frogs Hall West	TAFHW 01	No	Yes	No	No	-
5	Frogs Hall East	TAFHE 01	No	Yes	Yes	Yes	Late preh/RB, Med also MBA, LBA finds
6	Little Canfield Hall	LCLCH 01	Yes	-	Yes	Yes	E-MIA
7	Stone Hall	LCSHW 01	Yes	-	Yes	Yes	LBA-EIA
8	Stone Hall	LCSHE 01	Yes	No	No	Slight	Preh
9	Strood Hall	LCSTH 01	Yes	-	Yes	Yes	Neo, LBA, LIA/ERO, RB
10	A120 Stane Street	-	No	No	No	Not investigated	-
11	Highwood Farm	GDHF 01	No	Yes	Yes	Yes	MIA, LIA
12	Great Dunmow Round House	GDR 01	No	Yes	No	Slight	LBA/EIA, Med

13	Minchins	GDM 01	No	No	No	Not investigated	-
14	Hoblongs Brook	GDHB 01	No	Yes	No	No	RB finds
15	A130	GDCDR 01	No	No	No	Not investigated	-
16	Chelmer River	GDCDR 01	Yes		Yes	No	Undated crem, Med finds
17	Clobbs Wood	LDCW 01	No	Yes	Yes	Yes	Med, also preh & RB finds
17a	North of Clobbs Wood	LDNC 01	No	Yes	No	Slight	M/LBA, LIA/RB & Med finds
18/19	Clobbs Cottage/Grange Farm	LDGF 01	No	Yes	No	Slight	M-LBA, IA?
20	Grange Lane	LDGL 01	Yes	-	Yes	Yes	MBA, LBA, E-MIA
21	Clay Lane	LDCL 01	Yes	-	No	No	-
22	Throes Farm	LDTF 01	Yes	-	Yes	Yes	E-MIA?, Med also LBA, E-MIA & LIA-ERO finds
23	Bramble Lane	LDBL 01	Yes	-	No	No	-
24	Blatches	LDB 01	Yes	-	Yes	Yes	LIA/ERO, Med
25/26	Stebbingford	-	No	No	No	Yes	Med
27/28	Greenfields	FLGF 01	Yes	-	Yes	Yes	MBA, LBA also LBA, MIA & RB finds,
29	Straits Farm	FLSF 01	Yes	No	No	No	-
30-2	Graunts Court	FLGC 01	Yes	No	No	No	-
33/3	Rayne	RARR 01	Yes	-	Yes	Yes	E-LRO

4	Roundabout						
35	Rayne (Essex AFU Fieldwalking)	-	Not investigated	-	-	Slight	Preh finds
36	Fenton's Farm (Essex AFU Fieldwalking)	-	Not investigated	-	-	Slight	Preh finds
Watching brief sites							
37	Parsonage Lane	TAPR 02	-	-	-	Yes	RB
38	East of Parsonage Lane	TAPE 02	-	-	-	Yes	MIA, RB
39	North of Frogs Hall Stables	A120/7075	-	-	-	Slight	LBA
40	West of River Roding	TARR 02	-	-	-	Yes	Med
41	West of Stone Hall	A120/7580	-	-	-	Slight	LBA
42*	Stone Hall	LCSH 02	Yes	-	Yes	Yes	LBA, EIA
43	West of Strood Hall	A120/8590	-	-	-	Slight	LBA
44*	Strood Hall	A120/9095	Yes	-	Yes	Yes	RB
45	Stane Street South	A120/9510	-	-	-	Slight	Undated
46*	Highwood Farm	A120/1010	-	Yes	Yes	Slight	Med
47	South of Great Dunmow	A120/1011	-	-	-	Slight	LBA?

48	West of Ongar Road	ONGA 02	-	-	-	Slight	Meso/Neo, LBA
49*	Grange Lane	A120/1515	Yes	-	Yes	Yes	LBA, LIA
50	East of Little Dunmow Road	DUNE 02	-	-	-	Yes	MIA, LIA/ER
51*	Stebbingford Farm	A120/1718	-	-	-	Slight	Med
52*	Stebbingford Farm Borrow Pit	STBP 02	-	-	-	Yes	LBA – ERO, Med
53	Valentine Cottage	A120/2121	-	-	-	Yes	Preh, ERO also Meso, Neo finds
54	West of Panners Roundabout	A120/2323	-	-	-	Yes	LRO

Chapter 2

Table 2.1 List of archaeological sites

No.	Grid ref.	Site ref.	Name	Fieldwalking/metal-detecting evidence 1990	Evaluation/excavation evidence 2000-2001
1	5540022000	A9-10	Takeley Church	Prehistoric, Roman and medieval	Roman features, also Neolithic, Roman and medieval finds
2	5710022350	C7-8	Warish Hall	Roman, medieval and post-medieval	Late Bronze Age, late Iron Age/Roman features
3	5738522340	C10	Fanns Wood	Medieval	No features, Roman? finds
4	5791022345	D5	Frogs Hall	Roman	Nothing
5	5808022365	D7	Frogs Hall	Medieval	Late Iron Age/Roman, medieval features, also Bronze Age finds
6	5875022265	E4	Little Canfield Hall	Medieval	Early-middle Iron Age features
7	5901522125	E7	Stone Hall	Prehistoric	Late Bronze Age-early Iron Age features
8	5920022040	E9	Stone Hall	Prehistoric	Prehistoric features (very slight)
9	6009021650	F9	Strood Hall	Roman	Late Iron Age/Roman features, also Neolithic and late Bronze Age finds
10	6046021510	G3	Stane Street (A120)	Roman	Not investigated
11	6090021320	G7-8	Folly Farm	Medieval and post-medieval	Middle-late Iron Age features
12	6115021240	G10	Folly Farm/Dunmow Roundhouse	Medieval	Late Bronze Age/early Iron Age and medieval features (slight)
13	6128021230	H1-2	Folly Farm/ Minchins	Post-medieval	Not investigated
14	6238020765	I8	Hoblongs Brook	Roman and post-medieval	No features, Roman finds
15	6386520530	J9	A130	Roman	Not investigated

16	6395020440	J10	River Chelmer	Medieval	Undated cremation burial, medieval finds
17	6448520890	K6	Clobbs Wood	Medieval and post-medieval	Medieval features, prehistoric and Roman finds
18	6477021290	K10-L1	Clobbs Cottage	Prehistoric, Roman, medieval and post-medieval	Middle-late Bronze Age, Iron Age ? features (slight)
19	6489021385	L2	Grange Farm	Prehistoric	Middle-late Bronze Age, Iron Age ? features (slight)
20	6530021885	L9	Grange Farm	Post-medieval	Middle-late Bronze Age, early-middle Iron Age features
21	6568522070	M3-4	Little Dunmow/ Clay Lane	Post-medieval	Nothing
22	6597022175	M7	Throes	Medieval and post-medieval	Early-middle Iron Age?, medieval features, also late Iron Age/Roman finds
23	6649522320	N2	Bramble End	Post-medieval	Nothing
24	6572522370	N5	Blatches	Medieval	Late Iron Age/Roman , medieval features
25	6740022485	P1-2	Stebbingford	Medieval	Medieval features
26	6755022525	P3	Stebbingford	Cropmark	Medieval features
27	6833022740	P10	Greenfields	Medieval and post-medieval	Middle-late Bronze Age features, also late Bronze Age, middle Iron Age and Roman finds
28	6853022770	Q2	Greenfields	Prehistoric	Middle-late Bronze Age features, also late Bronze Age, middle Iron Age and Roman finds
29	6931022890	Q10	Straits Farm	Medieval and post-medieval	Nothing
30	7030022430	S2	Graunt Courts	Prehistoric	Nothing
31	7045022425	S3	Graunt Courts	Prehistoric	Nothing
32	7062522385	S5	Graunt Courts	Prehistoric	Nothing
33	7113022300	S10-T1	Rayne Roundabout	Roman	Roman features

34	7143022270	T3	Rayne Roundabout	Roman	Roman features
35	7158522260	533-534	Braintree By-pass	Prehistoric	Prehistoric finds (slight)
36	7222022050	502-499	Braintree By-pass	Prehistoric	Prehistoric finds (slight)

Table 2.2 List of features at Rayne Roundabout 90

Feature	**Fill**	**Description**
1	2	Large pit, very black fill
3	4	Gully, NE-SW axis
5	6	Ditch, NE-SW axis
7	8	Ditch, NE-SW axis
9	10	Ditch, NE-SW axis
11	12	Ditch, NE-SW axis

Table 2.3 Details of borehole logs 541 and 543 (River Chelmer)

541	0-0.95 m	Topsoil on firm brown very silty clay
	0.95-1.10 m	Soft dark brown very silty organic clay, in parts very slightly sandy. Occasional fine quartz gravel.
	1.10 -1.30 m	Brown sandy clay with a little subangular to rounded firm to medium gravel.
543	0-1.50 m	Topsoil on firm brown clay with rare fine chalk gravel. At 1.00 m rare shell fragments.
	1.50-2.80 m	Grey brown clay becoming very silty with some black carbonised woody matter. Rare shell fragments.
	2.80 m +	Angular to rounded, fine to coarse flint gravel with occasional quartzite.

Table 2.4: Dated organic alluvial sediments from Essex river valleys. Data: Murphy (unpublished) except where otherwise indicated

River	**Site**	**Depth (cm)**	**Sediment**	**Date (uncalibrated)**
Stansted Brook	British Rail Culvert	117-121	Fine detritus mud	1430 + 60 BP (HAR-9238)
		228-238	Woody detritus mud	3810 + 80 BP (HAR-9239)
Chelmer	Chelmer Bridge (A12 Chelmsford By-pass)	185-207	Woody detritus mud	3710 + 80 BP (HAR-6682) at base
				3200 + 70 BP (HAR-6683) at top
Chelmer	Little Waltham (Peglar and Wilson 1978)	250-325	Detritus mud	3360 + 80 BP (Lab. no not given)
Sandon Brook	Sandon Culvert (A12 Chelmsford By-pass)	105-143	Woody detritus mud	1770 + 70 BP (HAR-6580) at base
				860 + 70 BP (HAR-6570) at top

Chapter 3

Table 3.1 Periods and phases used in the report

Period	**Phase**	**Date**
1		Palaeolithic
2		Mesolithic
3		Neolithic
4		Early Bronze Age
5		Middle Bronze Age
6		Late Bronze Age
7		Early Iron Age
8		Middle Iron Age
9		Late Iron Age
10		Late pre-Roman Iron Age/early Roman
11		Early Roman (AD 43–120/5)
11	11.1	
12		Mid Roman (AD 120/5–260/70)
12	12.1	
13		Late Roman (AD 260/70–400)
14		Saxon (5th–10th centuries)
15		Early medieval (11th–13th centuries)
	15.1	12th–13th century
	15.2	13th century
	15.3	13th century
	15.4	13th century
16		Late medieval (14th–mid 16th centuries)
16.1		14th century
17		Post-medieval (mid 16th–18th centuries)
18		Modern (19th–21st centuries)

Table 3.2 Summary of sites

Site	Site Name	Site Code	Eval	Excav	Periods represented
1	Takeley Church	TATC 01	Yes	Yes	14, 18, undated
37	Parsonage Lane	TAPR 02		Wbrief	11, 11-12 ,12-13
38	East of Parsonage Lane	TAPE 02		Wbrief	8
2	Warish Hall	TAWH 01	Yes	Yes	5-7, 10, 15
3	Fanns Wood	TAFW 01	Yes	No	18
4	Frogs Hall West	TAFHW 01	Yes	No	
5	Frogs Hall East	TAFHE 01	Yes	Yes	5-8, 9-11. 15-16, undated
39	North of Frogs Hall stables	A120/7075		-	5, 6
40	West of River Roding	TARR 02	-	-	15
6	Little Canfield Hall	LCLCH 01	Yes	Yes	8, undated
41	West of Stone Hall	A120/7580	-	-	6
7/42	Stone Hall	LCSHW 01	Yes	Yes/Wbrief	5, 6
8	Stone Hall	LCSHE 01	Yes	No	5/ 6
43	West of Strood Hall	A120/8590	-	-	7
9/44	Strood Hall	LCSTH 01	Yes	Yes/Wbrief	3, 5-7, 8, 11, 10-11, 12,13, 15-18
10	A120 Stane Street	-	No	No	
45	Stane Street South	A120/9510	-	-	Undated
11/46	Highwood Farm	GDHF 01	Yes	Yes	5-7, 8, 9
12	Dunmow Roundhouse	GDR 01	Yes	No	
47	South of Great Dunmow	A120/1011	-	-	5, undated
13	Minchins	GDM 01	No	No	
48	West of Ongar Road	ONGA 02	-	-	3, 6, undated

14	Hoblong's Brook	GDHB 01	Yes	No	7-9, 18
15	A130	GDCDR 01	No	No	
16	Chelmer River	GDCDR 01	Yes	Yes	Prehistoric, undated
17	Clobbs Wood	LDCW 01	Yes	Yes	5, 11-13, 15-16
17a	N of Clobbs Wood	LDNC 01	Yes	No	6
18/19	Clobbs Cottage/Grange Farm	LDGF 01	Yes	No	5, 6, 8, 11-13
20/49	Grange Lane	LDGL 01	Yes	Yes	5, 6, 8, 9, undated
21	Clay Lane	LDCL 01	Yes	No	18
22	Throes Farm	LDTF 01	Yes	Yes	6, 8, 10, 15/16, 18
50	East of Little Dunmow Road	DUNE 02	-	-	6, 8, 9
23	Bramble Lane	LDBL 01	Yes	No	Undated
24	Blatches	LDB 01	Yes	Yes	10, 15,1 6
25/26	Stebbingford	-	No	No	2, ?10-13, 15-17
51	Stebbingford Farm	A120/1718	-	-	
52	Stebbingford Farm Borrow Pit	STBP 02	-	-	6, 7-8, 10, 15
27/28	Greenfields	FLGF 01	Yes	Yes	5-8
29	Straits Farm	FLSF 01	Yes	No	
30-2	Graunts Court	FLGC 01	Yes	No	
53	Valentine Cottage	A120/2121	-	-	
33/34	Rayne Roundabout	RARR 01	Yes	Yes	
35	Rayne	-	No	-	
36	Fenton’s Farm	-	No	-	
54	W of Panners Roundabout	A120/2323	-	-	

Table 3.3 Posthole dimensions in Structure 1094

Posthole Context No.	**Diameter (m)**	**Depth (m)**
1004	0.36	0.18
1006	0.52	0.53
1008	0.37	0.17
1010	0.23	0.12
1012	0.32	0.23
1014	0.32	0.25
1016	0.31	0.18
1018	0.25	0.07
1020	0.32	0.16
1022	0.32	0.14
1024	0.38	0.13
1026	0.28	0.14
1028	0.33	0.32
1030	0.24	0.16
1050	0.27	0.32
1052	0.32	0.13
1054	0.31	0.12
1056	0.28	0.14
1078	0.22	0.20
1080	0.29	0.15
1082	0.21	0.06
1084	0.28	0.07
1086	0.32	0.25
1088	0.28	0.31
1092	0.34	0.28

Table 3.4 Little Canfield Hall: other undated features consisted of possible pits and postholes

Feat.	**Diam. (m)**	**Depth (m)**	**Function**	**Fills**
1004	0.30	0.12	Posthole	1005
1012	0.70	-	?Pit	1013
1024	1.20-2.80	0.5	Pit	1025
1026	0.4	-	Posthole	1027
1029	0.27	0.12	Posthole	1030
1031	0.29	0.08	Posthole	1032
1033	0.35	0.07	Posthole	1034
6010	0.85	0.34	Pit	6011

Table 3.5 Strood Hall: flints from pit 2241

Type	**Total**
Flake	80
Blade-like	10
Blade	11
Bladelet	3
Irregular waste	2
Chip	35
Multi-platform flake core	1
Core face/edge rejuvenation flake	1
Total	143

Table 3.6 Highwood Farm: features in the western part of the site

Feat.	**Diam. (m)**	**Depth (m)**	**Fills**	**LBA/EIA**	**MIA**	**Flint**	**Animal bone**
Pits							
110106	>0.60	0.36	110107	3/11	8/88	-	23/63
1017	0.70	0.32	1019	-	13/70	3/1	2/6
			1018	-	-	-	-
1020	0.52	0.10	1021	-	-	-	-
1030	1.10	0.23	1032	1/4	9/18	1/1	-
			1031	-	-	-	-
Linear feature							
1071	1.95 x 0.30	0.25	1045	-	9/113	-	-

Table 3.7 Highwood Farm: details of undated postholes and pits

Feat.	**Diam. (m)**	**Depth (m)**	**Fills**	**Fired clay**	**Animal bone**	**Other**
Postholes						
2034	0.42-0.49	0.15	2033	4/14	1/1	Charcoal
2043	0.26	0.10	2042	-	-	-
2023	0.11	0.1	2021	-	-	-
2103	0.30	0.08	2104	-	-	-
2105	0.25	0.08	2107	3/34	-	-
			2106	-	-	-
2044	0.20	0.07	2045	-	-	-
2052	0.27	0.13	2053	-	-	-
2079	0.44	0.19	2080	6/60	-	-
2081	0.44	0.14	2082	-	-	-
2093	0.23	0.15	2094	-	-	-
2121	0.4	0.15	2120	-	-	-
Pits						
2054	1.25	0.68	2057	-	-	-
			2056	-	-	Charcoal
			2055	-	-	-
110403	0.58	0.14	110404	-	-	Charcoal
110605	0.70-0.80	0.44	110606	-	-	-

Table 3.8 East of Little Dunmow Road: summary of features around roundhouse 30144

Feat.	**Width (m)**	**Depth (m)**	**Fills**
30142	0.55 x 0.82	0.20	48183
			48182
30147	0.58 x ?	0.18	48070
30218	0.43	0.30	48054
30220	0.75	0.65	48021
48190	0.24 x 0.41	0.13	48191
48202	0.10 x 0.25	0.09	48203

Table 3.9 Greenfields: summary of other undated features

Feat.	**Diam. (m)**	**Depth (m)**	**Fills**	**Function**
1005	0.22-0.30	0.10	1006	?Posthole or natural
1009	0.82-0.97	0.16	1010	?Pit
1011	0.52-0.61	0.14	1012	?Posthole
1022	0.25	0.13	1023	Posthole
1052	0.46-0.70	0.11	1053	?Pit
			1054	

Chapter 4

Table 4.1 Summary of archaeological finds by period for each site
(brackets indicate the presence of dated finds but no dated features)

Site No	Site Name	Neo	MBA-MIA	LIA-ERO	Roman	Med	Pmed	Undated
1	Takeley Church							
2	Warish Hall		X	X				X
3	Fanns Wood				?X			X
5	Frogs Hall East		(X)	X		X		
6	Little Canfield Hall		X					X
7/8	Stone Hall		X			?X	X	
9	Strood Hall	X	X	X	X			
11	Highwood Farm		X	X			X	
12	Dunmow Roundhouse		X			(X)		
14	Hoblong's Brook				(X)		X	
16	Chelmer River						X	X
17	Clobbs Wood		?X	X		X		
17a	N of Clobbs Wood		(X)	(X)	(X)	(X)		
18	Clobbs Cottage	(X)	X					
19	Grange Farm		X				X	
20	Grange Lane		X					
21	Clay Lane						X	
22	Throes Farm		X		(X)	X		X
23	Bramble Lane							X
24	Blatches	(X)				X		
25/26	Stebbingford							
27/28	Greenfields		X	X	X			
29	Straits Farm							
30-2	Graunts Court							
33/34	Rayne Roundabout		(X)	X	X			
37	Parsonage Lane				X			
38	E of Parsonage	(X)	X		X			

	Lane							
39	N of Frogs Hall stables		X					
40	W of River Roding		(X)			X		
41	W of Stone Hall		X					
42	Stone Hall		X					
43	W of Strood Hall		X					
44	Strood Hall				X			
45	Stane St South							X
46	Highwood Farm			(X)		X		
47	S of Great Dunmow		X					
48	W of Ongar Road	(X)	X					
49	Grange Lane		X	X				
50	E of Little Dunmow		X	X				
51	Stebbingford Farm					X		
52	Stebbingford Fm Borrow Pit		X		X	X		
53	Valentine Cottage	(X)	X	X				
54	W Panners Roundabout				X			

Table 4.2 All finds by site

Site No.	Site Name	Pot	CBM	Fired Clay	Worked Flint	Burnt Flint	Stone	Metal	Human Bone	Other
1	Takeley Church	X	X		X	X		X		clay pipe
2	Warish hall	X	X	X	X					
3	Fanns Wood		X		X					
5	Frogs Hall (E)	X	X	X	X		X	X		
6	Little Canfield Hall	X	X		X					
7	Stone Hall	X	X	X	X			X		
9	Strood Hall	X	X	X	X	X	X	X	X	shale; clay pipe; slag; glass
11	Highwood Farm	X	X	X	X	X	X	X		clay pipe
12	Great Dunmow	X	X					X		
14	Hoblongs Brook		X		X					vessel glass
16	Chelmer River	X	X		X	X		X		Glass
17	Clobbs Wood	X	X	X	X			X		
17a	N of Clobbs Wood	X	X	X	X		X			Slag
18/19	Clobbs Cott/ Grange Farm	X	X	X	X					
20	Grange Lane	X	X	X	X	X	X	X		
22	Throes Farm	X	X	X	X					
24	Blatches	X	X	X	X	X	X	X		
27/28	Greenfields	X	X	X	X	X	X	X	X	
33	Rayne Roundabout	X	X	X	X	X	X	X		slag ; glass
37	Parsonage Lane	X	X	X	X		X	X	X	glass
38	East of Parsonage Lane	X		X	X	X	X	X		
39	North of Frogs Hall Stables	X		X	X					
40	West of River Roding	X	X	X	X	X				
41	West of Stone Hall	X			X					
42	Stone Hall	X	X	X	X	X	X	X	X	

43	West of Strood Hall	X	X	X	X	X	X			Glass
44	Strood Hall	X	X	X	X		X	X	X	
45	Stane St South									
46	Highwood Farm	X			X					
47	South of Great Dunmow	X				X				
48	West of Ongar Road	X		X	X				X	
49	Grange Lane	X		X	X	X			X	
50	East of Little Dunmow Rd	X		X	X	X	X	X		Glass; slag
51	Stebbingford Farm	X	X	X	X					
52	Stebbingford Farm Borrow Pit (eval)	X		X	X					
53	Valentine Cottage	X	X	X	X			X		
54	West of Panners Roundabout	X	X	X	X	X	X	X		
TOT		34	27							

Table 4.3 Summary of the flint from all sites along the A120 route.

Category:	**Total:**
Flake	577
Blade	40
Bladelet	4
Bladelike flake	53
Irregular waste	31
Chip	86
Rejuvenation flake	3
Single platform flake core	7
Multi-platform flake core	16
Levallois/other discoidal flake core	2
Single platform blade core	2
Opposed platform blade core	1
Core on a flake	1
Tested nodule	10
Unclassifiable/fragmentary core	5
Retouched flake	16
End scraper	1
Side scraper	1
End-and-side scraper	4
Scraper on a non-flake blank	1
Piercer	1
Other borer	1
Denticulate	1
Hammerstone	2
Total:	866
No. of burnt struck flints:	72
No. of broken struck flints:	293
No. of retouched flints:	26
No. of burnt unworked flints:	112
Weight (g) of burnt unworked flints:	1024

Table 4.4 Summary of flint by site from the A120 route

	evaluations and excavations																		watching briefs												
	1	2	3	5	6	7	8	9	11	14	16	17	17a	18/19	20	22	24	27/28	33/34	37	38	39	40	41	42	43	44	46	48	49	50	51	52	53	54	
Category:	Takeley Church	Warish Hall	Fanns Wood	Frogs Hall East	Little Canfield Hall	Stone Hall (west)	Stone Hall (east)	Strood Hall	Highwood Farm	Hoblong's Brook	Chelmer River	Clobbs Wood	North of Clobbs Wood	FarmClobbs Cottage/Grange	Grange Lane	Throes Farm	Blatches	Greenfields	Rayne Roundabout	Parsonage Lane	East of Parsonage Lane	North of Frogs Hall Stables	West of River Roding	West of Stone Hall	Stone Hall	West of Strood Hall	Strood Hall	Highwood Farm	West of Ongar Road	Grange Lane	East of Little Dunmow Road	Stebbingford Farm	Stebbingford Farm Borrow Pit	Valentine Cottage	RoundaboutWest of Panners	Total:
Flake	9	3	1		17		1	161	13		2	1	4	2	9	1	7	47	24	11	20	8	10	56	53	34	2	2	20	3	37	1	3	14	1	577
Blade	1							16							6			2	2				2	1	2	1	1		9					3		40
Bladelet								3										1																		4
Bladelike flake				1	4			14	1	1				1				4	2	1			3	3	2	2	1		11		1			1		53
Irregular waste					2			4										3	3	1	2			6	2	1	1		4		2					31
Chip								36	5						6			2	8	3	1				21	2				2					86
Rejuvenation flake								1																1	1											3
Single platform flake core													1											1	1	1			1		1			1		7
Multi-platform flake core		1				1		1												1	1			1		3		1	2		2			2		16

Levallois/other discoidal flake core																											1			1										2
Single platform blade core								1																			1													2
Opposed platform blade core																			1																					1
Core on a flake																									1															1
Tested nodule	1				1			1									2	1				1		1		1		1											10
Unclassifiable/fragmentary core				1	1															1					2														5
Retouched flake					1			2					1	1	1		2		1						1				2		3				1					16
End scraper																									1															1
Side scraper																									1															1
End-and-side scraper																1												1		1				1						4
Scraper on a non-flake blank																		1																						1
Piercer																						1																		1
Other borer																													1										1
Denticulate																					1																			1
Hammerstone					1			1																																2
Total:	11	4	1	2	27	1	1	241	19	1	2	1	5	4	16	2	8	63	41	19	26	8	16	70	89	46	7	3	53	3	48	1	3	23	1	866			

No. of burnt struck flints:								42	2					2			1		1	3		1	2	8	3	1		2		1			3		72
No. of broken struck flints:		2				1		125	5			1	2	2	7	1	3	11	6	9	8	1	6	23	26	12	1	3	12		14	1	1	10		293
No. of retouched flints:					1			2						1	1	1	1	2	1	1	1			1	3		1		4		3			2		26
No. of burnt unworked flints:	2							9			12				1			14	6				26		38				3		1				112
Weight (g) of burnt unworked flints:	2							53			89				28			146	95				126		442				14		29				1024

Table 4.5 Flint by type from pit 2241, Strood Hall (Site 9)

	Context:					
Category:	**1513**	**1515**	**1516**	**1518**	**1519**	**Total:**
Flake	1	1	55	3	19	79
Blade		1	7		3	11
Bladelet			3			3
Bladelike flake	1	2	5		3	11
Irregular waste			1		1	2
Chip			25		10	35
Rejuvenation flake			1			1
Multi-platform flake core					1	1
Total:	2	4	97	3	37	143
No. of burnt struck flints:			16		23	39
No. of broken struck flints:	1	1	58	1	25	86

Table 4.6 Flint by type from pit 13002, West of Stone Hall (A120/7580)

	Context:		
Category:	**13008**	**13009**	**Total:**
Flake	25	29	54
Blade	1		1
Bladelike flake		2	2
Irregular waste	3	3	6
Rejuvenation flake	1		1
Single platform flake core		1	1
Multi-platform flake core		1	1
Piercer	1		1
Total:	31	36	67
No. of burnt struck flints:	1	1	2
No. of broken struck flints:	17	5	22

Table 4.7 Flint by type from subsoil layer 21016, West of Ongar Road

Category:	**Total:**
Flake	17
Blade	7
Bladelike	9
Irregular waste	3
Single platform flake core	1
Multi-platform flake core	2
Levallois/other discoidal flake core	1
Tested nodule	1
Retouched flake	2
End-and-side scraper	1
Total:	44
No. of burnt struck flints:	1
No. of broken struck flints:	11

Table 4.8 Occurrence of prehistoric pottery by site and by period

Site No.	Site Name	Site Code	MBA	LBA/EIA	MIA	TOTAL No	TOTAL Wt
37	Parsonage Lane	TAPR 02		*		3	10
38	E of Parsonage Lane	TAPE 02		*	////////////	599	3040
2	Warish Hall	TAWH 01	*	*		32	298
5	Frogs Hall (E)	TAFHE 01	*	*	*	6	26
39	N of Frogs Hall Stables	A120/7075	**	*		88	479
6	Little Canfield Hall	LCLCH 01		*	*	26	134
41	W of Stone Hall	A120/7580		**	*	71	508
7/42	Stone Hall	LCSH 02 LCSHW 01	////////////	////////////	**	893	5294
43	Strood Hall (W)	A120/8590	*	////////////	*	256	2019
9/44	Strood Hall	LCSTH 01 A120/9095	**	*	*	167	770
11/46	Highwood Farm	A120/1010	*		////////////	143	1001
12	Great Dunmow	GDR 01		*		16	31
47	S of Great Dunmow	A120/1011	*			3	6
48	W of Ongar Farm	ONGA 02		**	*	76	552
14	Hoblongs Brook	GDHB 01			*	1	17
17	Clobbs Wood	LDCW 01	*			2	57
17a	N of Clobbs Wood	LDNCW 01		*		6	14
19	Grange Farm	LDGF 01		////////////	*	133	1086
20/49	Grange Lane	LDGL 01 A120/1515	*	////////////	////////////	744	6137
22	Throes Farm	LDTF 01		*	*	39	112
50	E of Little Dunmow Rd	DUNE 02	*	**	////////////	240	1337
24	Blatches	LDB 01			*	2	9
28	Greenfields	FLGF 01	////////////	////////////	////////////	692	3519
54	W of Panners	A120/2323		*		1	95
						4239	26551
					TOTAL	4097	25,580

* 50 sherds; ** 50-100 sherds; //// >100 sherds

Table 4.9 Quantification of prehistoric pottery by period, fabric, number and weight

DATE RANGE	Fabric	No. sherds	Weight (g)
FLINT-TEMPERED FABRICS	FL1	242	1347
	FL2	143	620
	FL3	905	5944
	FL4	70	597
	FL5	17	132
	FL6	529	3510
	FL7	35	136
	FL8	21	111
	FL9	28	87
	FL10	72	248
	FL11	124	689
	FL12	46	519
	FL13	141	441
	FL14	13	135
	FL15	229	1758
SANDY FABRICS	QU1	22	83
	QU2	82	1010
	QU3	21	110
	QU4	95	639
	QU6	159	965
	QU7	665	4355
SHELLY FABRICS	SH1	28	124
	SH2	4	16
	SH3	46	366
ORGANIC-TEMPERED FABRICS	VE1	259	1490
	VE2	243	1119
TOTALS		4239	26551

Table 4.10 Prehistoric pottery vessel form by fabric (number of rim sherds)

Date Range	Vessel form	FL1	FL7	FL3	FL5	FL6	FL10	FL12	FL13	QU2	QU4	QU6	QU7	SH3	VE1	VE2	TOTAL
MIDDLE BRONZE AGE	Bucket/barrel urn	2															2
	Globular urn		1														1
LATE BRONZE AGE	1 Shouldered jar			3		1		1	1								6
	2 Bipartite jar			1													1
	3 Bucket-shaped jar			1													1
	4 Convex bowl				1												1
	5 Fineware carinated bowl								2								2
	Lug handle			2		1	1										4
EARLY/MIDDLE IRON AGE	6 Convex jar									1							1
	7 Shouldered jar, bevelled rim												1				1
	8 Slack-shouldered jar										1	1	1	1	2	1	7
	9 Rounded jar									1		2	10		1		14
	10 Necked jar												1				1
	11 Carinated bowl										1						1
	12 Convex bowl												1		1		2
	TOTAL	2	1	7	1	2	1	1	3	2	2	3	14	1	4	1	45

Table 4.11 Middle Bronze Age assemblages

Site No.	**Site Name**	**Site Code**	**FL1**	**FL4**	**FL7**	**FL11**	**TOTAL**
28	Greenfields	FLGF 01	130/495	6/59	9/28	1/9	146/591
42	Stone Hall	LCSH02	65/506 B/B urn	57/422	18/86 *GL Urn (**Fig. 00, 1**)*		140/1014
9	Strood Hall	LCSTH01	1/21			90/426	91/447
		TOTALS	196/1022	63/481	27/114	91/435	377/2052

Table 4.12 Late Bronze Age/Early Iron Age assemblages (sites with >50 sherds; number / weight of sherds in g / diagnostic sherds)

Site No.	**Site Name**	**Site Code**	**FL3**	**FL5**	**FL6**	**FL8**	**FL9**	**FL10**	**FL12**	**FL13**	**TOTAL**
49	Grange Lane	A120/1515	270/2871 type 1(2), 2/3, *3 (**Fig. 00, 7**)*								270/2871
43	W of Strood Hall	A120/8590	13/107 type 2/3(2)	3/15	2/28	2/41			141/1366 *type 1 (**Fig. 00, 3**), 2/3*	69/270 type 5(3) *(**Fig. 00, 10, 11**)*	230/1827
50	E of Little Dunmow Rd	DUNE 02	14/61 type 1					4/14	56/315 type 1	5/31	79/421
28	Greenfields	FLGF 01	90/396 type 2/3		242/1359 type 2/3(5)	3/11	24/73	58/207 lug	1/4	18/51	436/2101
42	Stone Hall	LCSH 02	523/2588 type 1 (2), *2 (**Fig. 00, 6**)*, 2/3 (3), lugs (2)	8/88 *type 4 (**Fig. 00, 9**)*	91/489	14/55	1/9			19/32 type 1	656/3261
19	Grange Farm	LDGF 01			104/1000 *lug (**Fig. 00, 13**)*				2/8	25/31	131/1039
48	W of Ongar Road	ONGA 02	45/151 type 1(2) *(**Fig. 00, 4**)*						26/367	4/25	75/543
		TOTALS	955/6174	11/103	439/2876	19/107	25/82	62/221	226/2060	140/440	1877/12,063

Table 4.13 Middle Iron Age assemblages (sites with >50 sherds; number / weight of sherds in g / diagnostic sherds)

Site No.	**Site Name**	**Site Code**	**QU1**	**QU2**	**QU3**	**QU4**	**QU6**	**QU7**	**SH2**	**VE1**	**VE2**	**TOTAL**
50	E of Little Dunmow Rd	DUNE 02	1/1	4/16		54/300	14/45	43/285	2/6	3/36	37/204	158/893
42	Stone Hall	LCSH 02	2/12	51/826 *type 7 (**Fig. 00, 14**)*	5/33			1/1		4/11		63/883
20	Grange Lane	LDGL 01		9/52			25/187	323/2153 *type 8 (**Fig. 00, 15**), 10(5) (**Fig. 00, 19**), 11 (**Fig. 00, 23**), 12 (**Fig. 00, 24**)*	46/366 type 9	1/38	19/128 type 9	423/2924
28	Greenfields	FLGF 01		5/9		7/35	6/80 type 10	84/660 *type 10(5) (**Fig. 00, 20-22**)*			7/35	109/819
38	E of Parsonage Lane	TAPE 02	4/18	10/72			6/27	198/107		193/104	180/752	591/299

				type 10			*type 9 (**Fig. 00, 16**)*	5 *type 9 (**Fig. 00, 17**)*		6 *type 9(3) (**Fig. 00, 18**),*		0
11	Highwood Farm	GDHF 01			2/12		80/538 type 10	16/181		34/213 type 10		132/944
		TOTALS	7/31	79/975	7/45	61/335	131/877	665/4355	48/372	235/1344	243/1119	1476/9453

Table 4.14. Late Iron Age and Roman pottery from the A120 trunk road

Site no.	Site name	Sherds	Weight (g)
9/44	Strood Hall	21624	154868
33/34	Rayne Roundabout	3623	35901
50	East of Dunmow Road	2841	21092
37	Parsonage Lane	614	5083
11	Highwood Farm	443	4399
54	West of Panners Roundabout	219	2873
53	Valentine Cottage	171	1380
27/28	Greenfields	136	746
17a	North of Clobbs Wood	38	194
5	Frogs Hall East	3	102
24	Blatches	15	40
2	Warish Hall	1	3
TOTAL		29728	226681

Table 4.15. Fabrics used during pottery recording and analysis

ECC FAU codes	NRFRC codes	Chelmsford codes	Description
ABAET	BAT AM 1-3	55	South Spanish amphora fabric
AITAL	CAM AM 1-2	-	General Italian amphora fabric
AGAUL	GAL AM 1-2	56	General Gaulish amphora fabric
ALH	ALH RE		Alice Holt grey ware
AMPH	-	-	Unsourced amphora fabrics
BB1	DOR BB 1	40	Black-burnished ware category 1
BB2	CLI/COL/COO/MUC BB 2	41	Black-burnished ware category 2
BEGG	-	-	Black eggshell ware
BSW	-	-	Black-surfaced ware
BUF	-	31	Unsourced buff ware
BUFM	-	31	Unsourced buff ware mortaria
CAMF	-	-	*Cam* 114 fabric (white ware)
CGGLZ	CNG GL 1	-	Central Gaulish glazed ware
CGSW	LEZ SA 2	-	Central Gaulish samian ware
COLB	COH WH		Colchester buff ware
COLC	COL CC 2	1	Colchester colour-coated ware
COLCE	COL CC 1	-	Early Colchester colour-coated ware
EGRHN	MOS BS	9	East Gaulish 'Rhenish' ware
EGSW	-	-	East Gaulish samian ware
ESH	-	50	Early shell-tempered ware
GLZE	SOB GL	10	South-east English glazed ware
GRF	-	39	Fine grey ware
GROG	SOB GT	-	Fine/medium grog-tempered ware
GROGC	-	-	Coarse grog-tempered ware
GROGFL	-	-	Fine/medium grog- and flint-tempered ware (not in ECC series)
GROGRF	-	-	Fine red-surfaced grog-tempered ware
GROGRS	-	-	Red-surfaced grog-tempered ware
GRS	-	47	Sandy grey ware
HAB	HAD RE 2	35	Hadham black surfaced ware
HAR	HAD RE 1	36	Hadham grey ware
HAWG	-	-	Hadham white-slipped grey ware

HAWO	-	14	Hadham white-slipped oxidised ware
HAX	HAD OX	4	Hadham oxidised ware
HAXM	HAD OX	4	Hadham oxidised mortaria fabric
IMIC	-	-	Imported mica-coated ware
LESTA	-	19	'London-Essex' stamped ware
LSH	HAR/ROB SH	51	Late shell-tempered ware
LYN	LYO CC	5	Lyon colour-coated ware
MICW	-	-	Miscellaneous tempered late Iron Age coarse wares
MSR	-	-	Miscellaneous slipped red wares
MWSGF	-	-	Miscellaneous fine white-slipped grey wares
MWSRF	-	-	Miscellaneous fine white-slipped red wares
MWSRS	-	15	Miscellaneous white-slipped sandy red wares
MWSRSM	-	15	Miscellaneous white-slipped sandy red ware mortaria
NGWF	NOG WH 1	-	North Gaulish fine white ware
NGWFS	NOG WH 2/3	-	North Gaulish fine sand white ware
NKG	UPC FR	32	North Kent grey ware
NKO	-	-	North Kent oxidised ware
NVC	LNV CC	2	Nene Valley colour-coated ware
NVM	LNV WH	24	Nene Valley white ware mortaria
NVP	LNV PA	-	Nene Valley painted ware
OXRC	OXF RS	3	Oxfordshire red colour-coated ware
OXWM	OXF WH	25	Oxfordshire white ware mortaria
PATCH	-		?Patchgrove grog-tempered ware (not in ECC series)
PORD	OVW WH	-	Portchester 'D' white ware
RED	-	21	Unsourced oxidised wares
REDM	-	-	Unsourced red ware mortaria
RET	-	48	Rettendon-type wares
SGSW	LGF SA	-	South Gaulish samian ware
STOR	-	44	Storage jar fabric
TN	GAB TN 1/2	-	Terra nigra
TR	GAB TR 1-3	-	Terra rubra
TSG	-	-	Unsourced samian wares

UCC	-	-	Unsourced colour-coated ware
UGL	-	-	Unsourced glazed ware
UPOT	-	-	Unidentified pottery
UWW	-	-	Unsourced white wares
VRW	VER WH	26	Verulamium region white ware
VRWM	VER WH	26	Verulamium region white ware mortaria

Table 4.16. Late Iron Age and Roman pottery phasing

Phase	**Period**	**Calendar date**	**Chelmsford ceramic phase**
9	Late Iron Age	100 BC - 0	-
9.1	Late to mid 1st century BC	100 - 50 BC	-
9.2	Mid to early 1st century BC	50 BC - 0	-
10	Late Iron Age - early Roman	0 - AD70	-
10.1	Early to mid 1st century AD (pre-conquest)	0 - AD43	-
11	Early Roman	AD 43 - 120/5	-
11.1	Mid 1st century AD (post-conquest)	AD 43 - 70/80	1
11.2	Late 1st to early 2nd century AD	AD 70/80 - 120/5	2
12	Mid Roman	AD 120/5 - 260/70	-
12.1	Mid 2nd century AD	AD 120/5 - 170	3
12.2	Late 2nd to early 3rd century AD	AD 170 - 210	4
12.3	Early to mid 3rd century AD	AD 210 - 260	5
13	Late Roman	AD 260 - 400+	-
13.1	Late 3rd to early 4th century AD	AD 260 - 310	6
13.2	Early to mid 4th century AD	AD 310 - 360	7
13.3	Mid to late 4th century AD+	AD 360 - 400+	8
20	Late prehistoric	100 BC - AD 43	-
21	Roman	AD 43 - 400	-

Table 4.17. East of Little Dunmow: quantification of fabrics

Fabrics	Sherds	% sherds	Wt (g)	% wt	MV	% MV	EVE	% EVE
AITAL	2	<1	184	1	-	-	-	-
BSW	64	2	285	1	-	-	-	-
BUF	1	<1	32	<1	-	-	-	-
ESH	89	3	466	2	8	8	0.79	6
GROG	1580	56	8870	42	71	67	7.79	59
GROGC	682	24	9251	44	14	13	2.47	19
GROGRF	63	2	136	1	2	2	0.4	3
GROGRS	23	1	83	<1	1	1	0.03	<1
GRS	28	1	190	1	2	2	0.15	1
MICW	151	5	859	4	1	1	0.05	<1
NGWF	118	4	290	1	1	1	1	8
NGWFS	19	1	41	<1	1	1	0.16	1
REDM	4	<1	103	<1	1	1	0.1	1
SGSW	1	<1	1	<1	-	-	-	-
TN	13	<1	293	1	3	3	0.33	2
TR	3	<1	8	<1	-	-	-	-
TOTALS	2841	-	21092	-	3		0.33	-

Table 4.18 East of Little Dunmow:key groups. Fabrics recorded as '0' were present as body sherds only

	Phase 9.2/10.1		11.1		
FABRIC	EVE	%	EVE	%	Total
AITAL	0				0
BSW			0		0
BUF			0		0
ESH	0.44	6	0.35	8	0.79
GROG	3.58	51	2.74	64	6.32
GROGC	1.39	20	0.71	17	2.1
GROGRF	0.4	6			0.4

GROGRS	0.03	<1	0		0.03
GRS			0.05	1	0.05
MICW	0		0		0
NGWF	1	14	0		1
NGWFS	0.16	2			0.16
REDM			0.1	2	0.1
SGSW			0		0
TN	0		0.33	8	0.33
TR	0				0
TOTAL	7.0	-	4.28	-	11.28

Table 4.19. East of Little Dunmow: vessel class by phase

	Phase 9.2/10.1		**11.1**		
Class	**EVE**	**%**	**EVE**	**%**	**Total**
A Platters	0.1	4	0.46	11	0.56
B Dishes	0.05	1			0.05
C Bowls	0.12	2			0.12
D Mortaria			0.1	2	0.1
G Jars	4.17	60	2.65	62	6.82
H Beakers	2	29	0.9	21	2.9
J Flagons	0.05	1			0.05
Indeterminate	0.51	7	0.17	4	0.68
Total	**7.0**	**-**	**4.28**	**-**	**11.28**

Table 4.20 East of Little Dunmow: condition of pottery on final deposition
using statistics of Mean Sherd Weight (MSW = weight/sherd) and completeness (EVE/MV)

Feature	**MSW (g)**	**Completeness**
Pit	10	0.12
Structural	7	0.05
Layer	6	0.03
Linear	6	0.03

Table 4.21. Strood Hall: summary of pottery fabrics

Fabric	Sherd count	% sherds	Wt (g)	% wt	MV	% MV	EVE	% EVE
ABAET	53	<1	4773	3	2	<1	1.4	1
AGAUL	13	<1	222	<1				
BB1	7	<1	59	<1	1	<1	0.06	<1
BB2	12	<1	214	<1	6	<1	0.46	<1
BEGG	1	<1	1	<1				
BSW	5577	26	26257	17	227	19	27.55	18
BUF	1761	8	2996	2	14	1	2.7	2
BUFM	10	<1	644	<1	2	<1	0.24	<1
CGGLZ	28	<1	88	<1				
CGSW	55	<1	387	<1	10	1	0.86	1
COLB	18	<1	158	<1	3	<1	0.63	<1
COLC	77	<1	228	<1	7	1	1.63	1
COLCE	1	<1	2	<1				
EGRHN	3	<1	16	<1				
EGSW	32	<1	346	<1	9	1	0.52	<1
ESH	324	1	1511	1	18	1	1.81	1
GRF	1909	9	12519	8	187	15	17.99	12
GROG	1185	5	5900	4	14	1	4.52	3
GROGC	84	<1	1126	1	4	<1	0.21	<1
GROGRS	53	<1	115	<1	1	<1	0.1	<1
GRS	4675	22	32903	21	320	26	40.15	27
HAB	372	2	4349	3	78	6	8.34	6
HAR	1192	6	8123	5	119	10	13	9
HAWG	30	<1	206	<1	3	<1	0.4	<1
HAWO	186	1	1864	1				
HAX	549	3	2429	2	45	4	4.94	3
HAXM	2	<1	84	<1	1	<1	0.12	<1
LESTA	6	<1	27	<1	1	<1	0.04	<1
LRC	1	<1	9	<1				
LSH	45	<1	268	<1	8	1	0.75	<1
LYN	49	<1	35	<1	1	<1	0.01	<1
MICW	9	<1	106	<1				

MSR	2	<1	10	<1				
MWSGS	7	<1	74	<1	2	<1	0.23	<1
MWSRF	14	<1	114	<1				
MWSRS	104	<1	465	<1	1	<1	0.15	<1
MWSRSM	23	<1	398	<1	1	<1	0.45	<1
NGWF	768	4	1993	1	2	<1	1.22	1
NGWFS	1	<1	4	<1	1	<1	0.1	<1
NKG	13	<1	61	<1	2	<1	0.45	<1
NKO	7	<1	55	<1				
NVC	117	1	1042	1	35	3	1.41	1
NVM	5	<1	93	<1	3	<1	0.24	<1
NVP	6	<1	148	<1	1	<1	0.16	<1
OXWM	15	<1	515	<1	6	<1	0.68	<1
PATCH	3	<1	86	<1	1	<1	0.12	<1
RED	510	2	2722	2	16	1	3.09	2
REDM	4	<1	71	<1	1	<1	0.12	<1
RET	205	1	3100	2	16	1	3.09	2
SGSW	143	1	1618	1	14	1	6.97	5
STOR	1068	5	30882	20	36	3	3.05	2
TR	1	<1	3	<1				
TSG	8	<1	9	<1				
UCC	1	<1	1	<1				
UGL	1	<1	9	<1	1	<1	0.5	<1
UPOT	82	<1	145	<1				
UWW	10	<1	76	<1	1	<1	0.08	<1
VRW	187	1	3209	2	3	<1	0.91	1
TOTAL	21624		154868		4		0.995	

Table 4.22 Strood Hall: key groups. Fabrics recorded as '0' were present, but no rim present

	Phase 11.1		11.2		12.1		12.2		12.3		13.1		13.2		
Fabric	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**Total EVE**
ABAET					0				1	22	0.4	1	0		1.4
AGAUL											0		0		0
BB1					0										0
BB2					0.27	2			0.07	2	0		0		0.34
BSW	1.8	43	0.16	7	3.81	30	0.82	48	0.39	8	3.73	13	1.55	10	12.26
BUF	0.19	5	0		0.03	<1	0		0		0.21	1	0		0.43
BUFM							0				0.22	1	0		0.22
CGGLZ	0														0
CGSW					0		0.1	6	0		0.03	<1			0.13
COLB									0		0.05	<1			0.05
COLC					0.68	5	0.2	12			0		0.7	4	1.58
COLCE					0										0
EGRHN									0		0				0
EGSW							0		0		0.42	1			0.42
ESH	0.66	16	0		0.35	3			0.06	1	0.06	<1			1.13
GRF	0		1.05	45	0.4	3	0.04	2	1.15	25	4.67	16	2.93	18	10.24
GROG	0.64	15									0		0		0.64
GROGC											0				0
GROGRS											0				0
GRS	0.2	5	0		4.76	37	0.17	10	1.38	30	7.37	26	4.55	28	18.43
HAB	0				0.3	2	0.1	6	0.13	3	5.71	20	0.53	3	6.77
HAR	0		0.07	3	1.37	11	0.18	11	0.13	3	2.07	7	1.95	12	5.77
HAWG					0		0.1	6			0.1	<1	0		0.2
HAWO					0				0		0		0		0
HAX									0.04	1	1.21	4	0.58	4	1.83
HAXM									0						0
LESTA					0										0
LSH													0.65	4	0.65
MICW	0														0
MWSGS					0										0
MWSRF	0				0				0						0

MWSRS					0					0				0
NGWF	0													0
NKG					0.35	3								0.35
NKO					0					0		0		0
NVC							0		0	0.45	2	0.66	4	1.11
NVM										0.17	1			0.17
NVP												0.16	1	0.16
OXWM									0.1	2	0.64	2	0	0.74
RED	0								0		0.12	<1	0.74	5	0.86
REDM													0.12	1	0.12
RET									0.17	4	0.56	2	0.5	3	1.23
SGSW			0.82	35	0.08	1							0		0.9
STOR	0.2	5	0		0.32	3	0		0		0.59	2	0.54	3	1.65
TSG			0								0				0
UGL	0.5	11													0.5
UPOT					0										0
UWW					0										0
VRW	0		0.25	11					0		0				0.25
Total EVE	4.19		2.35		12.72		1.71		4.62		28.78		16.16		70.53

Table 4.23 Strood Hall: key groups: vessel form

	Phase 11.1		**11.2**		**12.1**		**12.2**		**12.3**		**13.1**		**13.2**		**Total EVE**
Vessel class	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	**EVE**	**%**	
A Platters			0.07	3											0.07
B Dishes			0.1	4	1.34	11	0.27	16	0.69	15	6.47	22	3.42	21	12.29
C Bowls	0.05	1	0.06	3	0.23	2	0.08	5			0.46	2	0.33	2	1.21
D Mortaria									0.1	2	1.03	4	0.12	1	1.25
E Bowl-jars					0.5	4			0.23	5	1.37	5	0.72	4	2.82
F Cups			0.72	31			0.1	6			0.29	1			1.11
G Jars	3.29	79	0.05	2	8.42	66	0.61	36	2.39	52	15.17	53	7.77	48	37.7
H Beakers	0.32	8	1.1	47	1.78	14	0.2	12	0.11	2	0.91	3	1.05	6	5.47
J Flagons			0.25	11							0.82	3	1.06	7	2.13

K Lids											0.05	<1			0.05	
P Amphorae									1	21	0.4	1			1.4	
S	0.5	12									0.2	1			0.7	
Miscellaneous																
Indeterminate	0.03	1		0.12	1				0.06	1	0.33	1	1.04	6	1.52	
Total EVE	4.19		2.35	12.72		1.71			4.62		28.78		16.16		70.53	

Table 4.24 Strood Hall: 'completeness' (EVE/MV) of pottery by phase on a scale of 0 to 1, where 1 equals a complete vessel/assemblage

	Phase		
Feature	**11**	**12**	**13**
Funerary	0.65		
Layer		0.1	0.1
Linear	0.15	0.16	0.13
Pit	0.36		0.09
Structural	0.07		0.1

Table 4.25 Strood Hall: count of ancillary vessels

Class	Total
Flagon/flask	13
Beaker	10
Platter	10
Jar	6
Cup	5
Miscellaneous	3
Bowl	2
Dish	2
Total	51

Table 4.26. Rayne Roundabout: quantification of pottery fabrics

Fabric	Sherd count	% sherds	Wt (g)	% wt	MV	% MV	EVE	% EVE
ABAET	27	0.7	863	2.4				
AGAUL	17	0.5	280	0.8				
BB2	1	<1	18	0.1	1	0.3	0.1	0.3
BSW	551	15.2	4418	12.3	71	21.7	6.16	20.4
BUF	45	1.2	319	0.9	1	0.3	0.05	0.2
CAMF	39	1.1	72	0.2				
CGSW	22	0.6	89	0.2	9	2.7	0.49	1.6
COLB	5	0.1	38	0.1				
COLC	8	0.2	10	<1	2	0.6	0.15	0.5
COLCE	7	0.2	12	<1	1	0.3		
EGSW	9	0.2	60	0.2	3	0.9	0.19	0.6
ESH	15	0.4	62	0.2				
GRF	60	1.7	572	1.6	11	3.4	1.02	3.3
GROG	487	13.4	3112	8.7	32	10	3.27	10.8
GROGC	159	4.4	4759	13.3	4	1.2	0.36	1.2
GROGRF	4	0.1	19	0.1				
GROGRS	8	0.2	93	0.3	2	0.6	0.17	0.6
GRS	1498	41.3	11017	30.7	145	44.4	13.88	46
HAB	1	<1	16	<1				

HAR	81	2.2	727	2.0	10	3	1.33	4.4
HAWG	2	0.1	13	0.0				
HAWO	7	0.2	37	0.1				
HAX	69	1.9	382	1.1	5	1.5	0.62	2
HAXM	2	0.1	19	0.1				
IMIC	1	<1	1	<1				
LSH	6	0.2	41	0.1	1	0.3	0.15	0.5
NGWF	6	0.2	55	0.2	1	0.3	0.08	0.3
NGWFS	14	0.4	38	0.1	1	0.3	0.08	0.3
NKG	5	0.1	20	0.1	1	0.3	0.11	0.4
NVC	10	0.3	50	0.1				
NVM	6	0.2	105	0.3	1	0.3	0.05	0.2
OXRC	1	<1	17	<1				
OXWM	8	0.2	90	0.3	1	0.3		
RED	81	2.2	376	1.0	2	0.6	0.12	0.4
RET	36	1.0	284	0.8	5	1.5	0.75	2.5
SGSW	8	0.2	130	0.4	2	0.6	0.11	0.4
STOR	307	8.5	7595	21.2	15	4.6	0.95	3.1
TN	2	0.1	66	0.2				
TSG	3	0.1	7	<1				
UCC	1	<1	3	<1				
VRW	4	0.1	16	<1				
Total	3623		35901		327		30.19	

Table 4.27 Rayne Roundabout: fabrics present in the key phased groups, quantified by weight and EVE

Phase	**9.2-10.1**				**11**				**12**				**13**			
Fabric	Wt	% wt	EVE	% EVE	Wt	% wt	EVE	% EVE	Wt	% wt	EVE	% EVE	Wt	% wt	EVE	% EVE
ABAET									21	0.7			799	5.4		
AGAUL					280	6.2										
BB2													18	0.1	0.1	0.6
BSW	292	6.6			1128	24.9	0.7	26.0	338	11.1	0.77	21.4	1576	10.7	3.21	20.3
BUF					6	0.1			77	2.5			56	0.4	0.05	0.3
CAMF	72	1.6														
CGSW									34	1.1	0.26	7.2	36	0.2	0.11	0.7

COLB																
COLC									1	<1			8	0.1	0.15	0.9
COLCE					12	0.3										
EGSW									17	0.6	0.05	1.4	40	0.3	0.14	0.9
ESH									9	0.3			3	0.0		
GRF									12	0.4			516	3.5	0.96	6.1
GROG	1277	29.0	1.29	78.2	947	20.9	1.08	40.1					196	1.3	0.25	1.6
GROGC	2598	58.9	0.16	9.7	934	20.6	0.1	3.7	100	3.3			207	1.4		
GROGRF													12	0.1		
GROGRS	68	1.5											5	0.0	0.08	0.5
GRS	45	1.0	0.12	7.3	332	7.3	0.33	12.3	1529	50.2	2.04	56.7	6139	41.7	8.28	52.3
HAB													16	0.1		
HAR	24	0.5							104	3.4	0.15	4.2	441	3.0	0.83	5.2
HAWO									1	<1						
HAX	1	0.0			100	2.2	0.25	9.3					176	1.2	0.35	2.2
HAXM													19	0.1		
IMIC									1	<1						
LSH													41	0.3	0.15	0.9
NGWF	17	0.4			38	0.8	0.08	3.0								
NGWFS	8	0.2	0.08	4.8	30	0.7										
NKG									12	0.4	0.11	3.1				
NVC									1	<1			3	0.0		
NVM													105	0.7	0.05	0.3
OXRC													17	0.1		
OXWM													90	0.6		
RED	6	0.1			3	0.1			45	1.5	0.07	1.9	141	1.0	0.05	0.3
RET													272	1.8	0.7	4.4
SGSW													2	0.0	0.05	0.3
STOR					717	15.8	0.15	5.6	744	24.4	0.15	4.2	3719	25.2	0.33	2.1
TN													66	0.4		
TSG													7	0.0		
UPOT													3	0.0		
Totals	4408		1.65		4527		2.69		3046		3.6		14729		15.84	

Table 4. 28 Rayne Roundabout: key groups: vessel form presented by Estimated Vessel Equivalent (EVE)

	Phase								
	10		**11**		**12**		**13**		**Total EVES**
Vessel class	EVE	%	EVE	%	EVE	%	EVE	%	
A Platters	0.04	2.4	0.05	1.9	0.07	2.0			0.16
B Dishes					0.06	1.7	3.01	19	3.07
C Bowls	0.27	16.4	0.1	3.7	0.1	1.4	0.09	0.6	0.56
D Mortaria							0.05	0.3	0.05
E Bowl-jars			0.25	9.3			0.57	3.6	0.82
F Cups					0.08	2.3	0.25	1.6	0.33
G Jars	0.62	37.6	1.6	59.5	2.74	77.2	9.98	63	14.94
H Beakers	0.42	25.5	0.36	13.4	0.31	8.7	0.67	4.2	1.76
Indeterminate	0.3	18.2	0.33	12.3	0.24	6.8	1.22	7.7	2.09
Total EVEs	1.65		2.69		3.6		15.84		23.78

Table. 4.29 Parsonage Lane: quantification of pottery

Fabric	**Sherds**	**% Sherds**	**Wt (g)**	**% wt**	**EVE**	**%EVE**
BSW	138	23	635	12	2.1	41
COLB	32	5	145	3	-	-
ESH	96	16	559	11	1.15	22
GRF	69	11	348	7	0.5	10
GROG	81	13	505	10	0.29	6
GROGC	143	23	1879	37	0.54	11
GRS	20	3	205	4	0.53	10
HAX	8	1	59	1	-	-
LESTA	1	<1	3	<1	-	-
RED	1	<1	2	<1	-	-
SGSW	1	<1	8	<1	-	-
STOR	22	4	730	14	-	-
VRW	2	<1	5	<1	-	-
TOTAL	614	-	5083	-	5.11	-

Table 4.30 Parsonage Lane: quantification by ceramic phase

		Phase 9-11				**Phase 10-11**		
		%		%		%		%
Ware	Sherds	Sherds	EVES	EVES	Sherds	Sherds	EVES	EVES
ESH	-	-	-	-	3	13	-	-
GRF	-	-	-	-	1	5	-	-
GROG	57	100	-	-	18	82	-	-
TOTAL	57	-	-	-	22	-	-	-

		Phase 11				**Phase 12 -13**		
		%		**%**		**%**		**%**
Ware	Sherds	Sherds	EVES	EVES	Sherds	Sherds	EVES	EVES
BSW	124	26	2.1	41	1	7	-	-
COLB	29	6	-	-	-	-	-	-
ESH	88	19	1.15	22	5	36	-	-
GRF	54	11	0.50	10	2	14	-	-
GROG	5	1	0.29	6	-	-	-	-
GROGC	143	30	0.54	11	-	-	-	-
GRS	20	4	0.53	10	-	-	-	-
HAX	2	<1	-	-	6	43	-	-
LESTA	1	<1	-	-	-	-	-	-
RED	1	<1	-	-	-	-	-	-
SGSW	1	<1	-	-	-	-	-	-
STOR	5	1	-	-	-	-	-	-
VRW	2	<1	-	-	-	-	-	-
TOTAL	475	-	5.11	-	14	-	-	-

Table 4.31 Parsonage Lane: vessel class by ceramic phase

	11	
Vessel Class	**EVE**	**% EVE**
Platters A	0.13	3
Bowls C	0.05	1
Jars G	4.93	96
Total	5.11	-

Table 4.32 Parsonage Lane: quantification of vessel class

Ware	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**Total EVE**
BSW	-	-	-	-	-	-	2.1	-	-	2.1
ESH	-	-	0.05	-	-	-	1.1	-	-	1.15
GRF	0.13	-	-	-	-	-	0.37	-	-	0.5
GROG	-	-	-	-	-	-	0.29	-	-	0.29
GROGC	-	-	-	-	-	-	0.54	-	-	0.54
GRS	-	-	-	-	-	-	0.53	-	-	0.53
Total	0.13	-	0.05	-	-	-	4.93	-	-	5.11
%	3	-	1	-	-	-	96	-	-	-

Table 4.33 Valentine Cottage: quantification of pottery

Fabric	**Sherds**	**% Sherds**	**Wt (g)**	**% Wt**	**EVE**	**% EVE**
BSW	28	16	129	9	0.17	16
COLB	7	4	29	2	-	
COLCE	2	1	1	<1	-	
ESH	1	<1	4	<1	-	
GRF	2	1	9	<1	-	
GROG	54	32	452	33	0.22	20
GROGC	24	14	253	18	-	
GRS	48	28	376	27	0.7	64
SGSW	1	<1	21	1	-	
STOR	4	2	106	8	-	
TOTAL	171	-	1380	-	1.09	

Table 4.34. Valentine Cottage: quantification by ceramic phase

		Phase 9- 11				**Phase 11**		
		%		**%**		**%**		**%**
Ware	Sherds	Sherds	EVE	EVE	Sherds	Sherds	EVE	EVE
BSW	1	3	-	-	25	18	0.17	17
COLB	-	-	-	-	3	2	-	-

COLCE	-	-	-	-	2	2	-	-
ESH	-	-	-	-	1	<1	-	-
GRF	-	-	-	-	2	1	-	-
GROG	10	36	-	-	44	32	0.22	23
GROGC	17	61	-	-	7	5	-	-
GRS	-	-	-	-	47	35	0.58	60
SGSW	-	-	-	-	1	<1	-	-
STOR	-	-	-	-	4	3	-	-
TOTAL	28	-	-	-	136	-	0.97	-

Table 4.35 Valentine Cottage: vessel class by ceramic phase

	11	
Vessel Class	**EVE**	**% EVE**
Dishes B	0.12	12
Jars G	0.82	81
Beakers H	0.07	7
Total	1.01	100

Table 4.36 Valentine Cottage: quantification of vessel class

Ware	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**Total EVE**
BSW	-	-	-	-	-	-	0.17	-	-	0.17
COLB	-	-	-	-	-	-	-	-	-	-
COLCE	-	-	-	-	-	-	-	-	-	-
ESH	-	-	-	-	-	-	-	-	-	-
GRF	-	-	-	-	-	-	-	-	-	-
GROG	-	-	-	-	-	-	0.15	0.07	-	0.22
GROGC	-	-	-	-	-	-	-	-	-	-
GRS	-	-	-	-	-	-	0.58	-	-	0.58
SGSW	-	0.12	-	-	-	-	-	-	-	0.12
STOR	-	-	-	-	-	-	-	-	-	-
Total	-	0.12	-	-	-	-	0.9	0.07	-	1.09
%	-	11	-	-	-	-	83	6	-	-

Table 4.37 Panners Roundabout: quantification of pottery

Fabric	Sherds	% sherds	Wt (g)	% wt	EVE	% EVE
ALH	2	<1	3	<1		
BSW	18	8	310	11	0.19	6
CGSW	1	<1	6	<1	-	
EGSW	3	1	66	2	-	
ESH	1	<1	2	<1	-	
GRF	60	27	450	16	0.84	28
GRS	70	32	610	21	0.17	6
HAB	1	<1	23	<1	0.05	1
HAWG	2	<1	2	<1	-	
HAWO	2	<1	2	<1	-	
HAX	3	<1	19	1	-	
LSH	8	3	45	2	0.08	3
NVC	1	<1	100	3	1	34
NVM	1	<1	25	<1	-	
RED	4	2	13	<1	-	
RET	16	7	290	10	0.64	22
SGSW	1	<1	3	<1	-	
STOR	24	11	900	31	-	
UCC	1	<1	4	<1	-	
TOTAL	219	-	2873	-	2.97	-

Table 4.38 Panners Roundabout: quantification by ceramic phase

		Phase 11				Phase 13		
Ware	Sherds	% Sherds	EVE	% EVE	Sherds	% Sherds	EVE	% EVE
ALH					2	2	-	-
BSW	1	33.3	0.05	50	14	7	0.14	5
CGSW	-	-	-	-	1	<1	-	-
EGSW	-	-	-	-	3	2	-	-
GRF	1	33.3	0.05	50	55	29	0.77	27
GRS	-	-	-	-	56	30	0.17	6
HAB	-	-	-	-	1	<1	0.05	2
HAWG	-	-	-	-	2	2	-	-

HAWO	-	-	-	-	2	2	-	-
HAX	-	-	-	-	3	2	-	-
LSH	-	-	-	-	8	4	0.08	3
NVC	-	-	-	-	1	<1	1	35
NVM	-	-	-	-	1	<1	-	-
RED	-	-	-	-	2	2	-	-
RET	-	-	-	-	16	9	0.64	22
STOR	1	33.3	-	-	18	10	-	-
UCC	-	-	-	-	1	<1	-	-
TOTAL	3	-	0.1	-	186	-	2.85	-

Table 4.39 Panners Roundabout: vessel class by ceramic phase

	11		**13**	
Vessel Class	**EVE**	**% EVE**	**EVE**	**% EVE**
Dishes B	-	-	0.56	21
Jars G	0.1	100	1.1	41
Flagons J	-	-	1	38
Total	0.1	-	2.66	-

Table 4.40 Panners Roundabout: quantification of vessel class

Ware	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**	**Total EVE**
BSW	-	0.09	-	-	-	-	0.1	-	-	0.19
GRF	-	0.31	-	-	-	-	0.42	-	-	0.73
GRS	-	0.11	-	-	-	-	0.06	-	-	0.17
HAB	-	0.05	-	-	-	-	-	-	-	0.05
NVC	-	-	-	-	-	-	-	-	1	1
RET	-	-	-	-	-	-	0.64	-	-	0.64
Total	-	0.56	-	-	-	-	1.22	-	1	2.78
%	-	20	-	-	-	-	44	-	36	-

Table 4.41 Clobbs Wood: quantification of pottery

Fabric	Sherds	% sherds	Wt (g)	% wt	EVE	% EVE
BSW	2	5	20	10	-	-
EGSW	2	5	25	13	0.04	24
GLZE	1	3	6	3	-	-
GRF	8	21	42	22	0.06	35
GRS	9	24	34	17	-	-
HAX	10	26	31	16	-	-
RED	4	10	15	8	-	-
RET	1	3	4	2	-	-
UCC	1	3	17	9	0.07	41
TOTAL	38	-	194	-	0.17	-

Table 4.42 Clobbs Wood: vessel class by ceramic phase

	12-13		13	
Vessel Class	EVE	%EVE	EVE	%EVE
Dishes B	-	-	0.04	100
Jars G	0.06	46	-	-
Beakers H	0.07	54	-	-
Total	0.13	-	0.04	-

Table 4.43 Greenfields: quantification of pottery

Fabric	Sherds	% Sherds	Wt (g)	% Wt	EVE	% EVE
BSW	67	49	376	50	0.44	36
EGSW	1	<1	12	2	-	-
GRF	12	9	53	7	0.17	14
GRS	55	40	268	36	0.56	45
NVM	1	<1	37	5	0.06	5
TOTAL	136	-	746	-	1.23	-

Table 4.44 Greenfields: quantification by ceramic phase

		Phase 11				**Phase 12**				**Phase 13**		
		%		%		%		%		%		%
Ware	Sherds	Sherds	EVE	EVE	Sherds	Sherds	EVE	EVE	Sherds	Sherds	EVE	EVE
BSW	23	33	0.11	20	19	61	0.11	39	24	68	0.22	58
EGSW	-	-	-	-	1	3	-	-	-	-	-	-
GRF	46	67	0.46	80	11	36	0.17	61	1	3	-	-
GRS	-	-	-	-	-	-	-	-	9	26	0.1	26
NVM	-	-	-	-	-	-	-	-	1	3	0.06	16
Total	69	-	0.57	-	31	-	0.28	-	35	-	0.38	-

Table 4.45 Greenfields: vesssel class by ceramic phase

	11		**12**		**13**	
Vessel Class	EVE	% EVE	EVE	% EVE	EVE	% EVE
Dishes B	-	-	0.11	39	0.03	8
Bowls C	0.20	35	-	-	-	-
Mortaria D	-	-	-	-	0.06	16
Jars G	0.37	65	0.17	61	0.16	42
Beakers H	-	-	-	-	0.13	34
Total	0.57	-	0.28	-	0.38	-

Table 4.46 Greenfields: quantification of vessel class

Ware	A	B	C	D	E	F	G	H	J	Total Eve
BSW	-	0.14	-	-	-	-	0.17	0.13	-	0.44
EGSW	-	-	-	-	-	-	-	-	-	-
GRF	-	-	-	-	-	-	0.17	-	-	0.17
GRS	-	-	0.2	-	-	-	0.36	-	-	0.56
NVM	-	-	-	0.06	-	-	-	-	-	0.06
Total	-	0.14	0.2	0.06	-	-	0.70	0.13	-	1.23
%	-	11	16	5	-	-	57	11	-	-

Table 4.47 Blatches: quantification of Roman pottery

Fabric	**Sherds**	**% Sherds**	**Wt (g)**	**% wt**	**EVE**	**% EVE**
CGSW	2	13	1	3	-	-
COLB	1	7	4	11	-	-
GRS	12	80	35	86	0.09	100
TOTAL	15	-	40	-	0.09	-

Table 4.48 Blatches: Medieval pottery fabric totals

Fabric type and description	**No. sherds**	**Wt (g)**	**Date Range**
Fabric 12A: Shelly ware	4	8	11th/12th C
Fabric 12B: Sandy/shelly ware	18	63	11th/12th C
Fabric 12C: Sandy ware with little shell	10	56	11th/12th C
Fabric 13: Early medieval ware	336	2893	?early 11th – early 13th C
Fabric 13t: Early medieval ware – transitional	157	1199	late 12th C
Fabric 20: Medieval coarse ware	496	3949	late 12th – 14th C
Fabric 20D: Hedingham coarse ware	96	676	mid 12th – mid 14th C
Fabric 21: Sandy orange ware	21	210	13th – 16th C
Fabric 22: Hedingham fineware	40	402	mid 12th – mid 14th C
Fabric 36: London-type ware	20	74	late 11th – mid 14th C
TOTAL	1198	9530	

Table 4.49 Blatches: rim/vessel forms by fabric type

FORM	13	13t	20	20D	21	22	TOTAL
Jar rim, simple, flared neck (A1a)			1				1
Jar rim, externally bevelled (A4a)			15				15
Jar rim, everted and thickened (B1b)	1		1	2			4
Jar rim, thickened and squared (B2)	7	1	2	1			11
Jar rim: everted with internal beading (B4)	1	3	1				5
Jar rim, everted and squared, flat top (H1)	1	1	3	2			7
Jar rim, everted and squared, sloping top (H2)	1		4				5

Jar rim, blocked and neckless (H3)			3	1			4
Dish profile, convex, with simple rim		1					1
Bowl rim, flanged			1				1
Jug, all types	1		3		1	3	8
TOTAL	12	6	34	6	1	3	62

Table 4.50 Blatches: Medieval pottery by feature (number of sherds / weight (g) / diagnostic forms)

Feature	**12A**	**12B**	**12C**	**13**	**13t**	**20**	**20D**	**21**	**22**	**36**	**TOTAL**
Ditch 1175				9/27	1/23	15/132 **1 A4a**					25/182
Ditch 1179				3/13		2/5					5/18
Ditch 1181				9/50		1/6 **2 A4a**					10/56
Ditch 1183			1/4	9/34	2/25	3/39 **3 B2**			1/27		16/129
Ditch 1188		4/6	2/8	63/512	37/239 **4 H1**	35/146 **5 A4a, H2**	2/7		9/75	5/9 *jug Rouen*	157/1002
Ditch 1190		1/5		10/61	13/42	6/33 **6 A4a, H1**			1/2		31/143
Beamslot 1320				1/13		3/77					4/90
Ditch 1321		1/15		9/83	9/118 **7 B4**	24/105 *A4a, B1b, B2*	2/20				45/341
Beamslot 1322		2/3		6/42	1/4	35/317 **8 A4a, B1b**	4/67 **9 B1b**				48/433
Pit 1370 (gp 1401)	2/3			22/200	4/31 **10 B4**	216/1975 *jug, dish,*	56/297	12/186	10/48		339/2901

						H1, H3					
Pit 1383 (gp 1401)				3/55	1/10	7/54	6/42				
Pit 1390						4/22 **11 A4a**	1/5				5/27
Pit 1391				3/73 **12 B2**	1/4	10/58					14/135
Ditch 1392		3/12		23/531 **13 B2**	5/77	3/24				2/9	36/653
Ditch 1393		1/4		2/7				1/1			4/12
Ditch 1394		1/1		8/14	4/13						13/28
Ditch 1395			1/1								1/1
Pit 1396				6/53 **14 H2**					1/14	2/2	9/69
Ditch 1398				3/14	1/22	3/22 **15 B1b**	2/5				9/63
Pit 1400			1/4	4/9	3/23	6/66 **16 B4**					14/102
Ditch 1403		1/5	3/35	27/252 **17 B4**	3/20 **18 B 2**	15/118	2/34 **19 H1**		4/81 *jug*	3/17	58/562
Pit 1405		3/8		77/597 **20 B2, H1**	29/255	42/279 **21 B2, H1, H2**	7/71 *H1*		9/42	8/37 *jug Rouen*	175/1289
Ditch 1406				4/13	2/7	4/14		2/12			12/46
Ditch 1407				7/31		4/11			1/1		12/43
Ditch 1408				1/10							1/10
Pit 1409					4/23	5/94	3/62 **22 H3**				12/179
Ditch 1412				4/32	14/60	6/10		2/3	1/1		27/106
Post hole line 1413				2/10 **23 A4a**	5/99 **24 B 4**	12/44					19/153
Post hole gp. 1414				1/4							1/4
Other misc. features	2/5	1/4	2/4	20/153	18/104	35/298 **25 A1a**	11/66 **26 B2**	4/8	3/111 *jug*		96/753

						, A4a			*plastic dec*		
TOTAL	**4/8**	**18/63**	**10/56**	**336/2893**	**157/1199**	**496/3949**	**96/676**	**21/210**	**40/402**	**20/74**	**1198/9530**

Table 4.51 River Roding: breakdown of rims and EVEs by vessel form

Vessel form	**No. rims**	**No. measurable**	**Range of rim diameter**	**EVEs**
Rounded jar	160	104	140 – 400 mm	13.47
subtype (a)	24	22	160 – 400 mm	2.87
subtype (b)	60	54	140 – 380 mm	6.87
subtype (c)	14	10	200 - 300 mm	1.57
unspecified subtype	62	18	180 – 320 mm	2.16
Flared dish	11	10	260 – 480 mm	1.57
Rounded bowl	6	6	160 – 220 mm	1.01
Spouted pitcher	5	5	140 – 200 mm	1.12
?Jug	1	1	120 mm	0.27
TOTAL	343	230		30.91

Table 4.52 Quantification (number and weight in grammes) of the ceramic building material by site

	Rayne Roundabout		**Strood Hall**	
Tile types:	No	Wt	No	Wt
Tegula	8	2058	37	2179
Imbrex	2	406	2	63
Flue tiles	14	1213	10	1190
Brick	38	9239	27	2575
Flat fragments	30	2771	35	2460
Featureless frags	117	4182	101	2783
Post-med and later fragments	3	85	34	463
Totals:	212	19954	246	11713

Table 4.53 Number of pieces of ceramic building material by fabric and tile type

	Rayne Roundabout				**Strood Hall**			
Fabrics:	1	2	3	6	1	2	3	6
Tile types:								
Tegula	4	4	-	-	1	36	-	-
Imbrex	-	2	-	-	-	2		
Flue tiles	-	6	8	-	-	9	1	-
Brick	19	19	-	-	3	24	-	-
Flat fragments	11	9	10	-	4	31	-	-
Featureless frags	57	52	7	1	3	94	4	-
Totals:	91	92	25	1	11	196	5	-

Table 4.54 All fired clay by site

			Objects		Metalworking		?Briquetage		Other		TOTAL	
Site No.	Site Code	Site Name	No.	Wt.(g)	No.	Wt.(g)	No.	Wt.(g)	No.	Wt.(g)	No.	Wt.(g)
37	TAPR02	Parsonage Lane							20	113	20	113
38	TAPE02	East of Parsonage Lane							130	960	130	960
2	TAWH 01	Warish Hall	1	9					2	13	2	13
5	TAFHE 01	Frogs Hall East							7	46	7	46
39	A120WB 7075	North of Frogs Hall stables							2	10	2	10
40	TARR02	West of River Roding							380	13,057	380	13,057
42	LCSH02	Stone Hall	1	69					10	63	11	132
43	A120WB 8590	West of Strood Hall							4	33	4	33
9/44	LCSTH01 A120WB 9095	Strood Hall							189	1495	189	1495
11	GDHF 01	Highwood Farm	1	225					137	1249	138	1474
48	ONGA02	West of Ongar Road							14	50	14	50
17	LDCW 01	Clobbs Wood							1	87	1	87
17a	LDNCW 01	North of Clobbs Wood	1	5					4	74	4	74
18/19	LDGF 01	Clobbs							5	4	5	4

		Cottage/Grange Farm										
20/49	LDGL 01 A120WB 1515	Grange Lane							125	1026	125	1026
22	LDTF 01	Throes Farm							13	31	13	31
50	DUNE02 1616	East of Little Dunmow Rd	4(2)	360			9	221	470	3150	483	3731
24	LDB 01	Blatches							424	1666	424	1666
51	A120WB 1718	Stebbingford Farm							36	142	36	142
27/28	FLGF 01	Greenfields			503	2188			10	47	513	2235
53	A120WB 2121	Valentine Cottage							11	56	11	56
35	RARR 01	Rayne Roundabout							119	1007	119	1007
54	A120WB 2323	West of Panners Roundabout							6	76	6	76
		TOTAL	8	668	503	2188	9	221	2117	24,441	2637	27,518

Table 4.55 Summary catalogue of coins

Antoninus Pius				**AD 138-161**					
1	555	**Dupondius**	Libertas cos iii sc	Uncertain	154-200	23mm	10.1g	as RIC III Antoninus Pius 933	1736
				Very blundered lettering on the reverse.					
Claudius II				**AD 268-270**					
	Antoninianus	Virtvs Avg		Uncertain	275-286	18mm	2g	as RIC V(i) 109/110	U/S
Uncertain				**Late 3rd Century AD**					
3	1	**Antoninianus**	Uncertain	Uncertain	275-286	13mm	1.2g		134
				Cast piece (the sprues are evident) worn flat and striated on both faces. Probably a blank for the creation of a new copy.					
4	179	**Antoninianus**	Uncertain	Uncertain	275-286	11mm	0.4g		1506
				Posibly a copy of a VIRTVS AVG type of Claudius II (AD 268-270)					

5	215	**Antoninianus **	Uncertain	Uncertain	275-286	16mm	1.6g		1207
6	528	**Antoninianus **	Uncertain	Uncertain	275-286	16mm	1.2g		1710
				Possibly a copy of a Tetricus II (AD 273-4) type.					

Constantine I **AD 307-337**

7	127	Nummus	Beata Tranqvillitas	mm; //STR•	Trier	322	20	2.5g	RIC VII Trier 341	1446

SF No.	Context	Description	Issue Date Range
1	1090	Æ. Very worn and with lug – probably not a coin.	Uncertain
92	unstrat	Æ *antoninianus* – copy of uncertain type of Tetricus I.	AD 270 - 284

Table 4.56 Strood Hall: summary quantification of the iron objects

	Function												
Phase	Arms	Tool	Transport	Household	Personal	Binding	Structural	Nails	Misc	Query	Industrial	Unknown	Totals
late IA / early RB								1	45	1		16	63
early RB					45			368	41	1		84	539
early / mid RB						1							1
mid RB		1		1	12			19	2			2	37
mid / late RB		1			1			7				1	10
late RB	1	8	3	4	73	5	1	245	45	12		16	413
RB								2			1	1	4
?Med / Pmed						1			1				2
unphased		1				2	1		6		2		12
unstratified			1										1
Totals	1	11	4	5	131	9	1	642	140	14	3	120	1082

Table 4.57 Strood Hall: summary quantification of the copper alloy objects

Phase	Function							Totals
	Tool	**Household**	**Personal**	**Nails**	**Misc**	**Query**	**Unknown**	
late IA / early RB								
early RB			10		2	2	1	15
early / mid RB								
mid RB			1					1
mid / late RB		2						2
late RB	1		1		1			3
RB								
?Med / Pmed								
unphased			1		1	1	1	4
unstratified			1	2	1	1		5
Totals	1	2	14	2	5	3	2	30

Table 4.58 Strood Hall: summary quantification of the lead objects

Phase	Function			Totals
	Arms	**Misc**	**Unknown**	
late IA / early RB				
early RB		16		16
early / mid RB				
mid RB				
mid / late RB				
late RB				
RB				
?Med / Pmed				
unphased		2		2
unstratified	1	1	1	3
Grand Total	1	19	1	21

Table 4.59 Strood Hall: summary quantification of metal finds from graves, by metal and function

Grave	Phase	Copper alloy						Iron									Lead			
		Personal		Misc	Query	Unknown	Totals	Personal	Nails	Misc				Query	Unknown	Totals	Misc		Totals	Metals Totals
		Jewellery	Toilet	Ring				Footwear		Bar	Plate	Sheet	Strip				Sheet	Strip		
1314	10								1			7	3	1	15	27				27
1855	10.1										35				1	36				36
1381	11	1					1													1
1585	11	2					2													2
1593	11			2			2		1		23	10	4		60	98				100
1862	11							1	39							40				40
1386	11.1		1				1													1
1410	11.1		2		1	1	4													4
1509	11.1							8	103						10	121				121
1868	11.1	1					1		19							19				20
1279	11.2								3							3				3
1285	11.2							36	189	2	1				14	242	4	12	16	258
1733	11.2	1			1		2													2
16004	12								1							1				1
Totals		5	3	2	2	1	13	45	356	2	59	17	7	1	100	587	4	12	16	616

Identifiable copper alloy finds (n = 12) from Cremations:
Grave 1381: Colchester derivative brooch (Cat No 28)
Grave 1585: Hod Hill brooch (Cat No 23), bracelet (Cat No 30)
[Grave 1593: Rings]
Grave 1386: Toilet set (Cat No 31)
Grave 1410: Tweezers (Cat No 32), nail cleaner (Cat No 33), a possible looped terminal (Cat No 39)
Grave 1868: Colchester derivative (Dolphin) brooch (Cat No 27)
Grave 1733: Knobbed ferrule? (Cat No 21), Colchester brooch (Cat No 26)

Table 4.60 Strood Hall: summary quantification of metal finds from middens, by function
(a) Copper alloy finds by function (with all metals totals)

Middens	Cu alloy			Cu alloy Totals	Iron Totals	Totals all metals
	Personal Jewellery	Tool	Misc Query			
1206			1	1	209	210
1301				0	25	25
1206+1301	0	0	1	1	234	235
1329	1	1		2	96	98
Total	1	1	1	3	330	333

(b) Iron finds by function (all metals totals)

Middens	Cu alloy Totals	Iron																	Iron Total	Totals all metals
		Tools		Transport	Household		Personal	Binding	Structural	Nails	Misc						Query	Unknown		
			?Tool	Horse	Cutlery	Vessel	Footwear				Bar	Block	Plate	Rod	Sheet	Strip				
1206	1	3		1	1	1	25	5	1	131	4			2	3	16	7	9	209	210
1301				1	1		4			14	3		1				1		25	25
1206+1301	1	3	0	2	2	1	29	5	1	145	7	0	1	2	3	16	8	9	234	235
1329	2	1	2	1			30			52		1				4	2	3	96	98
Total	3	4	2	3	2	1	59	5	1	197	7	1	1	2	3	20	10	12	330	333

Table 4.61 Strood Hall: summary quantification of hobnails by phase and context

Context	No of frags	Identification	Phase
1286	11	hobnail	early RB
1478	25	hobnail	early RB
1510	1	hobnail	early RB
1511	6	hobnail	early RB
1520	1	hobnail	early RB
1864	1	Hobnail	early RB

	45		
1465	1	hobnail	mid RB
2099	11	hobnail	mid RB
	102		
1459	1	hobnail	mid / late RB
	205		
1194	1	hobnail	late RB
1206	1	hobnail	late RB
1207	5	hobnail	late RB
1221	1	Hobnail	late RB
1245	1	hobnail	late RB
1246	2	hobnail	late RB
1260	1	Hobnail	late RB
1292	1	hobnail	late RB
1300	1	Hobnail	late RB
1329	26	Hobnail	late RB
1333	3	Hobnail	late RB
1376	4	hobnail	late RB
1445	8	hobnail	late RB
1446	5	hobnail	late RB
1447	1	hobnail	late RB
1472	1	hobnail	late RB
1473	5	hobnail	late RB
1507	4	Hobnail	late RB
1728	1	hobnail	late RB
1785	1	hobnail	late RB
	7483		
Total	131		

Table 4.62 Strood Hall: bindings

Context	Metal	No of frags	Identification	L(mm)	W(mm)	Phase
1794	iron	1	Binding with nail hole. Rectangular section			early / mid RB
1274	iron	1	Strip of rectangular section with two square nail holes	74	33	late RB
1300	iron	1	binding with nail hole			late RB
1600	iron	2	Collar	30	21	late RB
1601	iron	1	Binding Rectangular binding with concavo-convex section.	86	36	late RB
1002	iron	1	Binding. Rectangular binding tapering to a rounded end with concavo-convex section	57	33	?Med / Pmed
1190	iron	1	Collar ferrule		20	unphased
1440	iron	1	Binding comprising strip of rectangular section with a single nail hole visible on x-ray	61	18	unphased
		9				

Table 4.63 Strood Hall: summary quantification of nails by phase and context

Context No	**No of frags**	**Identification**	**Phase**
1315	1	Nail	late IA / early RB
	1		
1283	2	Nail, tack stem	Early RB
1286	67	Nailsl, nail heads, stems	Early RB
1290	1	Nail	Early RB
1343	4	Nails	Early RB
1356	1	Type 1b nail	Early RB
1359	1	nail stem	Early RB
1476	2	Tack stem	Early RB
1478	121	Nails, nail stems, nail heads	Early RB
1480	1	Tack	Early RB
1510	11	Nail	Early RB
1511	83	Nails, nail stems, nail heads	Early RB
1520	9	Nail, nail stems, nail head	Early RB
1594	1	Nail	Early RB

Context No	No of frags	Identification	Phase
1667	2	Nail head	Early RB
1670	2	nail stem	Early RB
1770	1	nail stem	Early RB
1820	1	Tack stem	Early RB
1863	4	Nail, Tack head, nail stem	Early RB
1864	11	Nails, nail stems	Early RB
1865	24	Nails, nail stems, tack	Early RB
1869	8	Nails, nail stems, tack	Early RB
1870	11	Nails, nail stems	Early RB
	370		
1328	1	Nail stem	mid RB
1341	1	Nail	mid RB
1375	1	Type 1b nail	mid RB
1465	4	Nails, nail stems	mid RB
1483	1	Nail	mid RB
1608	5	Nails, nail stems	mid RB
1817	1	Type 1b nail	mid RB
16005	1	nail stem	mid RB
16009	4	nail stems	mid RB
	759		
1209	1	Nail	mid / late RB
1459	1	Nail	mid / late RB
1459	1	Type 4 nail	mid / late RB
1545	1	Type 1b nail	mid / late RB
1740	1	nail stem	mid / late RB
1741	2	nail stems	mid / late RB
	1525		
1140	2	Type 5 nail	Late RB
1142	1	Type 5 nail	Late RB
1194	1	Nail	Late RB
1206	2	Type 4 nail, nail stem	Late RB
1207	21	Nails, nail stems	Late RB
1221	8	Nails, nail stems	Late RB
1245	5	Nails, nail stems	Late RB
1246	1	Nail	Late RB
1266	1	nail stem	Late RB

Context No	No of frags	Identification	Phase
1270	1	nail stem	Late RB
1274	17	Nails, including Type 1, nail stems	Late RB
1275	1	Type 4 nail	Late RB
1276	11	Nails, nail stems	Late RB
1292	4	Nails	Late RB
1298	1	Type 1b nail	Late RB
1300	1	nail stem	Late RB
1329	39	Nails, nail stems	Late RB
1376	17	Nails, nail stems	Late RB
1379	8	Nails, nail heads	Late RB
1380	13	Nails, nail stem	Late RB
1400	3	Nail, nail stems	Late RB
1445	23	Nails, nail stems, tacks	Late RB
1446	4	Nail, nail stems	Late RB
1447	5	Nails	Late RB
1472	2	Nails	Late RB
1473	9	Nails, nail stems	Late RB
1474	3	Nails, nail stems	Late RB
1505	2	Nails	Late RB
1506	5	Nails, nail stems	Late RB
1507	6	Nails, nail stems	Late RB
1508	1	Nail	Late RB
1599	1	Type 1b nail	Late RB
1600	4	Nails, nail stem	Late RB
1601	5	Nails, nail stems	Late RB
1624	6	Nail, nail stems, tack	Late RB
1705	1	Tack stem	Late RB
1735	1	Type 5 nail	Late RB
1739	1	Nail stem	Late RB
1785	1	tack stem	Late RB
1874	3	Nails	Late RB
1969	4	Type 1b nail, nail stems	Late RB
	3295		
1090	2	Nail, nail stem	RB
	6592		

Context No	No of frags	Identification	Phase
Total	642		

Table 4.64 Miscellaneous pieces, copper alloy, iron and lead

Context	SF No	Metal	No of frags	Type	Description	Phase
1315	507	iron	1	Sheet	Sheet, irregular fragment	late IA / early RB
1315	508	iron	5	Sheet	Sheet, irregular fragment	late IA / early RB
1315	509	iron	1	Sheet	Sheet, curved. Possibly part of a collar	late IA / early RB
1315	-	iron	3	Strip	Strip, folded	late IA / early RB
1856	-	iron	25	Plate	Plate fragments	late IA / early RB
1856	-	iron	10	Plate	Plate fragments	late IA / early RB
			45			
1286	394	iron	2	Bar	Bar fragments, curved. Could be fragmentary ring	early RB
1478	499	iron	1	Plate	Plate fragment, possibly part of a washer	early RB
1594	-	iron	17	Plate	Plate fragments	early RB
1595	-	iron	6	Plate	Plate	early RB
1594	623	cu alloy	2	Ring	Rings	early RB
1286	360	pb	4	Sheet	folded sheet	early RB
1594	624	iron	10	Sheet	Sheet fragments	early RB
1286	-	pb	12	Strip	Strip	early RB
1594	625	iron	1	Strip	Strip	early RB
1663	542	iron	1	Strip	Strip	early RB
2142		iron	3	Strip	Strip	early RB
			149			
1433		iron	1	Rod	Rod	mid RB
16009	16904	iron	1	Strip	Strip	mid RB
			2			
1140		iron	2	Strip	Strip	late RB
1206	-	cu alloy	1	Query	Flat circualr disc (not a coin)	late RB
1207	116	iron	1	Rod	Rod or strip fragment	late RB
1207	216	iron	1	Strip	Strip or plate fragment	late RB
1207	288	iron	1	Strip	Strip, irregular fragment	late RB
1221	279	iron	1	Strip	Strip fragment	late RB

1260		iron	1	Rod	Rod	late RB
1266		iron	1	Rod	Rod	late RB
1274	7	iron	1	Rod	Rod, tapering? Fused or corroded to side of T-clamp (ID 163)	late RB
1274	15	iron	1	Strip	Strip of irregular section. May be a much wasted blade?	late RB
1274	40	iron	1	Strip	Strip	late RB
1274	4	iron	1	Strip	Strip, forms an angled corner?	late RB
1275	87	iron	1	Strip	Strip, much eroded	late RB
1300		iron	1	Strip	Strip	late RB
1329	541	iron	1	Strip	Strip, very small fragment	late RB
1376	104	iron	1	Bar	Bar or rod fragment	late RB
1376	112	iron	1	Bar	Bar fragment	late RB
1376	101	iron	1	Strip	Strip, narrow	late RB
1379	155	iron	1	Strip	Strip	late RB
1379	140	iron	1	Strip	Strip, curved in cross-section. No nail holes	late RB
1379	172	iron	1	Strip	Strip, narrow	late RB
1380	194	iron	1	Strip	Strip	late RB
1445	53	iron	1	Bar	Bar fragment, square section	late RB
1445	21	iron	1	Rod	Rod, circular section	late RB
1445	32	iron	1	Strip	Strip, narrow	late RB
1445	55	iron	1	Strip	Strip, narrow, curved	late RB
1445		iron	1	Strip	Strip	late RB
1446	160	iron	1	Bar	Bar fragment	late RB
1473	253	iron	1	Plate	Plate fragment, small	late RB
1473	257	iron	1	Strip	Strip narrow and thin	late RB
1507	242	iron	1	Bar	Bar, square section	late RB
1507	240	iron	1	Bar	Bar, circular section	late RB
1507	241	iron	1	Bar	Bar, square section	late RB
1507	246	iron	1	Strip	Strip rolled, with tang or rod at one end. Could be a knife blade fragment	late RB
1508	207	iron	1	Plate	Plate, curved plate fragment	late RB
1600		iron	3	Sheet	Sheet	late RB
1600		iron	1	Strip	Strip	late RB

1600		iron	1	Strip	Strip	late RB
1624		iron	1	Strip	Strip	late RB
1735	554	iron	1	Plate	Plate, irregular roughly rectangular fragment	late RB
1779		iron	1	Strip	Strip	late RB
1874		iron	1	Strip	Strip	late RB
1969	563	iron	1	Block	Block, rectangular	late RB
			348			
1003		iron	1	Strip	Curved strip	?Med / Pmed
			1			
	248	iron	1	Bar	Bar, or nail stem fragment, tapering	unphased
1007		iron	1	Plate	Plate	unphased
1009		iron	1	Plate	Plate	unphased
1305	519	pb	2	Sheet	Folded lead sheet	unphased
1852	615	cu alloy	1	Ring	Ring	unphased
1000		iron	1	Strip	Strip	unphased
1004		iron	1	Strip	Strip	unphased
1068		iron	1	Strip	Strip	unphased
U/S	1005	pb	1	Sheet	Sheet	unstratified
U/S	623	cu alloy	1	Query	Flat circular disc (not a coin)	unstratified
			11			
		Total	164			

Table 4.65 Strood Hall: objects of uncertain function ('Query')

Context	Sf no	metal	No of fragts	Description	L(mm)	W(mm)	Phase
1274	14	iron	1	Formed from rod of circular section, with point at one end	45	8	late RB
1274	18	iron	1	Strip flared at one end. Form of modelling tool?	105	16	late RB
1274	42	iron	1	Socketed object. L-shaped object formed from strip. The long arm is formed into a crude socket. Function uncertain	66	32	late RB
1315	510	iron	1	Triangular plate fragment, broken on two edges, with thickening at one point. Function unclear	42		late IA / early RB
1329	562	iron	1	Rectangular section stem with three small prongs coming off it at right angles.	29	17	late RB
1376	97	iron	1	Object comprising small length of square section bar with thin strip angled out from one face. Function unclear.			late RB
1379	185	iron	1	Flat rounded piece			late RB
1446	154	iron	1	Looped handle formed from stout strip of rectangular section.	57	37	late RB
1736	556	iron	1	Object comprising a loop with turned back flanges? Formed from heavy strip of rectangular section. The complete end widens slightly, perhaps to form an attachment plate, though no clear nail hole. The other end is incomplete. Could be a handle, or more pr			late RB
1754	621	iron	1	Flat, triangular plate with small hooked end.	117	61	early RB
1968	642	iron	1	leaf shaped object	68	10	late RB
U/S	--	cu alloy	1	fitting of uncertain function			unstratified
			12				

Table 4.66 Strood Hall: unidentified fragments ('Unknown')

Context	Sf No	Sample	Metal	No of fragts	Description	Phase
1315		42	iron	15	Fragments	late IA / early RB
1856		97	iron	1	Fragment	late IA / early RB
				16		
1286		19	iron	1	Fragment	early RB
1286	330		iron	2	Unidentified fragments, very small	early RB
1286	331		iron	1	Unidentified fragment, very small	early RB
1286	350		iron	1	unidentified fragment, small	early RB
1411		16	cu alloy	1	unidentified fragment	early RB
1478	474		iron	1	small fragment	early RB
1478	444		iron	1	unidentified fragment, very small	early RB
1478	450		iron	1	unidentified fragment	early RB
1478	447		iron	1	Unidentified fragment, encrusted	early RB
1478	464		iron	5	iron stained fragments	early RB
1511	383		iron	1	unidentified, very small	early RB
1511	420		iron	2	fragments	early RB
1511	304		iron	3	unidentified fragments	early RB
1511	314		iron	2	unidentified fragments	early RB
1511	355		iron	1	unidentified fragments	early RB
1511		6	iron	1	fragment	early RB
1594		102	iron	20	unidentified fragments	early RB
1595		103	iron	40	unidentified fragments	early RB
				117		
1557			iron	1	unidentifiable lunp	mid RB
1817			iron	1	unidentifiable fragment	mid RB
				2		
1459	409		iron	1	small fragment	mid / late RB
				1		
1207	262		iron	2	fragment, very small	late RB
1231		37	iron	2	unidentified fragments	late RB
1246	276		iron	1	fragment, small	late RB
1275	45		iron	1	Small indeterminate fragment	late RB
1276	133		iron	1	fragment, small	late RB

1329	575		iron	1	fragment, very small	late RB
1329	590		iron	1	small flat fragment	late RB
1376	99		iron	1	Small curved fragment	late RB
1376	100		iron	1	Curved fragment	late RB
1380	193		iron	1	small fragment	late RB
1446	118		iron	1	small fragment	late RB
1446	157		iron	1	curved fragment, small	late RB
1473	170		iron	1	unidentified fragment	late RB
1473	260		iron	1	very small fragment	late RB
1599			iron	1	unidentified object	late RB
1874			iron	1	unidentified object	late RB
				258		
1917		105	iron	1	unidentified fragment	RB
				1		
1038	5		cu alloy	1	fragments	unphased
MD	1006		lead	1	Lump	unstratified
				2		
				125		

Table 4.67 Rayne Roundabout: summary quantification of nails and nail stem fragments by context

Context	SF no		Type	Count
197		Nails	Manning Type 1b	1
198	143	Nail		1
218		Nail stems		4
218		Nail	Manning Type 1b	2
218	145	Tack stem		1
218	145	Nail	Manning Type 1b	1
	145	Nail	Manning Type 1	1
223		Nail	Manning Type 1b	1
234		Nail	Manning Type 4	1
245		Nail	Manning Type 4	1
307	134	Nail	Manning Type 2	1
308	135	Nail	Manning Type 1	1
311		Nail	Manning Type 1	1
317		Nail stem		4
322		Tack		1

1008		Nail	Manning Type 1b	1
1028		Nail stem		1
	148	Nail	Manning Type 4	1
	150	Nail stem		1
	150	Nail stem		1
	150	Nail stem		1
	156	Nail	Manning type 1	1
	161	Nail stem		1
	197	Nail	Manning Type 4?	2
				32

Table 4.68 Rayne Roundabout: summary of miscellaneous and unidentified fragments by context

Context	Sf No	Description		Count
198	142	Strip	fe	1
223		Sheet fragment	fe	1
308	135	Strip or plate	fe	1
311		Folded strip	pb	1
	144	Binding	Two nail holes, fe	1
	149	Wire	Twisted wire, fe	1
	150	Strip	Strip, fe	1
				7

Table 4.69 Rayne Roundabout: quantification of unidentifiable fragments by context

Context	SF No		Description	Count
	126	Unknown	Fragments, fe	3
	165	Unknown	Fragments, fe	2
197		Unknown	Unidentified object, fe	1
198	141	Unknown	fragments, fe	1
311		Unknown	unidentified object, fe	1
				8

Table 4.70 Catalogue of bone and antler items from Strood Hall

Cat. No.	Obj. No.	Context	Object Type	Dimensions	Weight (g)	DESCRIPTION
1	27	1445	PIN	L 41mm; D 3mm max	1	pin shank
2	39	1274	ROUGH OUT	L 23mm; W (head) 9mm; D (shank) 4mm	1	unfinished pin – shank with rough-out head
3	48	1274	PIN	L 55mm; D 4mm max	1	pin shank
4	50	1274	ROUGH OUT	L 32mm; D 5mm	2	unfinished object – short length of roughly trimmed shank
5	66	1274	PIN	L 71mm; D 10mm (head, 5mm (shank)	3	pin with spherical head (Crummy type 3)
6	141	1276	PIN	L 52mm; D 6mm	2	pin shank
7	142	1276	ROUGH OUT	L 52mm; W 5mm; Th 5mm	3	pin roughout – length of roughly squared shank
8	144	1276	PIN	L 90mm; D 6mm (head), 5mm (shank)	2	pin with flattened spherical head (Crummy type 3), not very well finished, and pronounced median swelling; complete but in 2 frags
9	145	1276	ROUGH OUT	L 80mm; D 7mm (head), 4mm (shank)	3	unfinished pin – shank with stock at lead end
10	152	1276	ROUGH OUT	L 68mm; D 9mm	4	pin roughout – length of roughly squared shank
11	158	1446	NEEDLE	L 37mm; W 7mm max; Th 3mm	1	shank only, broken across eye, polished
12	177	1379	PIN	L 57mm; D 4mm max	1	pin shank
13	597*	1401	PIN	L 30mm; D 2mm	1	pin shank
14	653	1600	ROUGH OUT	L 51mm; D 13mm max	8	roughout or offcut – roughly squared shank with transverse cut marks
15	654	1274	ROUGH OUT	L 45 mm; D 8mm max	2	unfinished object – short length of roughly trimmed shank
16	657	1379	ROUGH OUT	L 131mm; D 12mm max	14	unfinished object – roughly trimmed shank
17	658	1379	ROUGH OUT	L 88mm; D 13mm (head), 8mm (shank)	8	unfinished object – roughly trimmed shank with stock at head end

Table 4.71 Catalogue of bone and antler items from East of Dunmow Road

	Obj. No.	Context	Object Type	Dimensions	Weight (g)	DESCRIPTION
18	-	30372	OFFCUT	L 41mm; W 25mm; Th 5mm	4	small, roughly rectangular offcut; tool marks on one face, one end cut, the other broken

Table 4.72 Catalogue of bone and antler items from Rayne Roundabout

	Obj. No.	Context	Object Type	Dimensions	Weight (g)	DESCRIPTION
19	-	149	OFFCUT	L 200mm	190	antler offcut or blank; beam, sawn across above burr, complete brow tine, sawn off bez tine; quite abraded
20	134	307	HANDLE	L 102mm; W 28mm; Th 18mm	27	antler handle in 8 frags, plain, rounded ends, polished through use; iron staining internally

Table 4.73 Catalogue of bone and antler items from Highwood Farm

Cat. No.	Obj. No.	Context	Object Type	Dimensions	Weight (g)	DESCRIPTION
21	2001	2114	COMB	L 143mm; W 29mm (butt), 19-37 (shaft); Th 11mm	32	almost complete comb in fragments; perforated rectangular butt, tapering shaft, at least 8 teeth surviving but all broken off, incised criss-cross decoration, polished through use

Table 4.74 Catalogue of glass recovered from Strood Hall

Cat. No.	Obj. No.	Context	Context description	Phase	Type	No. pieces	Weight (g)	DESCRIPTION
1	-	1140	unexcavated feature	13.2	VESSEL	1	1	pale blue, lattice trail
2	91	1207	cobble	13.1	VESSEL	1	1	clear, thin walled (tiny fragment)

			surface					
3	289	1207	cobble surface	13.1	VESSEL	1	1	pale blue
4	-	1270	ditch 2234	13.1/2	VESSEL	1	4	blue/green fragment, heavily cracked
5	57	1274	layer	13.1	VESSEL	1	1	clear, thin walled (tiny fragment)
6	139	1276	unexcavated feature	13.1	WINDOW	1	1	clear
7	598	1329	spread	13.2	VESSEL	1	5	blue/green
8		1329	spread	13.2	VESSEL	2	1	clear, very thin walled (tiny fragments)
9	-	1333	layer	13.2	VESSEL	1	1	pale blue, thin walled, horizontal trail
10		1333	layer	13.2	VESSEL	1	1	clear
11		1333	layer	13.2	VESSEL	1	1	clear, thin walled; self-coloured marvered trail over horizontal abrasion
12	82	1376	layer	13.1	VESSEL	1	2	pale blue, ?basal or corner angle
13	88	1376	layer	13.1	VESSEL	1	1	pale blue
14	89	1376	layer	13.1	VESSEL	1	1	pale blue (tiny fragment)
15	460	1478	grave 1285	11.2	?VESSEL	9	28	melted/distorted – probably vessel
16	-	1740	pit 1742	12.3 - 13.2	VESSEL	1	7	blue/green, base of square bottle, concentric rings in relief on base
17	-	1969	spread	13.2	VESSEL	1	23	blue/green, base of square bottle, concentric rings in relief on base
18	-	1292	layer	13.1	WINDOW	1	10	matt/glossy, slightly distorted
19	-	1329	spread	13.2	BEAD	1	-	tiny translucent yellow annular (diam 3mm)
20	-	1329	spread	13.2	BEAD	1	-	tiny fragment from a translucent blue segmented bead
21	-	1333	layer	13.2	BEAD	1	1	segmented bead, translucent blue (length 13 mm)
22	560	1667	pit 1666	11.1	BEAD	1	5	melon bead (diam 17mm)
23	-	1586	crem 1585 (fill of	11	BEAD	1	4	annular bead, burnt and distorted (diam 20mm)

			vessel 614)					
24	-	1586	crem 1585 (fill of vessel 614)	11	BEAD	1	4	annular bead, burnt and distorted (diam 19mm)
25	-	1586	crem 1585 (fill of vessel 614)	11	BEAD	1	2	annular bead fragment, burnt and distorted
26	660	2141	crem 1585 (fill of vessel 614)	11	BEAD	1	2	annular; burnt? (diam 19mm)
27	661	2141	crem 1585 (fill of vessel 614)	11	BEAD	1	1	annular (diam 13mm)
28	663	2141	crem 1585 (fill of vessel 614)	11	BEAD	1	3	annular; burnt and distorted (diam *c* 20mm)

Chapter 5

Table 5.1 Summary of results from analysis of cremated bone, by period and site

context	Cut	deposit type	date	bone wt.	age/sex	pathology	pyre goods
Site 28: Greenfields							
1049**	1048	unurned burial + rpd	LBA	1054.4g	adult c. 25-40 yr. male	exostoses – calcaneum	sloe stone
Site 48: West of Ongar Road							
21011	21013	unurned burial + rpd	LBA	1085.4g	adult >40 yr. ? male	degenerative disc disease – T/L; osteophytes – middle finger phalanges; ? cuts – rib shaft	
Site 42: Stone Hall							
14001	14000	unurned burial + rpd	?LBA	224g	adult >20 yr. u/s		
14003/4	14002	pit fill	?LBA	0.5g	>infant		
14007	14005	?rpd	?LBA	1.8g	>infant		
14009	14008	grave fill below burial		1.5g			
14010	14008	grave fill around burial		<0.1g			
14011	14008	unurned burial		180.4g			
	14008	all deposits	?LBA	240.8g	subadult/adult >15 yr. ??female		
14027	14026	?	?	0.1g	human		
14030	14029	unurned burial + rpd	?LBA	504.4g	adult c. 30-40 yr. ??female		
14040	14039	?unurned burial + rpd	?LBA	112.6g	adult >20 yr. ?? female		
14041	14042	unurned burial + rpd	?LBA	135.2g	adult >20 yr. u/s		
14157	14083	?unurned burial + rpd	?LBA	7.7g	adult >20 yr. u/s		

14167	14099	pit fill	?	<0.1g	human		
14168	14098	crd	?LBA	4.1g	subadult/adult >13 yr. u/s		
14196	14111	?unurned burial + rpd	?LBA	338.7g	adult >20 yr. u/s		
Site 49: Grange Lane							
28021	28004	unurned burial + rpd	LBA	282.9	juvenile c. 11-12 yr. ??female	cribra orbitalia	
28022	28006	unurned burial + rpd	?LBA	857.5g	adult c. 30-45 yr. ?female		0.1g ?animal
28025	28023	urned burial	LIA	529.9g	adult c. 18-22 yr. ?female		
Site 37: Parsonage Lane							
7006/7	7005	?unurned burial + rpd	?prehi st.	407.5g	subadult c. 13-14 yr. u/s		
7008	7005	lower grave fill		2.6g			
Site 16: Chelmer River							
16004	16005	?unurned burial	?prehi st.	125.9g	subadult/adult >15 yr. ?female		

context	**Cut**	**deposit type**	**date**	**bone wt.**	**age/sex**	**pathology**	**pyre goods**
Site 44: Strood Hall							
16003	1600 2	?unurned burial + rpd	?prehist.	5.8g	subadult/adult >13 yr. u/s		
16005	1600 4	unurned burial + rpd	?prehist.	576g	adult c. 20-30 yr. ?female		0.2g worked bone pin?
16006	1600 7	unurned burial + rpd	?prehist.	435.7g	adult c. 18-40 yr. u/s	endosteal new bone; periosteal new bone – humerus & ulna	Fe ?nail
Site 9: Strood Hall							

1283	1279	grave fill		0.2g			
1284	1279	urned burial		31.9g			
	1279	all deposits	ERB	32.1g	adult >18 yr. ?? female		
1286	1285	rpd upper grave fill		71.6g			
1478	1285	?rpd base of grave		253.4g			
1479	1285	?urned burial		32.4g			
1480	1285	rpd central		93.4g			
	1285	all deposits	ERB	450.8g	adult c. 40-50 yr. female	ante mortem tooth loss – 1:7; osteophytes - axis	15.9g bird bone (rpd & burial); Glass & Fe frags.
1308	1307	'grave' fill		0.1g			
1309	1307	fill ON 320		9.7g			
	1307	?cenotaph/ ?urned burial	RB	9.8	1) adult >18 yr. u/s 2) neonate		
1315	1314	urned burial	LIA/ERB	5.6g	>5 yr.		
1343	1342	rpd		3.6g			
2130	1342	urned burial		390.6g			
	1342	all deposits	ERB	394.2g	adult >40 yr. ? female	degenerative disc disease – 1C, 1T; ante mortem tooth loss – 1:6	1.1g ? animal
1382 *	1381	rpd		9.8g			
2132 *	1381	urned burial		272.5g			
*	1381	all deposits	ERB	282.3g	adult >40 yr. ?? male	ante mortem tooth loss – 6:7; pitting – distal femur	1.2g bird
1387	1386	grave fill		5.4g			

2136	1386	urned burial		114.1g			
	1386	all deposits	ERB	119.5g	adult c. 18-40 yr. ??female		

context	cut	deposit type	date	bone wt.	age/sex	pathology	pyre goods
1411/12/14 **	1410	rpd		95.8g			
1415 **	1410	fill ON 380		0.8g			
1416 **	1410	unurned burial + rpd		229.3g			
1417 **	1410	rpd upper grave fill		67.4g			
1419 **	1410	fill ON 504		1.7g			
**	1410	all deposits	ERB	395.0g	adult c. 30-40 yr. ? female		2.3g animal & Cu-alloy pins & sheets fragments (all deposits)
1449	1448	grave fill		12.6g			
1451	1448	urned burial		691.6g			
	1448	all deposits	LIA/ERB	704.2g	adult >30 yr. u/s	exostoses – patella; infection - ?	
1453*	1452	grave fill		1.5g			
1455*	1452	urned burial		725.5g			
2129*	1452	fill ON 319		74.7g			
*	1452	all deposits	ERB	801.7g	adult c. 40-50 yr. ? male	exostoses - patella	
1477*	1475	urned burial		917.3g			
1476*	1475	grave fill		0.7g			
*	1475	all deposits	ERB	918.1g	1) adult c. 18-30 yr. ?female 2) juvenile/subadult c. 12-14 yr.		Fe fragment
1510	1509	upper grave fill + rpd		14.5g			

1511	1509	rpd		185.2g			
1520	1509	urned burial		614.7g			
1521	1509	rpd		1.2g			
2135	1509	fill ON 499		1g			
1522	1509	?related to grave		10.8g			
	1509	all deposits	ERB	827.4g	adult >25 yr. ?? male	exostoses - patella	6g bird bone (rpd & burial). Glass & Fe nails (rpd).
1515	?	hearth	?	0.3g	human		
1541*	1538	urned burial	LIA/ERB	506.7g	adult >18 yr. ?? female		

context	cut	deposit type	date	bone wt.	age/sex	pathology	pyre goods
1586	1585	urned burial		131.7g			
1586	1585	grave fill		31.9g			
	1585	all deposits	ERB	163.6g	adult >18 yr. ?female		0.3g animal. Cu-alloy sheet fragment
1588	?	?	?	0.6g	human		
1594 *	1593	unurned burial + rpd		1151.1g			
1594/5 *	1593	grave fill		2.2g			
2142 *	1593	fill ON 625		1.5g			
*	1593	all deposits	ERB	1154.8g	adult c.18-22 yr. female		7.7g animal (?piglet), Glass & Fe fragments.
1597**	1596	grave fill		2.4g			
1598**	1596	urned burial		668.6g			
**	1596	all deposits	LIA/ ERB	671.7g	adult c. 20-45 yr. u/s		0.9g animal
2145-6**	1755	urned burial	ERB	889.2g	adult >40 yr. ??male	ante mortem tooth loss – 7:8; dental abscess; osteophytes – 1L; pitting – rib facet	0.4g ?animal
1756	1757	grave fill					
2149	1757	urned burial					
	1757	all deposits	LIA/ ERB	135.8g	adult >18 yr. u/s		1.6g animal
1763	1764	grave fill		26.3g			
2167	1764	urned burial		91g			
2168	1764	fill ON 647		0.2g			
	1764	all deposits	ERB	117.5g	adult >18 yr. ?? female		
1820 *	1862	grave fill		10.3g			
1863 *	1862	rpd over fill		7.9g			
1864 *	1862	rpd around		105.8g			

		burial					
1865 *	1862	urned burial		845g			
*	1862	all deposits	ERB	969g	subadult c. 15-18 yr. ??female		
1822	1821	grave fill		37.2g			
1823	1821	?unurned burial		71g			
1824	1821	?fill ON 636		36.8g			
	1821	all deposits	ERB	145g	adult >18 yr. u/s		

context	cut	deposit type	date	bone wt.	age/sex	pathology	pyre goods
1856 *	1855	grave fill		18g			
1857 *	1855	urned burial		1546.6g			
1859 *	1855	fill ON 617		0.4g			
1859 *	1855	fill ON 618		0.1g			
1861 *	1855	rpd grave base		0.3g			
*	1855	all deposits	LIA/ERB	1565.4g	adult >40 yr. ?? female	exostoses – iliac crest, tibiae tuberosities; osteophytes - scapula	0.1g ?bird
1866**	1733	rpd upper grave fill		6.2g			
1867**	1733	rpd lower grave fill		21.5g			
2138**	1733	fill ON 583		0.6g			
1867**	1733	unurned burial		125.4g			
**	1733	all deposits	ERB	153.7g	juvenile c. 9-11 yr. u/s		2.2g bird & fragments cu-alloy (burial & rpd)
1869**	1868	grave fill		43.9g			
2139**	1868	fill ON 593		0.2g			
2140**	1868	fill ON 594		0.9g			
1870**	1868	unurned burial		612.3g			
**	1868	all deposits	ERB	657.3g	adult c. 30-40 yr. ??female	ante mortem tooth loss – 1:5; dental abscess	7.7g immature animal (burial & grave fill); Fe & cu-alloy (burial)
1248	1287	grave fill	ERB	1.9g	subadult/adult >13 yr. u/s		
2134**	1287	urned burial	ERB	1286.9g	adult c. 30-45 yr. ??male	periodontal disease; osteoarthritis – 1T; exostoses - patella	1.2g bird
2156-66**	1759	urned burial	LIA	1257.1g	adult c. 20-25		1.7g ?animal

					yr. ??male		

KEY: ** undisturbed (i.e no bone loss likely & minimum pressure disruption); * slightly disturbed (i.e no bone loss likely but some pressure disruption probable)
rpd - redeposited pyre debris; crd – cremation-related deposits; u/s – unsexed

Chapter 5

Table 5.2 Bone weight ranges and averages for different deposit types and conditions by phase

burial type/ condition	MBA (Site 28)	LBA (Sites 42 and 48)	LIA (Sites 9 and 49)	LIA/RB (Site 9)
urned burials				
overall			1257.1g	range: 5.6-1546.6g average 520.4g
undisturbed (**/*)			1257.1g	range: 272.5-1546.1g average: 873.7g
unurned burials				
overall	1054.4g	range: 7.7-1085.4g average: 353.7g	range: 282.9-857.5g average: 556.8g	range: 125.4-1151.1g average: 437.8gg
undisturbed (**/*)	1054.4g			range: 229.3-1151.1g average: 529.5g

Table 5.3 Comparative Iron Age and Romano-British bone weight ranges and averages

Cemetery	**weight ranges**	**averages**
late Iron Age		
Westhampnett (McKinley 1997b, 68)	undisturbed adult burials: unurned 30.9-999.2g : urned 102g	301g 102g
King Harry Lane, St Albans (Stirland 1989)	largest number in 0-249g range median number in 500-749g range maximum 2249g (all individuals, types & condition of burials; weights presented in 25g groups)	
Ickneild Way, Baldock (McKinley 1990)	55.4g-1490g (all disturbed)	
Romano-British		
Puckeridge (Wells 1981)	84-2127g (all individuals, types & condition of burials)	Series A: 214g Series B: 634g SG: 796g
Welwyn (Wells 1981)	37-2381g (all individuals, types & condition of burials)	584g
Baldock Area 15 (McKinley 1991)	undisturbed adult burials: unurned 1-1599.1g urned 100-1419g	452.0g 619.2g
St Stephens, St Albans (McKinley 1992)	undisturbed adult burials: urned 71-1447.2g	899.6g unurned 824g
Low Borrowbridge (McKinley 1996)	all burials 1-498.9g (only one totally undisturbed)	179.1g
Westhampnett (McKinley 1997c)	undisturbed adult burials: 302.9-687.1g	531.7g
Caerleon (Wilkinson 1997)	undisturbed adult deposits: 3-1530g	292.3g
East London (McKinley 2000c)	undisturbed adult burials: 57.3-1731.1g	845.0g
Brougham (McKinley in press)	undisturbed adult burials: unurned 62.5-484.9g : urned 24-1324.6g	228.7g 397.7g

Table 5.4 Summary of levels of fragmentation by period and site

Site	**burial type and condition**	**maximum fragment**	**sieve fraction distribution**
Late Bronze Age			
Site 28	undisturbed, unurned	59mm	majority in 10mm fraction
Site 48	disturbed, unurned singleton	46mm	majority in 5mm fraction
Site 42	disturbed, unurned	19-34mm	majority in 5mm fraction; two exceptions with majority in 2mm or 1mm fraction.
Site 49	disturbed, unurned	32-36mm	majority in 5mm or 2mm fractions
Late Iron Age			
Site 9	undisturbed, urned	38mm	majority in 10mm fraction
Site 49	disturbed, urned	42mm	majority in 5mm fractions
Romano-British			
Site 9	overall undisturbed, urned undisturbed, unurned	11-61mm 25-57mm 34-61mm	56% majority in 10mm fraction, 39% in 5mm fraction, 4% in 1mm fraction majority in 10mm fraction with one exception in 5mm maximum in 10mm fraction with one exception in 5mm

Table 5.5 Frequency of occurrence of tooth roots and hand/foot bones per burial

Site	**average no. tooth roots per burial**	**average no. hand/foot bones per burial**
Late Bronze Age		
28	20	30
42	c. 0.5	c. 2
48	10	22
49	9	11
late Iron Age		
9	8	22
49	3	5
Romano-British		
9	c. 1	c. 4

Chapter 6

Table 6.1 Condition of animal bone from Strood Hall

Sum of Quantity	**Condition**				
Date	**1**	**2**	**3**	**4**	**Total**
Late Iron Age/early Roman	83.3%	-	-	16.7%	100%
Early Roman	52.4%	32.4%	11.6%	3.6%	100%
Early/middle Roman	48.4%	41.9%	9.7%	-	100%
Middle Roman	59.9%	24.4%	15.7%	-	100%
Middle/late Roman	83.5%	13.6%	0.6%	2.3%	100%
Late Roman	39.4%	42.3%	17.1%	1.2%	100%
Roman	42.9%	40.5%	14.3%	2.4%	100%
Unphased	61.1%	36.1%	2.8%	-	100%
Total	47.3%	36.4%	14.6%	1.7%	100%

Table 6.2 Strood Hall: bones identified to species and phase

Date	Cattle	Sheep goat/	Pig	Horse	Dog	Domestic fowl	Red deer	Roe deer	Hare	Unidentified	Total
Late Iron Age/early Roman	1	-	4	-	-	-	-	-	-	1	6
Early Roman	64	26	8	10	1	1	-	-	-	668	778
Early/middle Roman	7	3	3	1	-	-	-	-	-	17	31
Middle Roman	86	15	2	5	2	-	1	-	-	290	401
Middle/late Roman	33	2	2	6	-	-	-	-	-	133	176
Late Roman	178	83	154*	44	2	2	4	4	1	1557	2029
Roman	6	1	3	2	-	-	-	-	-	30	42

Unphased	5	4	4	2	-	-	-	-	-	21	36
Total	380	134	180	70	5	3	5	4	1	2716	3499

* 129 fragments from at least three foetal pig burials

Table 6.3 Strood Hall: small mammal, fish and amphibian bones

Date	Bank vole	Field vole	Frog	Vole	Mouse	Rodent	Amphibian	Total
Early Roman	-	-	-	-	-	1	-	1
Early/middle Roman	-	4	-	1	1	5	3	14
Middle Roman	-	-	1	-	-	-	-	1
Middle/late Roman	-	-	-	-	-	-	2	2
Late Roman	1	-	-	6	-	18	3	28
Total	1	4	1	7	1	24	8	46

Table 6.4 Strood Hall: distribution of animal bones, Period 11

Feature type	Cattle	Sheep/goat	Pig	Horse	Dog	Domestic fowl	Rodent	Unidentified	Total
Ditch	53	22	6	9	1	1	-	545	637
Pit	1	1	1	-	-	-	-	3	6
Posthole	4	-	-	-	-	-	1	11	16
Gully	1	1	-	1	-	-	-	1	4
Cremation vessel	5	2	1	-	-	-	-	108	116
Total	64	26	8	10	1	1	1	668	779

Table 6.5 Strood Hall: distribution of animal bones, Periods 11–12

Feature type	Cattle	Sheep/goat	Pig	Horse	Field vole	Vole	Mouse	Rodent	Amphibian	Unidentified	Total
Ditch	5	3	3	-	4	1	1	5	3	15	40
Layer	1	-	-	-	-	-	-	-	-	1	2
Pit	1	-	-	1	-	-	-	-	-	1	3
Total	7	3	3	1	4	1	1	5	3	17	45

Table 6.6 Strood Hall: distribution of animal bones, Period 12

Feature type	**Cattle**	**Sheep/goat**	**Pig**	**Horse**	**Dog**	**Red deer**	**Frog**	**Unidentified**	**Total**
Ditch	56	9	-	3	2	1	1	220	292
Pit	10	6	2	2	-	-	-	67	87
Gully	20	-	-	-	-	-	-	3	23
Total	86	15	2	5	2	1	1	290	402

Table 6.7 Strood Hall: distribution of animal bone, Periods 12–13

Feature type	Cattle	Sheep/goat	Pig	Horse	Amphibian	Unidentified	Total
Ditch	6	1	1	1	-	6	15
Layer	-	-	-	-	2	3	5
Pit	26	1	1	4	-	122	154
Spread	1	-	-	1	-	2	4
Total	33	2	2	6	2	133	178

Table 6.8 Strood Hall: distribution of late Roman (Period 13) mammal bone

Feature type	**Cattle**	**Sheep/goat**	**Pig**	**Horse**	**Dog**	**Domestic fowl**	**Red deer**	**Roe deer**	**Hare**	**Unidentified**	**Total**
Backfill of trench	4	2	-	3	1	-	-	-	-	69	79
Cobble surface	33	2	2	2	-	-	-	-	-	107	146
Construction cut	2	-	-	-	-	-	-	-	-	9	11
Ditch	8	6	1	5	-	1	-	1	-	110	132
Hollow	1	-	-	-	-	-	-	-	-		1
Layer	7	6	2	-	-	-	-	-	-	44	59
Midden 1206	71	43	11	15	-	1	2	2	1	638	783
Midden 1329	39	17	137 *	19	1	-	1	1	-	512	727
Pit	13	7	-	-	-	-	1	-	-	61	82
Posthole	-	-	1	-	-	-	-	-	-	7	8
Total	178	83	154	44	2	2	4	4	1	1557	2029

*129 fragments from at least three foetal pig burials

Table 6.9 Strood Hall: overall distribution of animal bones

Feature type	Cattle	Sheep/goat	Pig	Horse	Unidentified	Total
Ditch	2	1	-	1	15	19
Layer	2	-	-	-	-	2
Pit	2	-	3	-	11	16
Posthole	-	-	-	1	-	1
Tree throw	-	-	-	-	3	3
Post pipe	-	-	-	-	1	1
Total	6	1	3	2	30	42

Table 6.10 Condition of animal bone from Highwood Farm

	Condition			
Date	1	2	3	Total
Early/middle Iron Age	66.7%	33.3%	-	100%
Middle Iron Age	11.1%	80.6%	8.3%	100%
Late Iron Age	23.0%	76.7%	0.3%	100%
Medieval	-	-	100%	100%
Unphased	66.7%	33.3%	-	100%
Total	22.8%	75.8%	1.4%	100%

Table 6.11 Highwood Farm: bones identified to species and phase

Date	Cattle	Sheep/goat	Pig	Horse	Dog	Red deer	Unidentified	Total
Early/middle Iron Age	1	2	-	-	-	-	3	6
Middle Iron Age	6	3	-	1	-	-	26	36
Late Iron Age	168	8	-	-	2	1	126	305
Medieval	-	-	-	-	-	-	1	1
Unphased	2	-	1	-	-	-	-	3
Grand Total	177	13	1	1	2	1	156	351

Table 6.12 Condition of the animal bone from Grange Lane

	Condition				
Date	**1**	**2**	**3**	**4**	**Total**
Late Bronze Age	-	4.2%	79.2%	16.6%	100%
Early/middle Iron Age	7.9%	24.2%	31.8%	36.1%	100%
Iron Age	-	-	100%	-	100%
Unphased	10.0%	80.0%	10.0%	-	100%
Total	7.0%	23.3%	38.0%	31.7%	100%

Table 6.13 Grange Lane: bones identified to species and date

Date	Cattle	Sheep/ goat	Pig	Horse	Dog	Red deer	Roe deer	Vole	Rodent	Frog/ toad	Unidentified	Total
Late Bronze Age	4	-	-	2	-	1	-	-	-	-	17	24
Early/middle Iron Age	25	7	2	5	2	5	1	12	11	1	204	275
Iron Age	1	-	-	-	-	-	-	-	-	-	13	14
Unphased	3	2	-	4	-	-	-	-	-	-	1	10
Total	33	9	2	11	2	6	1	12	11	1	235	323

Table 6.14 Condition of the bone from Blatches

	Condition				
Date	**1**	**2**	**3**	**4**	**Total**
Medieval	40.0%	55.0%	4.0%	1.0%	100%
Post-medieval	50.0%	33.3%	-	16.7%	100%
Unphased	100.0%	-	-	-	100%
Total	47.2%	47.2%	3.2%	2.4%	100%

Table 6.15 Blatches: bones identified to species and date

Date	**Cattle**	**Sheep/ goat**	**Pig**	**Horse**	**Crow**	**Frog/toad**	**Amphibian**	**Herring**	**Fish**	**Unidentified**	**Total**
Medieval	22	7	7	4	1	2	10	3	3	77	136
Post-medieval	-	-	-	6	-	1	-	-	-	5	12
Unphased	2	-	-	-	-	-	-	-	-	11	13
Total	24	7	7	10	1	3	10	3	3	93	161

Table 6.16 Condition of the animal bone from Greenfields

	Condition				
Date	**1**	**2**	**3**	**4**	**Total**
Middle/late Bronze Age	-	100.0%	-	-	100%
Late Bronze Age	10.2%	61.2%	26.5%	2.1%	100%
Late Bronze Age/early Iron Age	35.5%	64.5%	-	-	100%
Early/middle Roman	-	87.5%	12.5%	-	100%
Middle Roman	23.1%	7.7%	10.2%	59.0%	100%
Post medieval	100.0%	-	-	-	100%
Unphased	-	-	50.0%	50.0%	100%
Total	21.4%	37.6%	13.3%	27.7%	100%

Table 6.17 Greenfields: bones identified to species and date

Date	Cattle	Sheep/ goat	Pig	Horse	Unidentified	Total
Middle/late Bronze Age	1	-	-	-	1	2
Late Bronze Age	9	-	1	-	39	49
Late Bronze Age/early Iron Age	4	-	2	-	25	31
Early/middle Roman	-	-	-	-	8	8
Middle Roman	3	3	2	1	69	78
Post medieval	-	-	-	1	2	3
Unphased	-	-	-	1	1	2
Total	17	3	5	3	145	173

Table 6.18. Condition of the animal bones from Rayne Roundabout

	Condition				
Date	1	2	3	4	Total
Late Iron Age/early Roman	58.3%	41.7%	-	-	100%
Early Roman	42.8%	53.6%	-	3.6%	100%
Early/middle Roman	18.2%	63.6%	18.2%	-	100%
Middle Roman	7.7%	53.8%	30.8%	7.7%	100%
Middle/late Roman	87.5%	12.5%	-	-	100%
Late Roman	13.7%	70.6%	14.9%	0.8%	100%
Roman	61.4%	36.3%	2.3%	-	100%
Post Roman	16.7%	83.3%	-	-	100%
Post med/Modern	-	-	100.0%	-	100%
Unphased	41.9%	36.6%	21.5%	-	100%
Total	33.2%	56.7%	9.6%	0.5%	100%

Table 6.19 Rayne Roundabout: bones identified to species and date

Date	Cattle	Sheep / goat	Pig	Horse	Dog	Cat	Red deer	Frog/ toad	Amphibian	Water vole	Unidentified	Total
Late Iron Age/early Roman	228*	16	7	3	-	-	-	-	-	-	286	540
Early Roman	8	4	1	-	-	-	-	-	-	-	15	28
Early/middle Roman	3	3	-	1	-	-	-	-	-	-	4	11
Middle Roman	4	1	-	1	1	-	-	-	-	-	6	13
Middle/late Roman	1	1	-	-	-	-	-	-	-	-	6	8
Late Roman	68	24	7	11	1	1	2	1	-	1	689	805
Roman	5	9	-	2	1	-	-	-	1	-	27	45
Post Roman	3	1	-	-	-	-	-	-	-	-	2	6
Post medieval/modern	-	-	-	-	-	-	-	-	-	-	1	1
Unphased	24	5	2	1	-	-	1	-	-	-	60	93
Total	344	64	17	19	3	1	3	1	1	1	1096	1550

*177 broken fragments from articulating ribs, vertebra and a skull

Table 6.20 Rayne Roundabout: distribution of Late Iron Age/early Roman bones

Feature type	Cattle	Sheep/ goat	Pig	Horse	Unidentified	Total
Ditch 350	221*	16	7	3	165	218
Ditch 344	1	-	-	-	1	2
Ditch 345	1	-	-	-	1	2
Gully 1031	5	-	-	-	3	8

*177 broken fragments of articulating ribs, vertebra and a skull

Table 6.21 Rayne Roundabout: distribution of animal bones from the late Roman period

Feature type	Cattle	Sheep/ goat	Pig	Horse	Dog	Cat	Red deer	Frog/ toad	Water vole	Unidentified	Total
Ditch	2	-	-	-	-	-	-	-	-	6	8
Pit	4	1	-	1	-	-	-	-	-	11	17
Infilled stream valley	61	20	7	9	1	1	1	-	-	643	743
Layer	-	2	-	1	-	-	1	1	-	12	17
Deposit	1	1	-	-	-	-	-	-	1	17	19
Total	68	24	7	11	1	1	2	1	1	689	805

Table 6.22 Condition of the animal bone from Parsonage Lane

Sum of Quantity	Condition				
Date	1	2	3	4	Total
Late Iron Age/early Roman	-	-	100.0%	-	100%
Early Roman	8.8%	41.2%	20.6%	29.4%	100%
Late Roman	45.5%	9.1%	45.5%	-	100%
Roman	-	25.0%	-	75.0%	100%
Unphased	-	-	50.0%	50.0%	100%
Total	15.4%	30.8%	26.9%	26.9%	100%

Table 6.23 Parsonage Lane: bones identified to species and phase

Date	Cattle	Sheep/ goat	Pig	Dog	Roe deer	Unidentified	Total
Late Iron Age/early Roman	-	-	-	1	-	-	1
Early Roman	8	3	-	-	1	22	34
Late Roman	4	-	5	-	-	2	11
Roman	1	1	-	1	-	1	4
Unphased	1	-	-	-	-	1	2
Total	14	4	5	2	1	26	52

Table 6.24 Condition of the animal bone from East of Parsonage Lane

	Condition				
Date	1	2	3	4	Total
Early/middle Iron Age	12.8%	21.6%	64.8%	0.8%	100%
Unphased	-	-	-	100.0%	100%
Total	12.7%	21.4%	64.3%	1.6%	100%

Table 6.25 Parsonage Lane: bones identified to species and date

Date	Cattle	Sheep/goat	Horse	Dog	Unidentified	Total
Early/ middle Iron Age	4	9	7	2	103	125
Unphased	-	-	-	-	1	1
Total	4	9	7	2	104	126

Table 6.26 Parsonage Lane: distribution of identified bone from the roundhouse

	Cattle	Sheep/ goat	Horse	Dog
Roundhouse foundation trench	1	5	7	-
Roundhouse eaves-gully	3	2	-	2
Posthole 8108	-	2	-	-

Table 6.27 West of Strood Hall: species identified

	Cattle	**Sheep/goat**	**Pig**	**Unidentified**	**Total**
Late Bronze Age	7	16	5	36	64

Table 6.28 Condition of the animal bone from East of Little Dunmow.

	Condition				
Date	**1**	**2**	**3**	**4**	**Total**
Early/middle Iron Age	-	-	100.0%	-	100%
Late Iron Age	-	13.3%	86.7%	-	100%
Late Iron Age/early Roman	13.1%	30.0%	53.3%	3.6%	100%
Early Roman	35.5%	39.1%	25.5%	-	100%
Roman	-	100.0%	-	-	100%
Unphased	100.0%	-	-	-	100%
Total	17.7%	31.1%	48.6%	2.6%	100%

Table 6.29 East of Little Dunmow: bones identified to species and date

Date	Cattle	Sheep/ goat	Pig	Horse	Dog	Unidentified	Sheep	Total
Early/middle Iron Age	-	-	1	-	-	10	-	11
Late Iron Age	1	-	-	-	-	14	-	15
Late Iron Age/early Roman	32	24	11	1	-	292	-	360
Early Roman	23	14	6	1	1	64	1	110
Roman	1	-	-	-	-	2	-	3
Unphased	-	2	-	-	-	1	-	3
Total	57	40	18	2	1	383	1	502

Table 6.30 East of Little Dunmow: bone from late Iron Age-early Roman features

Feature type	Cattle	Sheep/ goat	Pig	Horse	Unidentified	Total
Ditch	15	6	3	-	112	136
Enclosure ditch	2	2	-	-	13	17
Gully	1	4	-	-	6	11
Pit	3	-	3	-	41	47
Posthole	1	-	-	-	3	4
Roundhouse foundation trench	10	9	4	1	81	105
Spread	-	3	1	-	33	37
Subsoil	-	-	-	-	3	3
Total	32	24	11	1	292	360

Table 6.31 East of Little Dunmow: bone from early Roman features

Feature type	Cattle	Sheep/ goat	Pig	Horse	Dog	Unidentified	Total
Curved ditch	-	-	1	-	-	8	9
Ditch	22	8	2	1	-	21	54
Pit	-	5	3	-	1	22	31
Roundhouse foundation trench	-	1	-	-	-	5	6
Spread	1	1	-	-	-	3	5
Quarry pit	-	-	-	-	-	5	5
Grand Total	23	15	6	1	1	64	110

Chapter 7

Table 7.1 Greenfields (Site 28): the charred plant remains

KEY: Feature types : H = hearth; P = pit; + present, not quantified
Habitat Preferences : A = arable; C = cultivated; D = distubed/waste; E = heath; G = grassland; H = hedgerow; M = marsh/bog; R = rivers/ditches/ponds; S = scrub; W = woods; Y = waysides/hedgerows; a = acidic soils; c = calcareous soils; n = nutrient-rich soils; o = open ground; w = wet/damp soils; * = plant of economic value

Sample Context	**2 1015**	**3 1020**	**4 1025**	**6 1049**	**Other (5 samples)**
phase	LBA	?LBA	LBA	LBA	LBA
Taxa Feature type	P1014	H1019	P1024	P1048	P, pingo
Cereals :					
Triticum dicoccum/spelta (emmer/spelt wheat grain)	5	43			
Hordeum vulare (hulled barley grain)	2	1			
Hordeum sp. (barley grain)		8	1		
Indeterminate cereals	18	147	6		3
Chaff :					
Triticum spelta L. (spelt glume base)	5	3	2		
Triticum dicoccum (emmer glume base)	1	6	4		
Triticum dicoccum / spelta (emmer / spelt glume base)	18	27	16		2
Triticum dicoccum / spelta (emmer / spelt spikelet fork)	4	28	1		1
Hordeum sp. (barley rachis frag.)		1			
Avena sp (awn frag.)	+				
Weeds :					
Corylus avellana L. (hazel nut shell frag.) HSW*				4	
Chenopodium rubrum L. (red goosefoot seed) CDn	1				
Polygonum aviculare L. (knotgrass achene) CD				12	
Fallopia convolvulus (L.) A.Love (black-				2	

bindweed achene) AD					
Rumex acetosella agg. (sheep's sorrel achene) GaE				3	
Rumex sp. (dock achene) CDG	1	1		21	
Prunus spinosa L. (sloe stone) HSW*				3	
Rosa sp (rose seed) HSW*				5	
Trifolium/Lotus sp. (clover/trefoil) DG				2	1
Galium aparine L. (cleavers) CDH			1		1
Cirsium/Carduus sp. (thistle achene) CDG				1	
Asteraceae NFI (embryo)				3	
Bromus sect. Bromus (chess caryopsis) ADG	1	19	1		1
Poaceae various (small seeded grass caryopsis) CDG	1				
Poaceae (grass-sized culm frags & culm bases)				16	
Total charred remains:	57	284	32	71	9
Sample size:	40	34	6	40	-
Fragments per litre:	1.4	8.4	5.3	1.8	-

Table 7.2 East of Little Dunmow Road (Site 50): the charred plant remains

KEY: Feature types : D = ditch; DT = ditch terminal; P = pit; PH = posthole; RG = ring gully
Habitat Preferences : A = arable; C = cultivated; D = distubed/waste; E = heath; G = grassland; H = hedgerow; M = marsh/bog; R = rivers/ditches/ponds; S = scrub; W = woods; Y = waysides/hedgerows; a = acidic soils; c = calcareous soils; n = nutrient-rich soils; o = open ground; w = damp soils; * = plant of economic value

Sample Context Phase	**30802 30263 LIA**	**30805 30391 LIA /ERB**	**30815 48063**	**30818 48120**	**30807 30502 LIA /ERB**	**30831 30281**	**30832 30282**	**30829 30446 LIA**	**30826 48172**	**OTHERS (6 samples)**
Taxa Feature type	P30024	P30110	RG30144	RG30144	D30496	DT30280	DT30280	D30453	PH	
Cereals :										
Triticum dicoccum/spelta (emmer/spelt wheat grain)	6		13		79	15	11	4	819	5
Triticum sp. (wheat grain NFI)				5						2
Hordeum vulgare var. nudum (naked barley grain)									1	
Hordeum sp. (barley grain)	1				1		1		1	
Avena sp. (wild/cultivated oat grain)			5							
Indeterminate cereals	24	8	74	14	240	46	50	36	>500	9
Chaff :										
Triticum dicoccum (emmer glume base)									5	
Triticum dicoccum L. (emmer spikelet fork)									1	
Triticum spelta L. (spelt glume base)			1	1	4	1	2			
Triticum spelta L. (spelt spikelet fork)									Cf.1	
Triticum dicoccum / spelta (emmer / spelt glume base)	13	13	2		36	40	98	2	34	7
Triticum dicoccum / spelta		6	2	1	7		19		23	

(emmer / spelt spikelet fork)										
Triticum dicoccum / spelta (emmer / spelt rachis frag.)	1	1		1	1		1			
Hordeum sp. (barley rachis frag.)					1					
Avena sp. (oat awn fragment)		+	+		+	+	+			
Cereal-size culm node			1							
Weeds :										
Corylus avellana L. (hazel nut shell frag.) HSW*				3	2					
Chenopodium polyspermum L. (many-seeded goosefoot seed) CD					1					
Montia fontana ssp. chondrosperma (Fenzl)Walters (blinks seed) w					1					
Polygonum aviculare L. (knotgrass achene) CD					1	1				
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD										1
Rumex acetosella agg. (sheep's sorrel achene) EGa		Cf.1			3					
Rumex sp. (dock achene) CDG			6	1	3		1	6		
Malva sp. (mallow nutlet) DG*									4	
Potentilla sp. (cinquefoil achene) GD			1							
Rosa sp. (rose seed) HSW*			1							
Roasaceous thorns			2		1					
Sample Context Phase	30802 30263 LIA	30805 30391 LIA/ER	30815 48063	30818 48120	30807 30502 LIA/ER	30831 30281	30832 30282	30829 30446	30826 48172	OTHERS (6 samples)

Taxa Feature type	P30024	P30110	RG30144	RG30144	D30496	DT30280	DT30280	D30453	PH	
Trifolium/Lotus sp. (clover/trefoil) DG	5	1	2		1			3		1
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG	10	4	22	1	5	2	1	4	2	
Vicia/Lathyrus sp. (c.3mm, small seeded weed vetch/tare) CDG			1							
Galium aparine L. (cleavers nutlet) CDH	1	1								
Galium sp. frag (cleavers frag.)								1		
Valerianella dentata (L.)Pollich (narrow-fruited cornsalad fruit) AD					2					
Plantago major L.(greater plantain seed) Go			1							
Odontites verna/Euphrasia sp. (red bartsia/eyebright) CD		3	2		14					1
Tripleurospermum inodorum (L.)Schultz-Bip. (scentless mayweed achene) CD			1		2					
Bromus sect. Bromus (chess caryopsis) ADG	1	1			1		1		73	
Poaceae Poa-type (small seeded grass caryopsis) CDG			4	1	1		1		2	
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG			3		1					1
Tuber cf. Ranunculus ficaria type (cf. lesser celandine tuber) GHW*					1					
Total charred remains:	62	39	144	28	409	105	186	56	>1466	27

Sample size:	26	40	40	40	40	40	40	40	10	-
Fragments per litre:	2.4	1.0	3.6	0.7	10.2	2.6	18.6	1.4	>147	-

Table 7.3 Rayne Roundabout (Site 33/34): the charred plant remains

KEY: Feature types : P = pit; D = ditch
Habitat Preferences : A = arable; C = cultivated; D = distubed/waste; E = heath; G = grassland; H = hedgerow; M = marsh/bog; R = rivers/ditches/ponds; S = scrub; W = woods; Y = waysides/hedgerows; a = acidic soils; c = calcareous soils; n = nutrient-rich soils; o = open ground; d = damp soils; * = plant of economic value;
cf. = uncertain ID; + = occasional; ++ = several; +++ = frequent; [ ] = waterlogged

Sample **Context**	**100** **126**	**101** **128** **ch**	**101** **128** **[w/l]**	**105** **165**	**117** **378**	**116** **377**	**118** **369**	**103** **233**
phase	LIA/ER	LIA/ER	LIA/ER	LIA/ER	ER	R	R	LR
Taxa Feature type	D350	D350	D350	D350	D376	D375	P368	hollow
Cereals :								
Triticum aestivum-type (bread-type free threshing wheat grain)		3		Cf.1				
Triticum dicoccum/spelta (emmer/spelt wheat grain)		3		14		31	1	
Triticum dicoccum/spelta (emmer/spelt wheat grain - sprouted)						10		
Triticum sp. (wheat grain NFI)		3		10				
Hordeum vulgare L.emend. (hulled barley grain)		4					1	
Secale cereale L. /Triticum sp. (rye/wheat grain)				2		1		
Avena sp. (wild/cultivated oat grain)								
Avena/Bromus sp. (oat/chess grain)		4		1		2		
Indeterminate cereal grains	8	19		92	3	174	4	4
Chaff :								
Triticum sp. (free-threshing wheat rachis frag.)		1						
Triticum spelta L. (spelt glume base)	1	1		78	8	343	1	7

Triticum spelta L. (spelt spikelet fork)				1		4		
Triticum dicoccum (Schrank)Schübl. (emmer glume base)		cf.1		cf.1	2	4		
Triticum dicoccum (Schrank)Schübl (emmer spikelet fork)						1		
Triticum dicoccum / spelta (emmer / spelt glume base)	13	1		352	126	>1000	26	101
Triticum dicoccum / spelta (emmer / spelt spikelet fork)				62	34	>1000	7	5
Triticum dicoccum / spelta (emmer / spelt rachis frag.)				2	1	6	1	7
Avena sp (awn frag.)				+	++	++	+	+
Cereal sprout						+++		+
Weeds :								
Ranunculus repens/acris/bulbosus (buttercup achene) DG		2	[4]					
Ranunculus subg. Batrachium (crowfoot achene) P			[1]					
Fumaria sp. (fumitory achene) CD			[4]					
Urtica dioica L. (stinging nettle achene) CDn			[9]					
Corylus avellana L. (hazel nut shell frag.) HSW*	2	2	[1]	1				
Chenopodium album L. (fat hen seed) CDn			[4]					
Silene vulgaris Garke (bladder campion seed) Gdo			[2]					
Stellaria media (L.)Vill. (common chickweed seed) CDo			[2]					
Polygonum aviculare L. (knotgrass achene) CD			[1]					
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD			[5]					
Rumex sp. (dock achene) CDG		2		1		3	2	2
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*						1		
Rubus sect. Glandulosa (bramble seed) DHSW*			[184]					
Potentilla sp. (cinquefoil achene) GD			[8]					

Roaceae thorn				4		1		
Trifolium/Lotus sp. (clover/trefoil) DG		1				1		
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG						1		
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG		2						
Aethusa cynapium L. (fool's parsley mericarp) CD			[4]					
Hyoscyamu niger L. (henbane seed) Dn			[1]					
Ajuga reptans L. (bugle nutlet) WGwH			[1]					
Galeopsis tetrahit L. (common hemp-nettle nutlet) ADWw			[1]					
Stachys sp. (woundwort nutlet) ADGH			[1]					
Mentha sp. (mint nutlet) MPw			[1]					
Plantago laceolata L.(ribwort plantain) Go						1		
Galium aparine L. (cleavers) CDH		1						
Sambucus nigra L. (elder seed) HSW*			[165]					
Valerianella dentata (L.)Pollich (narrow fruited cornsalad) CD			[1]					
Cirsium/Carduus sp. (thistle achene) CDGY			[1]					
Juncus sp. (rush seed) MEPw			[+]					
Eleocharis subg. Palustres (spike-rush nutlet) MPw		3	[27]		1			
Carex sp. (trigonous sedge nutlet) MPw			[90]		1			
Carex sp. (lenticular sedge nutlet) MPw						2		
Bromus sect. Bromus (chess caryopsis) ADG		7		45		13		
Poaceae Poa-type (small seeded grass caryopsis) CDG							1	
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG	2				1	6		
Total charred remains:	26	60	[518]	667	177	>2605	44	126
Sample size:	30	30		40	10	10	10	40
Fragments per litre:	0.9	2 [17.3]		16.7	17.7	>260	4.4	3.2

Table 7.3 (cont).

Sample **Context**	**3** **33064**	**4** **33048**	**5** **33043**	**22-26cm** **391**	**30-34cm** **391**
phase	R			E-MR	E-MR
Taxa Feature type	D	Channel?	Channel?	D265	D265
Cereals :					
Triticum aestivum-type (bread-type free threshing wheat grain)		Cf.2			
Triticum dicoccum/spelta (emmer/spelt wheat grain)	2	5	3	+	+
Triticum dicoccum/spelta (emmer/spelt wheat grain - sprouted)		2			
Triticum sp. (wheat grain NFI)			1		
Hordeum sp. (barley grain)		2			
Avena/Bromus sp. (oat/chess grain)			1		
Indeterminate cereals	9	##	26		
Chaff :					
Triticum sp. (free-threshing wheat rachis frag.)			1		
Triticum spelta L. (spelt glume base)	2	289* [96%]	278* [93%]	++++	++++
Triticum spelta L. (spelt spikelet fork)		2*	1*		
Triticum dicoccum (Schrank)Schübl. (emmer glume base)		8* [3%]	20* [7%]	++	++
Triticum dicoccum (Schrank)Schübl. (emmer spikelet fork)		1*	1*		
Triticum dicoccum / spelta (emmer / spelt glume base)		>1000	>1000	++++	++++
Triticum dicoccum / spelta (emmer / spelt spikelet fork)		>100	>100	+++	+++
Triticum dicoccum / spelta (emmer / spelt rachis frag.)		++	++	++	++
Avena sp (awn frag.)		++	++	+	+
Cereal-sized culm node		1			
Cereal sprout		+	+		
Weeds :					

Rumex sp. (dock achene) CDG		1	3		
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG			1		
Odontites verna/Euphrasia sp. (red bartsia/eyebright) CD			2		
Cirsium/Carduus sp. (thistle achene) CDGH		1	1		+
Carex sp. (lenticular sedge nutlet) MPw			1		
Bromus sect. Bromus (chess caryopsis) ADG		28	27	+++	++
Poaceae Poa-type (small seeded grass caryopsis) CDG			12		
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG		25	12	+	+
Total charred remains:	13	++++	++++	++++	++++
Sample size:	20	1kg	35	0.2	0.1
Fragments per litre:	0.7	++++	++++	++++	++++

* out of 300 identifiable glume bases counted
+ = occasional (c.1-4)
++ = several (c. 5-19)
+++ = frequent (c. 20-150)
++++ = numerous (>150)

Table 7.4. Strood Hall (Site 9): the charred plant remains

KEY: Feature types : C= cremation pit; D = ditch; DT = ditch terminus; G = gully; Gr = grave; P = pit; PH = posthole
Phase: R = Roman; UP = unphased
Habitat Preferences : A = arable; C = cultivated; D = distubed/waste; E = heath; G = grassland; H = hedgerow; M = marsh/bog; R = rivers/ditches/ponds; S = scrub; W = woods; Y = waysides/hedgerows; a = acidic soils; c = calcareous soils; n = nutrient-rich soils; o = open ground; w = wet/damp soils; * = plant with economic uses; + = present, not quantified

Sample **Context**	**1** **1070**	**23** **1516**	**74** **1667**	**162** **2125**	**153** **1744**	**81** **1359**	**152** **2034**

phase	9/10	11	11	11	11	11	11
Taxa Feature type	P1069	P1512	P1666	PH2124	D1743	P1357	P2033
Cereals :							
Triticum aestivum-type (bread-type free threshing wheat grain)	20						
Triticum dicoccum/spelta (emmer/spelt wheat grain)	57		15	6	4	5	
Triticum dicoccum/spelta (emmer/spelt wheat grain - sprouted)						1	
Triticum sp. (wheat grain NFI)	4		1				
Hordeum vulgare (hulled barley grain)							
Hordeum sp. (barley grain NFI)							
Avena sp. (wild/cultivated oat grain)	8						
Avena/Bromus sp. (oat/chess grain)	4						
Indeterminate cereals	269		83	28	13	18	7
Chaff :							
Triticum sp. (free-threshing wheat rachis frag.)	7						
Triticum spelta L. (spelt glume base)	7			9	43	27	
Triticum spelta L. (spelt spikelet fork)							
T. selta (spelt rachis frag.)						2	
Triticum dicoccum (Schrank)Schübl. (emmer glume base)					8		
Triticum dicoccum (Schrank)Schübl. (emmer spikelet fork)							
Triticum dicoccum / spelta (emmer / spelt glume base)	>1000		6	61	94	>500	1
Triticum dicoccum / spelta (emmer / spelt spikelet fork)	>500		4	16	9	>50	

Triticum dicoccum / spelta (emmer / spelt rachis frag.)	++			2	6		
Avena sp (awn frag.)	+++		+	+	++	+	
Cereal sprout					++		
Cereal-sized culm node			1				
Weeds :							
Ranunculus repens/acris/bulbosus (buttercup achene) DG							
Ranunculus subg. Batrachium (crowfoot achene) Pw							
Fumaria sp. (fumitory achene) CD							
Urtica dioica L. (stinging nettle achene) CDn							
Corylus avellana L. (hazel nut shell frag.) HSW*	9		17		1		
Chenopodium album L. (fat hen seed) CDn							
Stellaria media (L.)Vill. (chickweed seed) Co							
Polygonum aviculare L. (knotgrass achene) CD							
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD							
Rumex sp. (dock achene) CDG	22		1	1	1	2	
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*							1
Rubus sect. Glandulosa (bramble seed) DHSW*							
Potentilla sp. (cinquefoil achene) CDGM							
Roaceae thorn							
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG	11		2	1	6	1	1
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare)	2						1

CDG							
Trifolium/Lotus sp. (clover/trefoil) DG	2				1		1
Conium maculatum L. (hemlock mericarp) wDP					2		
Galeopsis tetrahit L. (common hemp-nettle nutlet) ADWow							
Ajuga reptans L. (bugle nutlet) WGdH							
cf.Glechoma hederacea (ground ivy nutlet) WHDh		8					
Plantago major L.(plantain) Go				1			
Odontites verna/Euphrasia sp. (red bartsia/eyebright seed) CD					1		
Galium aparine L. (cleavers) CDH		10					1
Sherardia arvensis L. (field madder nutlet) AD							1
Sambucus nigra L. (elder seed) HSW*							
Tripleurospermum inodorum (L.)Sch.Bip. (scentless mayweed achene) CD				6			
Eleocharis subg. Palustres (spike-rush nutlet) MPw							
Carex sp. (trigonous sedge nutlet) MPw							
Carex sp. (lenticular sedge nutlet) MPw							
Bromus sect. Bromus (chess caryopsis) ADG	5			1	1		
Poaceae various (small seeded grass caryopsis) CDG				2	3		
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG	17			9	12	9	
Tubers cf. Ranunculus ficaria-type (cf. lesser celandine tubers) wGWH		26					

Total charred remains:	>1944	44	130	143	205	>615	14
Sample size:	40	14	40	30	40	40	40
Fragments per litre:	>486	3.1	3.3	4.8	5.1	>15.4	0.4

Table 7.4 (cont)

Sample **Context**	**50** **1531**	**139** **1328**	**146** **1589**	**151** **1817**	**61** **1674**	**63** **1608**	**70** **1767**	**55** **1534**
phase	11/12	12	12	12	12	12	12	12/13
Taxa Feature type	H1532	D1327	D1587	L	D1673	D1611	GT1438	P1533
Cereals :								
Triticum aestivum-type (bread-type free threshing wheat grain)								4
Triticum dicoccum/spelta (emmer/spelt wheat grain)	2			2	2	8		
Triticum dicoccum/spelta (emmer/spelt wheat grain - sprouted)								
Triticum sp. (wheat grain NFI)				1				
Hordeum vulgare (hulled barley grain)								
Hordeum sp. (barley grain NFI)	2							
Avena sp. (wild/cultivated oat grain)								
Avena/Bromus sp. (oat/chess grain)								
Indeterminate cereals	10	2	16	44	8	14	20	17
Chaff :								
Triticum sp. (free-threshing wheat rachis frag.)					1			
Triticum spelta L. (spelt glume base)		4		3	2	7	2	3
Triticum spelta L. (spelt spikelet fork)								
Triticum dicoccum		2						

(Schrank)Schübl. (emmer glume base)								
Triticum dicoccum (Schrank)Schübl. (emmer spikelet fork)								
Triticum dicoccum / spelta (emmer / spelt glume base)	21	70	7	60	22	32	55	44
Triticum dicoccum / spelta (emmer / spelt spikelet fork)	3	15		33	3	2	5	3
Triticum dicoccum / spelta (emmer / spelt rachis frag.)		2		1				
Avena sp (awn frag.)	+	+	+	++		+	+	
Cereal sprout		+		+				
Cereal-sized culm node							1	
Weeds :								
Ranunculus repens/acris/bulbosus (buttercup achene) DG								
Urtica urens L. (small nettle achene) CDn					1			
Corylus avellana L. (hazel nut shell frag.) HSW*		1		3	1			
Chenopodium album L. (fat hen seed) CDn								
Stellaria media (L.)Vill. (chickweed seed) Co								
Polygonum aviculare L. (knotgrass achene) CD								
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD								
Rumex acetosella L. (sheep's sorrel achene) EGCas								
Rumex sp. (dock achene) CDG			6	3		11	3	
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*								
Rubus sect. Glandulosa (bramble seed) DHSW*								
Potentilla sp. (cinquefoil achene)								

CDGM								
Roaceae thorn								
Trifolium/Lotus sp. (clover/trefoil) DG		1	1	3	1	5	4	
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG	1	1		2	1	5		
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG	2				2			
Ajuga reptans L. (bugle nutlet) WGwH								
Galeopsis tetrahit L. (common hemp-nettle nutlet) ADWow								
Hyoscyamu niger L. (henbane seed) Dn								
Galium aparine L. (cleavers) CDH						1		
Sherardia arvensis L. (field madder nutlet) AD	4							
Plantago laceolata L.(ribwort plantain) Go						3		
Sambucus nigra L. (elder seed) HSW*								
Odontites verna/Euphrasia sp. (red bartsia/eyebright seed) CD	1	1			2	5		
Cirsium/Carduus sp. (thistle achene) CDGM						1		1
Anthemis cotula L. (stinking chamomile achene) ADhw					2	3		
Eleocharis subg. Palustres (spike-rush nutlet) MPw				1		1	16	
Carex sp. (trigonous sedge nutlet) MPw			1			2	2	
Carex sp. (lenticular sedge nutlet) MPw						1		
Bromus sect. Bromus (chess caryopsis) ADG								

Poaceae various (small seeded grass caryopsis) CDG				1		5		
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG		1	3	13	3	2	3	
Total charred remains:	46	100	34	170	51	108	111	72
Sample size:	10	40	40	40	40	40	4	10
Fragments per litre:	4.6	2.5	0.9	4.3	1.3	2.7	27.8	7.2

Table 7.4 cont.

Sample **Context**	**56** **1535**	**57** **1536**	**122** **1970**	**85** **1333**	**124** **1331**	**109** **1951**	**52** **1572**	**48** **1262**
phase	12/13	12/13	12/13	12/13	<13	13	13	13
Taxa Feature type	P1534	P1534	P1332	P1332	P1330	G1949	PH1240	DT1261
Cereals :								
Triticum aestivum-type (bread-type free threshing wheat grain)	10	1				1		
Triticum dicoccum/spelta (emmer/spelt wheat grain)	16	10	2	1	3	2	6	5
Triticum dicoccum/spelta (emmer/spelt wheat grain collapsed)								
Triticum sp. (wheat grain NFI)								
Hordeum vulgare (hulled barley grain)								
Hordeum sp. (barley grain NFI)								
Avena sp. (wild/cultivated oat grain)								
Avena/Bromus sp. (oat/chess grain)								
Indeterminate cereals	45	17	9	4	7	12	10	4
Chaff :								
Triticum sp. (free-threshing wheat rachis frag.)								
Triticum spelta L. (spelt glume base)	16		4	2	1		1	1
Triticum spelta L. (spelt spikelet fork)								
Triticum dicoccum (Schrank)Schübl. (emmer glume base)	2		Cf.1					
Triticum dicoccum (Schrank)Schübl. (emmer spikelet fork)								

Triticum dicoccum / spelta (emmer / spelt glume base)	>500	>500	106	8	>500	1	26	4
Triticum dicoccum / spelta (emmer / spelt spikelet fork)	>100	>20	20	1	20		8	
Triticum dicoccum / spelta (emmer / spelt rachis frag.)			1		2		2	
Avena sp (awn frag.)	++	++	+		+			
Cereal sprout			+	+	+			
Weeds :								
Ranunculus repens/acris/bulbosus (buttercup achene) DG	1							
Urtica dioica L. (stinging nettle achene) CDn								
Corylus avellana L. (hazel nut shell frag.) HSW*			1	5	4		3	2
Chenopodium album L. (fat hen seed) CDn								
Stellaria media (L.)Vill. (chickweed seed) Co								
Polygonum aviculare L. (knotgrass achene) CD								
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD								
Rumex acetosella L. (sheep's sorrel achene) EGCas	1							
Rumex sp. (dock achene) CDG	5	1	2	3			1	
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*								
Primulceae (primrose family NFI)				1				
Crataegus monogyna Jacq. (Hawthorn seed) HSW*								
Prunus sp. (sloe etc. stone frag.) HSW*				1				
Roaceae thorn				1				
Trifolium/Lotus sp.				1				

(clover/trefoil) DG								
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG	1		4		3	3		
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG								
Vicia/Latyrus/Pisum sp. (large legume frag) *								
Galeopsis tetrahit L. (common hemp-nettle nutlet) ADWow								
Rhinanthus sp. (yellow rattle seed) CG				1				
Galium aparine L. (cleavers) CDH					Cf.1			
Sherardia arvensis L. (field madder nutlet) AD			1	1				
Plantago laceolata L.(ribwort plantain) Go		1						
Sambucus nigra L. (elder seed) HSW*								
Odontites verna/Euphrasia sp. (red bartsia/eyebright seed) CD			1		1			
Cirsium/Carduus sp. (thistle achene) CDGM								
Anthemis cotula L. (stinking chamomile achene) ADhw								
Schoenoplectus lacustris (L.)Palla (common club-rush) Pw		2						
Eleocharis subg. Palustres (spike-rush nutlet) MPw	53	16		3				
Carex sp. (trigonous sedge nutlet) MPw		3			1			1
Carex sp. (lenticular sedge nutlet) MPw	1	1					1	
Bromus sect. Bromus (chess				1				

caryopsis) ADG								
Poaceae Poa-type (small seeded grass caryopsis) CDG			1					
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG	2	1	6		12			
Total charred remains:	>753	>573	159	34	>555	19	58	17
Sample size:	25	3	40	30	40	40	10	16
Fragments per litre:	>30.1	>191	4.0	1.1	>13.9	0.5	5.8	1.1

Sample **Context**	**101** **1366**	**138** **1366**	**87** **1329**	**123** **1874**	**154** **1735**	**155** **1738**	**127** **1300**	**130** **1300**
phase	13	13	13	13	13	13	13	13
Taxa Feature type	D1365	D1365	Midden	midden	?pond 1734	?pond 1734	L	L
Cereals :								
Triticum aestivum-type (bread-type free threshing wheat grain)				5				
Triticum dicoccum/spelta (emmer/spelt wheat grain)	5	2	11	16			2	2
Triticum dicoccum/spelta (emmer/spelt wheat grain - sprouted)				+				
Triticum sp. (wheat grain NFI)	1			1		1		
Hordeum vulgare (hulled barley grain)			3					
Avena sp. (wild/cultivated oat grain)								
Avena/Bromus sp. (oat/chess grain)					1			
Indeterminate cereals	33	6	59	63	7	9	26	3
Chaff :								
Triticum aestivum-type (bread-type wheat rachis frag.)				2				
Triticum spelta L. (spelt glume base)	1	1	6	63	1	11	2	2
Triticum spelta L. (spelt rachis frag)						1		
Triticum dicoccum (Schrank)Schübl. (emmer glume base)				23				
Triticum dicoccum (Schrank)Schübl. (emmer spikelet fork)								
Triticum dicoccum / spelta	30	62	35	>500	33	20	5	29

(emmer / spelt glume base)								
Triticum dicoccum / spelta (emmer / spelt spikelet fork)	8	6	15	>20		1	1	
Triticum dicoccum / spelta (emmer / spelt rachis frag.)		2		+				
Avena sp (awn frag.)	+		+	+++				+
Cereal sprout	+			+++		+	+	
Weeds :								
Ranunculus repens/acris/bulbosus (buttercup achene) DG			3					
Urtica dioica L. (stinging nettle achene) CDn								
Corylus avellana L. (hazel nut shell frag.) HSW*	2	2	80	3			1	
Chenopodium album L. (fat hen seed) CDn								
Montia fontana ssp. chondrosperma (Fenzl)Walters (blinks seed) wP	1							
Stellaria media (L.)Vill. (chickweed seed) Co								
Stellaria graminea L. (lesser stitchwort seed) Gd								1
Polygonum aviculare L. (knotgrass achene) CD	1		1					
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD								
Rumex acetosella L. (sheep's sorrel achene) EGCas			2					
Rumex sp. (dock achene) CDG	1		5	7	1	1	1	1
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*								
Crataeegus sp. (hawthorn seed frag.) HSW		1	1					
Prunus sp. (sloe etc. stone frag.) HSW			Cf.1					
Aphanes arvensis L. (parsley-					1			

piert achene) Co								
Roaceae thorn			4					
Trifolium/Lotus sp. (clover/trefoil) DG	9	1	2			1	3	3
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG	2		1	4				
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG			2					
Vicia/Lathyrus/Pisum sp. (large legume frag.)*				1				
Ajuga reptans L. (bugle nutlet) WGwH								
Galeopsis tetrahit L. (common hemp-nettle nutlet) ADWow								
Galium aparine L. (cleavers) CDH			1					
Plantago laceolata L.(ribwort plantain) Go								
Odontites verna/Euphrasia sp. (red bartsia/eyebright seed) CD	1	1	1		1			
Cirsium/Carduus sp. (thistle achene) GDCM								
Anthemis cotula L. (stinking chamomile achene) ADhw	1		1				1	
Juncus sp. (rush seed) MPGw								
Eleocharis subg. Palustres (spike-rush nutlet) MPw			2			1		
Carex sp. (trigonous sedge nutlet) MPw			3					
Carex sp. (lenticular sedge nutlet) MPw			4				1	1
Bromus sect. Bromus (chess caryopsis) ADG	1		3	2			1	
Poaceae various (small seeded grass caryopsis) CDG			2		1		1	
Poaceae Lolium-type (Lolium-	4	3	2	22	4	8	1	2

type grass caryopsis) CDG								
Total charred remains:	101	87	250	>732	50	54	46	44
Sample size:	32	40	40	10	40	40	10	10
Fragments per litre:	3.2	2.2	6.3	>73.2	1.3	1.4	4.6	4.4

Table 7.4 cont.

Sample **Context**	**92** **1907**	**93** **1913**	**105** **1917**	**142** **2000**	**158** **1495**	**145** **1682**
phase	R	R	R	R	R	UP
Taxa Feature type	P1906	P1906	P1916	D1998	P1486	P1681
Cereals :						
Triticum aestivum-type (bread-type free threshing wheat grain)					1	
Triticum dicoccum/spelta (emmer/spelt wheat grain)		1	16	9	16	1
Triticum dicoccum/spelta (emmer/spelt wheat grain - sprouted)						
Triticum sp. (wheat grain NFI)						
Hordeum sp. (hulled barley grain)		1		1		
Avena sp. (wild/cultivated oat grain)						
Avena/Bromus sp. (oat/chess grain)						
Indeterminate cereals	2	12	53	22	139	3
Chaff :						
Triticum sp. (free-threshing wheat rachis frag.)		1				
Triticum spelta L. (spelt glume base)	2	7	293	46		6
Triticum spelta L. (spelt spikelet fork)						
Triticum dicoccum (Schrank)Schübl. (emmer glume base)			3	8		
Triticum dicoccum (Schrank)Schübl. (emmer spikelet fork)						

Triticum dicoccum / spelta (emmer / spelt glume base)	33	97	>500	>1000	37	>500
Triticum dicoccum / spelta (emmer / spelt spikelet fork)	11	11	>100	>100	8	>100
Triticum dicoccum / spelta (emmer / spelt rachis frag.)		1	+	+	1	
Hordeum sp. rachis			1			
Avena sp (awn frag.)	+	+	+++	++		+
Cereal sprout			+++	++	+	
Weeds :						
Ranunculus repens/acris/bulbosus (buttercup achene) DG						
Urtica dioica L. (stinging nettle achene) CDn						
Corylus avellana L. (hazel nut shell frag.) HSW*			1			
Chenopodium album L. (fat hen seed) CDn						
Stellaria media (L.)Vill. (chickweed seed) Co						
Polygonum aviculare L. (knotgrass achene) CD			1		1	
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD						
Rumex acetosella L. (sheep’s sorrel achene) EGCas				1		
Rumex sp. (dock achene) CDG			7		6	2
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*						
Rubus sect. Glandulosa (bramble seed) DHSW*						
Potentilla sp. (cinquefoil achene) CDGM						
Roaceae thorn						
Trifolium/Lotus sp. (clover/trefoil) DG				1	4	1

Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG		2	6	2		2
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG	1					
cf. Cytisus scparius (L.)Link (cf. broom seed) EDW						
Prunella vulgaris L. (self-heal nutlet) GWo					5	
Sherardia arvensis L. (field madder nutlet) AD						
Galium aparine L. (cleavers) CDH						
Plantago laceolata L.(ribwort plantain) Go					1	
Odontites verna/Euphrasia sp. (red bartsia/eyebright seed) CD			1	1	5	1
Cirsium/Carduus sp. (thistle achene) CDGHM						
Anthemis cotula L. (stinking chamomile achene) ADhw			1	1		
Tripleurospermum inodorum (L.)Sch.Bip. (scentless mayweed achene) CD					1	
Eleocharis subg. Palustres (spike-rush nutlet) MPw						1
Carex sp. (trigonous sedge nutlet) MPw						
Carex sp. (lenticular sedge nutlet) MPw					2	
Bromus sect. Bromus (chess caryopsis) ADG		1	7	4		
Poaceae various (small seeded grass caryopsis) CDG						
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG	1	7	68	24	3	3

Total charred remains:	50	141	>1058	>1220	230	>620
Sample size:	20	30	35	40	40	14
Fragments per litre:	2.5	4.7	>30.2	>30.5	5.8	>44.3

Table 7.5 Incidence of perennial rye-grass (Lolium) and wetland taxa from the Strood Hall samples

	Lolium-t	**Wetland taxa**
Sample 1, pit 1069	17	0
Sample 81, pit 1357	12	0
Sample 70, gully terminal 1438	3	18
Sample 56, pit 1534	2	54
Sample 57, " "	1	22
Sample 124, pit 1330	12	1
Sample 123, midden	22	0
Sample 105, pit 1916	68	0
Sample 142, ditch 1998	24	0

Table 7.6 Blatches (Site 24): the charred plant remains

KEY: Feature types : D =ditch; ED = enclosure ditch; G = gully; P = pit; PH = posthole; { } = mineralized; f = fragment
Habitat Preferences : A = arable; C = cultivated; D = distubed/waste; E = heath; G = grassland; H = hedgerow; M = marsh/bog; R = rivers/ditches/ponds; S = scrub; W = woods; Y = waysides/hedgerows; a = acidic soils; c = calcareous soils; d = dry soils; n = nutrient-rich soils; o = open ground; w = wet/damp soils; * = plant of economic value; cf. = uncertain ID

Sample Context	**4 1055**	**10 1133**	**11 1135**	**12 1113**	**13 1084**	**14 1074**	**15 1078**	**19 1296**	**20 1299**	**21 1337**	**29 1281**	**1 1029**	**2 1035**	**3 1030**	**5 1034**
Phase	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.4	15.4	15.4	15.4
Taxa Feature type	ED1190	BS1320	BS1134	BS1321	G1322	G1322	BS1321	P1391	P1391	PH1336	D1188	P1409	P1409	P1409	BS1393
Cereals :															
Triticum aestivum/turgidum (bread/rivet-type free threshing wheat grain)	10	10	3	202	34	4		74	42	112	28	151	168	2	20
Triticum sp. (wheat grain NFI)															
Hordeum vulgare L. emend. (hulled barley grain)	1			12	7			8		13					
Hordeum sp. (barley grain)		2					2							1	
Secale cereale L. (rye grain)				3	1		cf.1			cf.1		13	14		
Avena sp. (wild/cultivated oat grain)				11	1	cf.1	cf.1	2		cf.2		2	8	cf.2	
Avena/Bromus sp. (oat/chess grain)				5				1		1		3			
Indeterminate cereals	45	20	5	229	88	12	24	99	53	182	40	174	200	8	37
Chaff :															
Triticum turgidum-type (rivet-type wheat rachis frag.)												cf.2	cf.7		

T. aestivum-type (bread-type wheat rachis frag.)															
Triticum sp. (free-threshing wheat rachis frag.)	1		1	11	5			8	3	13		13	14		
Secale cereale L. (rye rachis frag.)													4		
Avena sp (oat awn frag.)															
Cereal-sized culm node												1	2		
Cereal-sized culm base													1		
Weeds :															
Ranunculus repens/acris/bulbosus (buttercup achene) DG				1				2					1		
Corylus avellana L. (hazel nut shell frag.) HSW*				8	2	1	2		1			2	1	cf.1	
Chenopodium album L. (fat hen seed) CDn															
Chenopodium rubrum L. (red goosefoot seed) CDn													4		
Atriplex patula/prostrate (orache seed) CDn				1								1			
Stellaria media (L.)Vill. (common chickweed seed) CoD															
Agrostemma githago L. (corn cockle seed) A										2					
Spergula arvensis L. (corn spurrey seed)												2	1		
Silene vulgaris Garcke (bladder campion seed) GoD															
Persicaria maculosa/lapathifolia (redshank/pale persicaria) CD		cf.1		1											
Sample Context	**4 1055**	**10 1133**	**11 1135**	**12 1113**	**13 1084**	**14 1074**	**15 1078**	**19 1296**	**20 1299**	**21 1337**	**29 1281**	**1 1029**	**2 1035**	**3 1030**	**5 1034**

phase	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.3	15.4	15.4	15.4	15.4
Taxa Feature type	ED1190	BS1320	BS1134	BS1321	G1322	G1322	BS1321	P1391	P1391	PH1336	D1188	P1409	P1409	P1409	BS1393
Polygonum aviculare L. (knotgrass achene) CD				1								1			
Fallopia convolvulus (L.) A.Love (black-bindweed achene) AD								1		1					
Rumex sp. (dock achene) CDG	1			3					1	1		48	23		
Malva sylvestris (common mallow nutlet) DG													2		
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*	1						1				1		2	{1}	
Rubus sect. Glandulosa (bramble seed) DHSW*													1		
Malus sylvestris (L.)Mill. (crab apple seed frag.) HSW*												1			
Aphanes arvensis L. (parsley-piert achene) Cdo									1						
Rosaceae thorn								+					++		
Trifolium/Lotus sp. (clover/trefoil) DG				1			1		2	1	2		3		2
Pisum sativum L. (pea seed)*												cf.2	2+cf.8f	cf.1	cf.2f
Vicia faba var. minor (Celtic bean frag.)*												cf.9	1		
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG			1	9	3			1		4	4	2	1		
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG		1		14		2	2						3		
Vicia cf sativa (cf. cultivated vetch seed)								1							
Vicia/Lathyrus/Pisum	5	3		4	2		2			1	5	15	20	4	2

(vetch/tare/pea frag.)															
Prunella vulgaris L. (selfheal seed) GD				1											
Plantago laceolata L.(ribwort plantain) Go				1											
Odontites verna/Euphrasia sp. (red bartsia/eyebright) CD				2						4				1	1
Galium aparine L. (cleavers) CDH					1					2			1		
Anthemis cotula L. (stinking chamomile achene) ADhw	1	5		12	1			14	11	30	2	10	12		3
Centaurea cyanus L. (cornflower achene) A													1		
Centaurea sp. (cornflower embryo) AG				1						3					
Onopordum acanthium L. (cotton thistle achene) D*												1			
Sambucus nigra L. (elder seed) HSW*				1											
Eleocharis subg. Palustres (spike-rush nutlet) MPw		2		1				1	1	4					
Carex sp. (trigonous sedge nutlet) MPw								1				4	3		
Carex sp. (lenticular sedge nutlet) MPw															
Bromus sect. Bromus (chess caryopsis) ADG				4	2					2					
Poaceae various (small seeded grass caryopsis) CDG				2	1		1	1	1	6					
Poaceae Lolium-type (Lolium-type grass caryopsis) CDG		1											1		
Total charred remains:	65	45	10	541	148	20	37	214	116	385	82	457	509	21	67
Sample size:	12	30	20	40	40	38	40	30	30	10	40	15	13	5	16
Fragments per litre:	5.4	1.5	0.5	13.5	3.7	0.5	0.9	7.1	3.9	38.5	2.1	30.5	39.2	42	4.2

Sample **Context**	**24** **1294**	**25** **1346**	**26** **1371**	**30** **1364**	**31** **1381**	**22** **1341**	**23** **1343**	**27** **1140**	**28** **1141**
phase	15.4	15.4	15.4	15.4	15.4	15.5	15.5	15.6	15.6
Taxa Feature type	P1400	P1400	P1401	P1363	P1401	P1396	P1396	P1405	P1405
Cereals :									
Triticum aestivum-type (bread-type free threshing wheat grain)	5	12	3	1	5	76	50	43	59
Triticum sp. (wheat grain NFI)									
Hordeum sp. (hulled barley grain)					1	1	1		3
Triticum/Secale	5	1							
Secale cereale			Cf.1						2
Avena sp. (wild/cultivated oat grain)	1					4	15		1
Avena/Bromus sp. (oat/chess grain)	1					6			12
Indeterminate cereals	20	44	11	6	9	128	168	88	86
Chaff :									
Triticum sp. (free-threshing wheat rachis frag.)								1	2
Avena sp (awn frag.)									
Weeds :									
Ranunculus repens/acris/bulbosus (buttercup achene) DG									
Chenopodium album								1	
Chenopodium rubrum									2
Urtica dioica L. (stinging nettle achene) CDn					1				
Corylus avellana L. (hazel nut shell frag.) HSW*		1							2
Agrostemma githago					1				
Persicaria maculosa/lapathifolia (redshank/pale persicaria) CD									1
Polygonum aviculare L. (knotgrass achene) CD									
Fallopia convolvulus (L.) A.Love						1			

(black-bindweed achene) AD									
Rumex sp. (dock achene) CDG						1		3	2
Brassica/Sinapis sp. (mustard, charlock etc. seed) CD*						1	4	2	1
Rubus sect. Glandulosa (bramble seed) DHSW*								2	
Trifolium/Lotus sp. (clover/trefoil) DG	1	1			1	4	3	5	2
PISUM SATIVUM							1		
Vicia c. sativa									1
Vicia faba									Cf.1
Vicia/Lathyrus sp. (<=2mm, small seeded weed vetch/tare) CDG	1					13	15		6
Vicia/Lathyrus sp. (>.2mm, small seeded weed vetch/tare) CDG		1				3	7	2	
Vicia/Lathyrus/Pism frag.		3			3	3		10	2
Ajuga reptans L. (bugle nutlet) WGdH									

Sample **Context**	**24** **1294**	**25** **1346**	**26** **1371**	**30** **1364**	**31** **1381**	**22** **1341**	**23** **1343**	**27** **1140**	**28** **1141**
phase	15.4	15.4	15.4	15.4	15.4	15.5	15.5	15.6	15.6
Taxa Feature type	P1400	P1400	P1401	P1363	P1401	P1396	P1396	P1405	P1405
Galeopsis tetrahit L. (common hemp-nettle nutlet) ADWod									
Stachys									
Odontites verna/Euphrasia sp. (red bartsia/eyebright) CD			1		1	1			
Hyoscyamu niger									
Sherardia arvensis								1	
Galium aparine L. (cleavers) CDH		1		1		1			
Plantago laceolata L.(ribwort plantain) Go									
Anthemis cotula		3			1	20	11	2	11
Sambucus nigra L. (elder seed) HSW*									
Cirsium/Carduus		1							1
VALERIANELLA DENT									
JUNCUS									
Eleocharis subg. Palustres (spike-rush nutlet) MPd									
Carex sp. (trigonous sedge nutlet) MPd									
Carex sp. (lenticular sedge nutlet) MPd									
Bromus sect. Bromus (chess caryopsis) ADG								2	
Poaceae various (small seeded grass caryopsis) CDG						1	4		1
Poaceae Lolium-type (small seeded grass caryopsis) CDG									
Total charred remains:	34	68	16	8	23	261	279	162	198
Sample size:	37	40	40	40	16	40	40	35	40
Fragments per litre:	0.9	1.7	0.4	0.2	1.4	6.5	7.0	4.6	5.0

Table 7.7. Summary of cereal crops by phase from Blatches

Phase	**15.3**	**15.4**	**15.5 & 15.6**
Wheat	88%	89%	89%
Barley	8%	2%	2%
Rye	1%	28%	1%
Oat	3%	3%	8%
Total identified cereals	589	410	255

Table 7.8 Comparison of incidence of wild food resources by period and site

No of samples	**LBA**	**LIA/ER (Period 10/11)**			**Period 12/13**		**MED**
Site	**Greenfields**	**Rayne**	**E. of Dunmow Road**	**Strood Hall**	**Rayne**	**Strood Hall**	**Blatches**
Hazelnut shell (Corylus avellana)	1	3[1]	2	5		14	10
Rose (Rosa sp.)	1		1				
Sloe (Prunus spinosa)	1					cf.2	
Bramble (Rubus sect. Glandulosus)		[1]					2
Hawthorn (Crataegus monogyna)						2	
Elder (Sambucus nigra)		[1]					1
Possible medicinal or vegetable plants		[Henbane 1], [mint 1]	Mallow 1, Lesser celandine 1	Hemlock 1, lesser celandine 1, ground ivy 1			Mallow 1, brassica 10, Cotton thistle 1
Total no. of	4	4[1]	10	15	3	29	24

samples								

Figures given are number of charred samples, not items; [ ] = waterlogged samples

Table 7.9 Site 9, Strood Hall: results of the charcoal analysis from the cremation burials

Phase	**11**				**11.1**					**11.2**						
Burial number	1381		1862		1509			1755	1868	1733			1285			
Deposit type	unurned burial		urned burial	grave fill	grave fill	urned burial	urn fill	urned burial	grave fill	grave fill	unurned burial		grave fill			
Context number	1382	1382	1865	1864	1551	1520	1521	2146	1869	1866	1867	1867	1286	1478	1480	1852
Sample number	17	20	-	109	6	34	35	-	82/84	75	77	78	19	-	-	90

Volume floated (litres)		40	40	10	40	40	25	1	5	65	16	20	10	40	10	0.5	30
% flot identified		25	25	100	25	25	100	100	100	100	100	12.5	12.5	50	100	100	50
Pinus sp.	pine									1							
Quercus sp.	oak	90	90h	76h	43	52	58	19	49	39	125sh	140h	163h	7	12	22	
Alnus gluti	alder													1			

nosaGaertn																
Prunusspp.	cherry/blackthorn	1r														
Maloideae	hawthorn, app	2	52					4r				1				

	le, pear																
Fraxinus excelsior L.	ash	14		7	93hr	41	49sh	10		2				108	20	10	106hr
Indeterminate					3	4	19	3		8	16					2	3
To		10	90	88	14	97	12	32	49	54	14	14	16	11	33	34	109

t al		7			1		6				1	0	3	6			

Key: s=sapwood; h=heartwood; r=roundwood

Table 7.10 Site 28, Greenfields: results of the charcoal analysis. Key: s=sapwood; h=heartwood; r=roundwood

Phase		**6**		
Feature type		**Hearth**	**Cremation burial**	**Pit**
Feature number		1019	1048	1068
Context number		1020	1049	1070
Sample number		3	6	8
Volume floated (litres)		34	40	40
% flot identified		1.6	100	50
Quercus sp.	oak	99sh	147sh	39
Corylus avellana L.	hazel			6
Prunus spinosa L.	blackthorn	1		10
Maloideae	hawthorn, apple, pear etc			6
cf. Ilex aquifolium L.	holly			2
Acer campestre L.	field maple			5
Fraxinus excelsior L.	ash			59sh
Indeterminate				6
Total		100	147	133

Table 7.11 Stone Hall (Site 42): results of the charcoal analysis. Key: s=sapwood; h=heartwood; r=roundwood

Phase		**6**					
Feature type		**Cremation burial/pyre debris**					
Feature number		14000	14002	14029	14039	14042	14111
Context number		14001	14004	14030	14040	14041	14196
Sample number		14811	14838	14858	14866	14873	14899
Volume floated (litres)		2	3	3	8	6	8
% flot identified		50	50	12.5	12.5	50	100
Quercus sp.	oak						10
Prunus spinosa L.	blackthorn		16	38r	3	4	

Maloideae	hawthorn, apple, pear etc	19	100	58	107	1	
Acer campestre L.	field maple						16
Fraxinus excelsior L.	ash	124sh				138sh	94sh
Indeterminate		1	7	12	4	3	5
Total		144	123	108	114	146	125

Table 7.12 Strood Hall (Site 44): results of the charcoal analysis

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Key: s=sapwood; h=heartwood; r=roundwood

Phase		**11/12**		
Feature type		**Cremation burial**		
Feature number		16002	16007	16004
Context number		16003	16006	16005
Sample number		16801	16805	16807
Volume floated (litres)		2	3	2.5
% flot identified		100	25	25
Quercus sp.	oak	34	11	
Acer campestre L.	field maple			45
Fraxinus excelsior L.	ash	81	126h	76r
Indeterminate				8
Total		115	137	129

Table 7.13 Grange Lane (Site 49): results of the charcoal analysis. Key: s=sapwood; h=heartwood; r=roundwood

Phase	**6**
Feature type	**Cremation burial**

Feature number		28004	28006
Context number		28021	28022
Sample number		28800, 28801, 28802	28805
Volume floated (litres)		8	3.5
% flot identified		100	100
Quercus sp.	oak	8	125
Corylus avellana L.	hazel	30	
Indeterminate		2	1
Total		40	126

Table 7.14 Coleoptera from Rayne Roundabout ditch 350

Coleoptera	**Minimum number of individuals**	**Species Group**
Trechus obtusus Er. or quadristriatus (Schr.)	1	
Pterostichus melanarius (Ill.)	1	
Agonum dorsale (Pont.)	1	6a
Agonum sp.	1	
Metabletus sp.	1	
Hydroporus sp.	1	1
Agabus bipustulatus (L.)	1	1
Helophorus aquaticus (L.)	1	1
Helophorus spp. (brevipalpis size)	34	1
Sphaeridium bipustulatum F.	1	
Cercyon sp.	1	7
Hydrobius fuscipes (L.)	2	1
Anacaena sp.	1	1
Ochthebius bicolon Germ.	1	1
O. minimus (F)	1	1
O. cf. minimus (F.)	10	1
Ptenidium sp.	1	
Lesteva longoelytrata (Gz.)	1	
Platystethus arenarius (Fouc.)	4	7
P. cornutus gp.	3	
P. nodifrons (Sahl.)	1	

Coleoptera	**Minimum number of individuals**	**Species Group**
Anotylus sculpturatus gp.	2	7
Stenus sp.	1	
Rugilus sp.	1	
Gyrohypnus fracticornis gp.	1	
Xantholinus glabratus (Grav.)	1	
X. linearis (Ol.)	1	
Philonthus sp.	1	
Gabrius sp.	1	
Tachinus sp.	1	
Aleocharinae indet.	3	
Aphodius contaminatus (Hbst.)	1	2
A. cf. foetidus (Hbst.)	1	2
A. granarius (L.)	3	2
A. cf. sphacelatus (Pz.)	1	2
Aphodius spp.	2	2
Athous hirtus (Hbst.)	1	11
Agriotes sp.	2	11
Cantharis sp.	1	
Ptinus fur (L.)	2	9a
Malachius sp.	1	
Brachypterus urticae (F.)	2	
Coccinella sp.	1	
Enicmus transversus (Ol.)	1	8
Corticariinae indet.	1	8
Phyllotreta nigripes (F.)	1	
Longitarsus sp.	1	
Chaetocnema sp. (not concinna)	1	
Sitona sp.	1	3
Tanysphyrus lemnae (Pk.)	1	5
Notaris acridulus (L.)	2	5
Ceutorhynchus erysimi (F.)	1	
Anthonomus cf. rubi (Hbst.)	1	
Scolytus intricatus (Ratz.)	1	4
Total	112	

Table 7.15 Other insects from Rayne Roundabout ditch 350

Other Insects	**Minimum number of individuals**
Forficula auricularia (L.)	1
Heterogaster urticae (F.)	1
Scolopostethus sp.	1
Apis mellifera L. - worker	1
Hymenoptera indet.	9
Chironomidae indet. - larva	+
Bibionidae indet. - adult	2
Diptera indet. - adult	2

+ present

Table 7.16 Highwood Farm (Site 11): mollusc data from middle Iron Age ditches 1048 and 1051

Phase	**MIA**							
Feature	**Ditch 1048**		**Ditch 1051**					
fill	1ry	2ndry	primary			secondary		
Context	1049	1050	1052			1054		
Sample	1006	1007	1008	1009	1010	1011	1012	1013
Depth (cm)								
Wt (g)	2000	2000	2000	2000	2000	2000	2000	2000
LAND								
Carychium tridentatum (Risso)	-	-	2	3	2	2	-	-
Carychium spp.	-	-	-	1	-	-	-	-
Cochlicopa spp.	-	-	-	1	3	-	-	-
Vertigo pygmaea (Draparnaud)	-	-	1	2	2	3	-	-
Vertigo spp.	-	-	-	1	-	1	-	-
Pupilla muscorum (Linnaeus)	-	-	-	2	3	-	2	-
Vallonia costata (Müller)	-	-	-	3	2	2	1	-
Vallonia excentrica Sterki	-	-	16	12	29	25	3	-

Vallonia spp.	1	-	-	-	-	-	-	-
Ena obscura (Müller)	-	-	-	1	-	1	-	-
Punctum pygmaeum (Draparnaud)	-	-	-	2	-	-	-	-
Discus rotundatus (Müller)	-	-	-	-	-	1	-	-
Vitrina pellucida (Müller)	-	2	-	-	4	-	-	-
Nesovitrea hammonis (Ström)	-	-	-	-	1	-	-	-
Aegopinella nitidula (Draparnaud)	-	-	-	1	5	6	2	-
Oxychilus cellarius (Müller)	-	-	3	2	1	-	-	-
Limacidae	1	-	5	9	2	8	2	-
Cecilioides acicula (Müller)	-	-	-	-	1	-	-	-
Clausilia bidentata (Ström)	-	-	-	-	+	1	-	-
Trichia hispida (Linnaeus)	-	-	8	4	7	11	7	-
Cepaea spp.	+	+	+	+	5	+	-	-
FRESH- /BRACKISH-WATER								
Lymnaea truncatula (Müller)	-	-	2	2	-	-	-	-
Gyraulus albus (Müller)	-	-	-	-	-	-	-	1
Taxa	2	1	7	14	13	10	6	1
TOTAL	2	2	37	47	66	61	17	1

Table 7.17. Grange Lane (Site 20): assessment of snails from Iron Age ditch 1117

Phase	**IA**	
Feature type	ditch	
Feature	1117	
Context	1143	1142
Sample	23	23
Wt (g)	2000	2000
LAND		
Vallonia spp.	17	-
Cepaea spp.	+	-
Taxa	1	-
TOTAL	17	0

Note: this is snails recovered from the flot only

Table 7.18 Rayne Roundabout (Site 33/34): mollusc data from Romano-British contexts

Phase	**Late Roman**	**post Roman**	**?**
Feature type	hollow	ditch	gully
Feature	layer	143	351
Context	223	144	141
Sample	114	108	107
Wt (g)	2000	2000	2000
LAND			
Carychium minimum Müller	-	-	2
Carychium tridentatum (Risso)	-	2	12
Carychium spp.	-	-	1
Succiniea putris (Linnaeus)	-	-	1
Cochlicopa lubrica (Müller)	-	2	2
Cochlicopa spp.	-	1	-
Discus rotundatus (Müller)	-	-	3
Vitrea crystallina (Müller)	-	-	4
Vitrea contracta (Westerlund)	-	2	1
Aegopinella pura (Alder)	-	-	1
Aegopinella nitidula (Draparnaud)	-	1	8
Oxychilus cellarius (Müller)	-	+	4
Limacidae	-	1	3
Cecilioides acicula (Müller)	-	-	1
Candidula intersecta (Poiret)	-	-	1
Helicella itala (Linnaeus)	-	1	2
Trichia hispida (Linnaeus)	-	-	1
Cepaea/Arianta spp.	-	+	+
FRESH- /BRACKISH-WATER			
Lymnaea truncatula (Müller)	8	2	74
Anisus leucostoma (Millet)	6	-	3
Planorbis planorbis (Linnaeus)	25	-	-
Gyraulus albus (Müller)	1	-	-
Planorbidae	-	+	-
Pisidium spp. valves □2	-	3	27
cf. Hydrobia	-	2	-

Taxa	4	9	15
Terrestrial Total	0	10	46
Freshwater Total	40	7	104

Table 7.19 Strood Hall (Site 9): mollusc data from early Roman cremation burial 1452

Phase	**ERO**
Feature type	crem
Feature	1452
Context	1453
Sample	106
Wt (g)	2000
LAND	
Carychium spp.	1
Vertigo cf. pygmaea (Draparnaud)	1
Pupilla muscorum (Linnaeus)	1
Vallonia costata (Müller)	15
Vallonia excentrica Sterki	4
Trichia hispida (Linnaeus)	1
FRESH- /BRACKISH-WATER	
Lymnaea truncatula (Müller)	1
Anisusu leucostoma (Millet)	1
Taxa	8
TOTAL	25

Table 7.20 Borehole stratigraphy and inferred environments of deposition: T1E BH 1, Pincey Brook

T1E BH 1	**Pincey Brook**	
Depth below ground surface (metres)	**Stratigraphic description**	**Inferred environment of deposition**
0.00 – 0.20	10YR 2/3 brownish-black clay-silt. Common modern root	Overbank alluvium on floodplain surface away

	fragments. Soft and structureless. ---diffuse contact---	from active channel. Unit subject to weathering and transformation to topsoil.
0.20 – 1.00	10YR 5/4 yellowish-brown clay-silt. Moderately firm and compact. Occasional small (<3cm) flint clasts (typically sub-angular in shape). Modern roots are common. Unit is structureless and massive. ---not seen---	Overbank alluvium on floodplain surface away from active channel.
1.00 – 1.95	7.5YR 5/6 strong brown clay-silt with 7.5YR 6/1 grey patches (some patches associated with the fill of old root canals). Unit is structureless and massive. Occasional angular flint clasts (<2cm) are present near base of unit. Soft black patches (?charcoal) near base. ---diffuse contact---	Overbank alluvium on floodplain surface away from active channel. Sediment has been rooted through by vegetation.
1.95 – 2.00	10YR 2/2 very dark brown silt (probably with high organic content). Unit is relatively soft and structureless. ---not seen---	Low energy channel cut-off or oxbow lake with ?marsh development.
2.00 – 2.75	7.5YR 5/1 grey clay-silt becoming 2.5Y 4/1 yellowish grey with depth. Relatively soft and pliable. 5YR 2/6 yellowish-red staining along thin (<1mm wide) vertically orientated root systems. ---graded contact---	Low energy channel cut-off or floodplain surface.
2.75 -	7.5YR 2/2 brownish black silt. Soft and unconsolidated. No apparent structure. ---base of borehole 3.0m---	Low energy channel cut-off or oxbow lake.

Table 7.21 Borehole stratigraphy and inferred environments of deposition: T1E BH 2, Pincey Brook

T1E BH2	**Pincey Brook**	
Depth below ground surface (metres)	**Stratigraphic description**	**Inferred environment of deposition**
0.00 – 0.28	10YR 2/3 brownish-black clay-silt. Common modern root fragments. Soft and structureless.	Overbank alluvium on floodplain surface away from active channel. Unit subject to weathering and transformation to topsoil.
	---diffuse contact---	
0.28 – 0.65	10YR 5/4 yellowish-brown clay-silt with some fine sand. Moderately firm and compact. Occasional small (<3cm) flint clasts (typically sub-angular in shape). Modern roots are common. Unit is structureless and massive.	Overbank alluvium on floodplain surface away from active channel but with occasional inputs from moving water.
	---not seen---	
0.65 – 1.10	7.5YR 5/6 strong brown clay-silt with 7.5YR 6/1 grey patches (some patches associated with the fill of old root canals). Common flint clasts present throughout unit. Clasts are <1cm to >4cm and sub-angular to rounded in shape. Top of unit is nearly a gravel unit with a clay-silt matrix. Unit is structureless and massive.	Overbank alluvium on floodplain surface away from active channel but with inputs from fast flowing water at times of peak discharge. Sediment has been rooted through by vegetation.
	---abrupt contact---	
1.10 – 1.50	5Y 5/2 olive grey clay-silt with 10YR 6/4 light yellowish-brown mottles. Unit is soft, structureless and pliable. Occasional small (<5mm) nodules of carbonate material (?soil concretions or tufa).	Low energy channel cut-off or floodplain surface. Sediment has possibly been subjected to weathering and soil forming processes.
	---sharp contact---	
1.50 – 1.85	5Y 5/2 olive grey gravel. Unit is matrix supported with a clay-silt matrix. Clasts are poorly sorted with clasts between 2 and 6cm and sub-angular to rounded in shape. Unit is dense and compact.	High energy channel conditions possibly as channel bar.

	---sharp contact---	
1.85 – 2.82	5Y 5/2 olive grey clay-silt with 10YR 6/4 light yellowish-brown mottles. Unit is soft, structureless and pliable. Occasional small (<10mm) nodules of carbonate material (?soil concretions or tufa). 5YR 2/6 yellowish red staining along thin root canals.	Low energy channel cut-off or floodplain surface. Sediment has possibly been subjected to weathering and soil forming processes.
	---diffuse contact---	
2.82 -	10YR 3/1 very dark grey silt. Structureless and massive. ---base of borehole 3.0m-	Low energy channel cut-off or floodplain surface.

Table 7.22 Borehole stratigraphy and inferred environments of deposition: T1E BH 3, Pincey Brook

T1E BH 3	**Pincey Brook**	
Depth below ground surface (metres)	Stratigraphic description	Inferred environment of deposition
0.00 – 0.28	10YR 2/3 brownish-black clay-silt. Common modern root fragments. Soft and structureless. ---diffuse contact---	Overbank alluvium on floodplain surface away from active channel. Unit subject to weathering and transformation to topsoil.
0.28 – 0.60	10YR 5/4 yellowish-brown clay-silt. Moderately firm and compact. Occasional small (<3cm) flint clasts (typically sub-angular in shape). Modern roots are common. Unit is structureless and massive. ---abrupt contact---	Overbank alluvium on floodplain surface away from active channel.
0.60 – 1.05	2.5Y 5/3 yellowish-brown clay-silt. Unit is dense and compact. Common flint gravel clasts at top of unit (typically angular and <4cm). Larger clasts appear towards base of unit. ---abrupt contact---	Overbank floodplain surface with input of material from channel during periods of higher discharge.
1.05 – 1.30	5Y 5/2 olive grey clay-silt with 10YR 6/4 light yellowish-brown mottles. Unit is soft, structureless and pliable. Occasional small (<5mm) nodules of carbonate material (?soil concretions or tufa). ---abrupt contact---	Low energy channel cut-off or floodplain surface. Sediment has possibly been subjected to weathering and soil forming processes.
1.30 – 1.55	5Y 5/2 olive grey gravel. Unit is matrix supported with a clay-silt matrix. Clasts are poorly sorted with clasts between 2 and 6cm and sub-angular to rounded in shape. Unit is dense and compact. ---abrupt contact---	High energy channel conditions possibly as channel bar.
1.55 – 2.35	5Y 5/2 olive grey clay-silt with 10YR 6/4 light yellowish-brown mottles. Unit is soft and structureless and pliable. Occasional small	Low energy channel cut-off or floodplain surface. Sediment has possibly been subjected to weathering and soil forming

	(<15mm) nodules of carbonate material (?soil concretions or tufa). ---diffuse contact---	processes.
2.35 -	5Y 5/2 olive grey clay-silt with 10YR 6/4 light yellowish-brown mottles. Unit is soft, structureless and pliable. Occasional small nodules of carbonate material (?soil concretions or tufa). 5YR 2/6 yellowish red staining along thin root canals. Unit becomes 5Y 4/1 dark grey towards base. ---base of borehole 3.0m---	Low energy channel cut-off or floodplain surface. Sediment has possibly been subjected to weathering and soil forming processes.

Table 7.23 Borehole stratigraphy and inferred environments of deposition: T2E BH 1, River Roding

T2E BH 1	**River Roding**	
Depth below ground surface (metres)	Stratigraphic description	Inferred environment of deposition
0.00 – 0.30	10YR 3/3 dark brown slightly sandy-silt. Soft and structureless. Modern roots present. ---sharp contact---	Overbank alluvium on floodplain surface away from active channel. Unit subject to weathering and transformation to topsoil.
0.30 – 0.70	10YR 4/4 dark yellowish-brown silty-sand to sandy-silt. Structureless and soft. Occasional larger flint clasts (typically sub-angular in shape and <5cm). ---diffuse contact---	Overbank floodplain surface with input of material from channel during periods of higher discharge.
0.70 – 1.50	10YR 4/4 dark yellowish-brown silty-sand (unit slightly coarser than overlying unit). Structureless and soft. Occasional larger flint clasts (typically sub-angular in shape and <5cm). Unit becomes 10YR 6/4 light yellowish brown with depth. ---not seen---	Overbank floodplain surface with input of material from channel during periods of higher discharge. Flood discharge rates/speeds appear to increase with depth.
1.50 -	2.5Y 6/2 light brownish grey sandy-gravel. Unit is loose and unconsolidated. Unit is 7.5YR 5/8 strong brown at top. Gravel is poorly sorted with clasts between 1 and 6cm and predominantly well rounded clasts. Matrix is formed of coarse sand. Unit appears structureless. ---base of boreholes 3.0m---	High energy active channel deposits possibly as bars within channels. Possibly a cold climate periglacial braided channel system.

Table 7.24 Borehole stratigraphy and inferred environments of deposition: T2E BH 2, River Roding

T2E BH 2	**River Roding**	
Depth below ground surface (metres)	Stratigraphic description	Inferred environment of deposition
0.00 – 0.28	10YR 3/3 dark brown slightly sandy-silt. Soft and structureless. Modern roots present. ---abrupt contact---	Overbank alluvium on floodplain surface away from active channel. Unit subject to weathering and transformation to topsoil.
0.28 – 0.80	10YR 4/4 dark yellowish-brown silty-sand to sandy-silt. Structureless and soft. Occasional larger flint clasts (typically sub-angular in shape and <5cm). ---diffuse contact---	Overbank floodplain surface with input of material from channel during periods of higher discharge.
0.80 – 1.00	10YR 4/4 dark yellowish-brown silty-sand (unit slightly coarser than overlying unit). Structureless and soft. Occasional larger flint clasts (typically sub-angular in shape and <5cm). Unit becomes 10YR 6/4 light yellowish brown with depth. ---not seen---	Overbank floodplain surface with input of material from channel during periods of higher discharge. Flood discharge rates/speeds appear to increase with depth.
1.00 – 1.10	2.5Y 7/3 light yellow medium sand. Loose and structureless. ---abrupt contact---	Active channel deposition – possibly in sand bars.
1.10 – 2.40	10YR 6/4 light yellowish-brown medium sand with 7.5YR 6/8 reddish-yellow mottling. Upper part of unit (top 5cm) dominated by 7.5YR 6/8 reddish-yellow colour and with a hard, ? cemented texture. At c.1.8cm large 1cm wide vertical root canals filled with sand stained 7.5YR 6/8 reddish-yellow colour. ---sharp contact---	Active channel deposition – possibly in sand bars. Periodic higher flow represented by gravel beds. Possibly subject to pedogenesis associated with upper contact and rooted through from this surface.
2.40 -	2.5Y 7/4 pale yellow sandy-gravel. Gravel is poorly sorted with clasts <1cm to >4cm and rounded. Unit is bedded with beds containing	High energy active channel deposits possibly as bars within channels. Possibly a cold climate periglacial braided channel system.

	mostly sand alternating with gravel beds. Unit is loose and unconsolidated. ---base of borehole 3.00m---	

Table 7.25 Borehole stratigraphy and inferred environments of deposition: T2E BH 3, River Roding

T2E BH 3	River Roding	
Depth below ground surface (metres)	Stratigraphic description	Inferred environment of deposition
0.00 – 0.40	10YR 3/3 dark brown slightly sandy-silt. Soft and structureless. Modern roots present.	Overbank alluvium on floodplain surface away from active channel. Unit subject to weathering and transformation to topsoil.
	---abrupt contact---	
0.40 – 1.00	10YR 4/4 dark yellowish-brown silty-sand to sandy-silt. Structureless and soft. Occasional larger flint clasts (typically sub-angular in shape and <5cm).	Overbank floodplain surface with input of material from channel during periods of higher discharge.
	---not seen---	
1.00 – 1.20	10YR 4/4 dark yellowish-brown silty-sand (unit slightly coarser than overlying unit). Structureless and soft. Common well rounded flint clasts (typically 2-4cm). Unit becomes 10YR 6/4 light yellowish brown with depth. Clast content decreases with depth.	Overbank floodplain surface with input of material from channel during periods of higher discharge. Flood discharge rates/speeds appear to increase with depth.
	---graded contact---	
1.20 – 2.10	7.5YR 6/8 reddish-yellow sand. Structureless and soft.	Active channel deposition possibly within sand bars.
	---sharp contact---	
2.10 – 2.90	2.5Y 7/4 pale yellow medium sand/. Structureless and massive.	Active channel deposition possibly within sand bars.
	---sharp contact---	
2.90 -	2.5Y 7/4 pale yellow well sorted gravel. Clasts are rounded and typically <5mm in diameter. Unit is loose and structureless.	High energy active channel deposits possibly as bars within channels. Possibly a cold climate periglacial braided channel system.
	---base of borehole 3.00m---	

Chapter 8

Table 8.1 Summary of interventions and archaeology located

Site No.	Site Name	Field-walked	Date of finds	Eval 2000	Eval 2001	Excavation 2001-2	Archaeology	Period of archaeology	Residual finds
1	Takeley Church	Part	IA/RB/late Sx/Med metal-d finds	Yes	-	Yes	Yes	Saxon, Med/PM, undated	flint, Pmed
2	Warish Hall	Yes	RB/Med/Pmed	No	Yes	Yes	Yes	LBA, LIA/RB, Med	flint, MBA
3	Fanns Wood	Yes	Med	No	Yes	No	No	Undated	flint, ?RB
4	Frogs Hall West	Yes	RB	No	Yes	No	No	-	
5	Frogs Hall East	Yes	Med	No	Yes	Yes	Yes	RB, Med, undated	flint, MBA, LBA/EIA
6	Little Canfield Hall	Yes	Med	Yes	-	Yes	Yes	E-MIA, undated	flint
7	Stone Hall	Yes	Preh flint	Yes	-	Yes	Yes	MBA, LBA-EIA, undated	flint
8	Stone Hall	Yes	Preh flint	Yes	No	No	Slight	Preh	
9	Strood Hall	Yes	RB/Pmed	Yes	-	Yes	Yes	Neo, MBA-LBA/EIA, LIA/ERO, RB, Med, undated	Neo, MIA
10	A120 Stane Street	Yes	RB road	No	No	No	Not investigated	-	
11	Highwood Farm	Yes	Burnt flint/Med/Pmed	No	Yes	Yes	Yes	MIA, LIA, undated	flint, MBA, LBA/EIA
12	Dunmow Roundhouse	Yes	Med	No	Yes	No	Slight	LBA/EIA, Med	
13	Minchins	Yes	daub/ Pmed	No	No	No	Not investigated	-	
14	Hoblong's Brook	Yes	RB	No	Yes	No	No	modern	MIA

15	A130	Yes	PM	No	No	No	Not investigated	-	
16	Chelmer River	Yes	Med	Yes		Yes	No	Preh, Pmed, undated	flint
17	Clobbs Wood	Yes	PM	No	Yes	Yes	Yes	Preh, RB, Med, undated	flint, MBA
17a	N of Clobbs Wood	Yes	cropmarks (windmill)	No	Yes	No	Slight		flint, LBA/EIA, MIA, RB
18/19	Clobbs Cottage/ Grange Farm	Yes	burnt flint/Med	No	Yes	No	Slight	M-LBA/EIA	Meso,
20	Grange Lane	Yes	Pmed	Yes	-	Yes	Yes	MBA, LBA/EIA, MIA, undated	
21	Clay Lane	Yes	Pmed	Yes	-	No	No	Pmed	
22	Throes Farm	Yes	Med, cropmark	Yes	-	Yes	Yes	MIA, Med, modern	LBA/EIA, LIA/ERO
23	Bramble Lane	Yes	Pmed	Yes	-	No	No	-	
24	Blatches	Yes	Med	Yes	-	Yes	Yes	LIA/ERO, Med	flint
25/26	Stebbingford	Yes	cropmarks, flint, RB, Pmed	No	No	No	Yes	Meso, Med	RB
27/28	Greenfields	Yes	Preh/Med/Pmed	Yes	-	Yes	Yes	MBA-MIA, ERO	flint
29	Straits Farm	Yes	Med	Yes	No	No	No	-	
30-2	Graunts Court	Part	flint/RB	Yes	No	No	No	modern	
33/34	Rayne Roundabout	Yes	RB	Yes	-	Yes	Yes	LIA/ERO, RB, Pmed, undated	flint
35	Rayne	Yes	flint	NI	-	-			
36	Fenton's Farm	Yes	flint	NI	-	-			
	Watching Brief								
37	Parsonage Lane	No		-	-	-	Yes	RB, undated	flint
38	East of Parsonage Lane	No		-	-	-	Yes	MIA	LBA/EIA

39	North of Frogs Hall stables	No		-	-	-	Slight	MBA, LBA/EIA	flint
40	West of River Roding	No		-	-	-	Yes	Med	flint
41	West of Stone Hall	No		-	-	-	Slight	LBA/EIA, undated	flint
42	Stone Hall	No		Yes	-	Yes	Yes	see Site 7	
43	West of Strood Hall	No		-	-	-	Slight	LBA/EIA	flint
44	Strood Hall	No		Yes	-	Yes	Yes	see Site 9	
45	Stane Street South	No		-	-	-	Slight	Undated	
46	Highwood Farm	No		-	Yes	Yes	Slight	see Site 11	
47	South of Great Dunmow	No		-	-	-	Slight	Undated	flint, MBA
48	West of Ongar Road	No		-	-	-	Slight	LBA/EIA, undated	Meso, Neo
49	Grange Lane	No		Yes	-	Yes	Yes	see Site 20	
50	East of Little Dunmow Road	No		-	-	-	Yes	LBA/EIA, MIA, LIA/ERO	flint
51	Stebbingford Farm	No		-	-	-	Slight	Med	
52	Stebbingford Farm Borrow Pit	No		-	-	-	Yes	LBA, E-MIA, LIA-ERO, Med	flint
53	Valentine Cottage	No		-	-	-	Yes	RB, undated	flint
54	West of Panners Roundabout	No		-	-	-	Yes	?Preh, RB, Pmed, undated	flint

Table 8.2 Analytical data from phosphate assessment

Sample No.	**Context No**	**Description**	**LOI (%)**	**Phosphate-P**	**χ**	**χmax**	**χconv**
				(mg g-1)	(10-8m3kg-1)	(10-8m3kg-1_	(%)
(i) Samples from grid of natural inside and outside ('control' samples) the stockade enclosure							
48866		Outside enclosure	3.15	0.59	11.9	2520	0.47
48854		Outside enclosure	2.99	0.63	8.42	2240	0.38
48861		Inside enclosure	3.36	0.665	13.1	2000	0.66
48819		Inside enclosure	3.52	0.628	9.92	2590	0.38
30875		Inside enclosure	3.11	0.562	11.6	2240	0.52
48848		Inside enclosure	3.72	0.591	9.97	2520	0.4
30839		Inside enclosure	3.15	0.523	12	2260	0.53
30870		Inside enclosure	3.84	0.974	23	1910	1.2
48814		Inside enclosure	2.75	0.575	7.04	1990	0.35
30889		Inside enclosure	3.43	0.662	10.4	2280	0.46
(ii) Fills of ditch around enclosure							
48874	30376	NW: Lower fill	2.54	1.03	10.2	2050	0.5
48877	30348	SW: Lower fill	2.91	1.04	10.5	2120	0.5
48881	30279	SE(Terminus): Upper fill	3.52	1.45	22.4	1730	1.29
48882	30277	SE(Terminus): Lower fill	2.88	1.57	13.3	1590	0.84
48886	30450	NE: Lower fill	2.75	1.36	12.6	1720	0.73
48887	30446	NE: Recut fill	4.14	2.54	55.3	1660	3.33
(iii) Specific contexts							
30811	48049	Ring gully terminus	3.1	0.896	12.3	1970	0.62
48888	48165	Posthole (charcoal-rich)	7.1	1.16	17.2	1730	0.99
30823	48073	Ditch (single fill)	3.44	1.06	12.5	2060	0.61
30805	30391	Pit (charcoal-rich)	3.86	2.76	26.5	1160	2.28

Figures

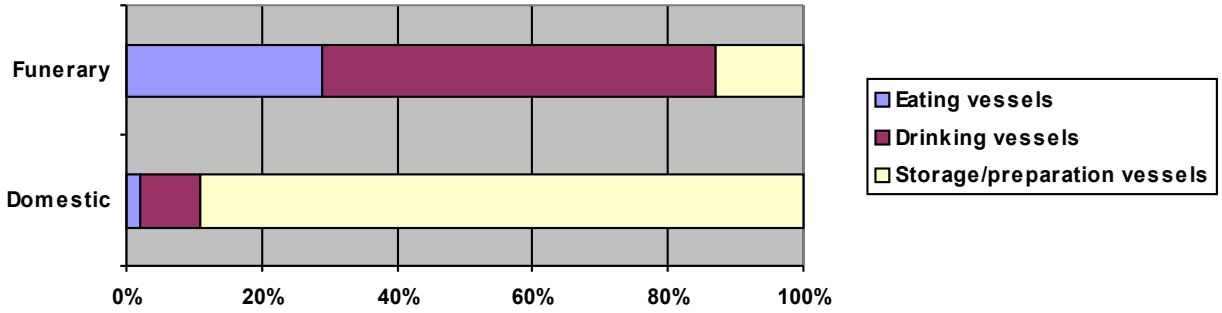


Figure 4.7. Strood Hall: Vessel function: comparison between ancillary vessels from the cemetery (based on vessel count) and the Phase 11.1 (domestic) pottery groups (based on EVEs).

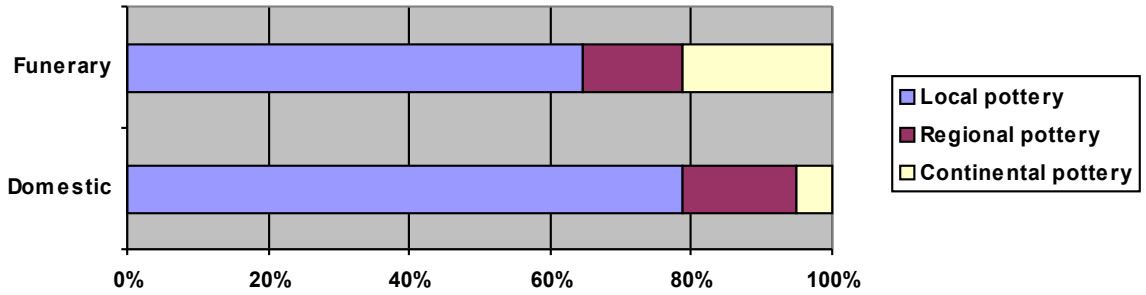


Figure 4.8. Strood Hall: Pottery supply: comparison between funerary vessels (based on vessel count) and the Phase 11.1 (domestic) pottery groups (based on EVEs).

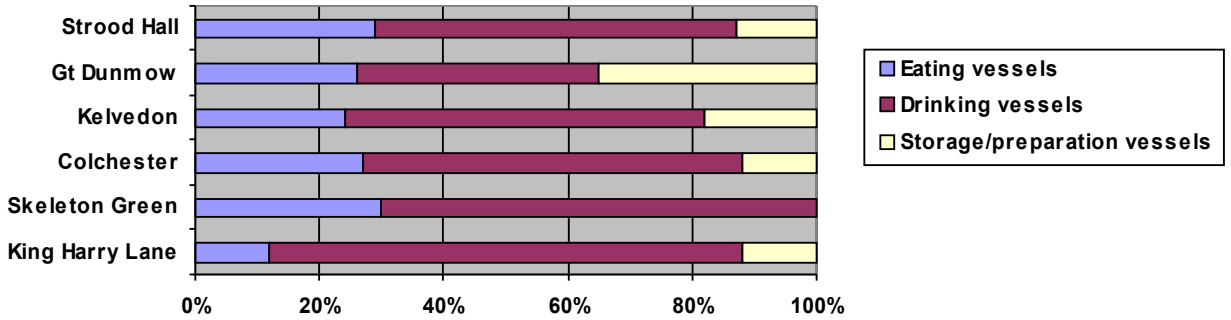
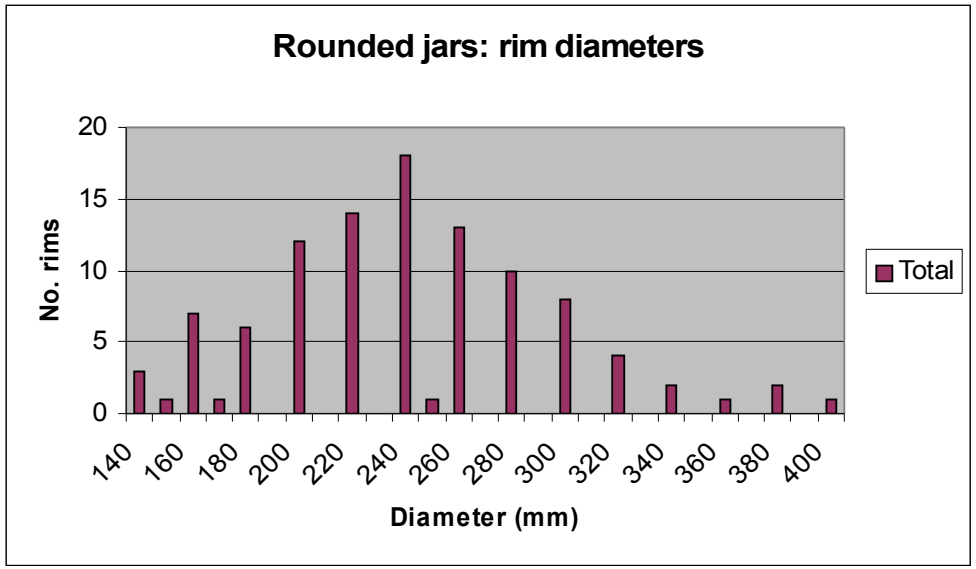


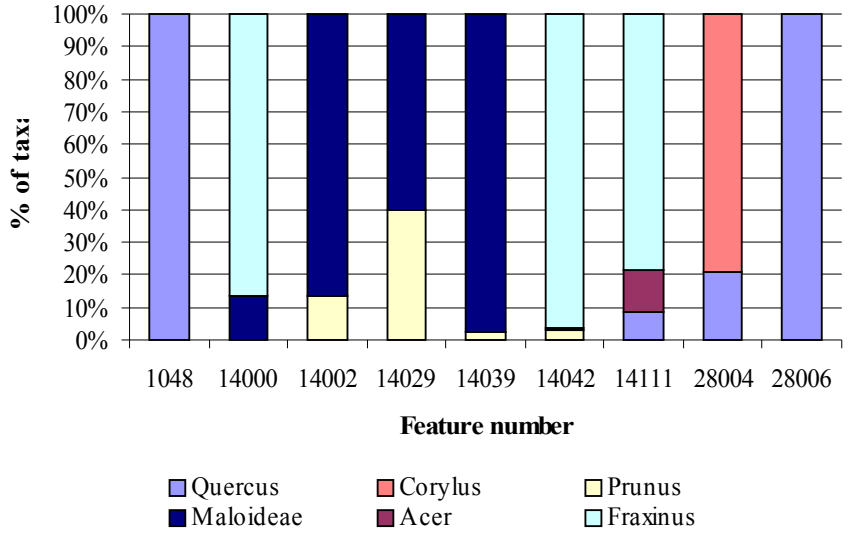
Figure 4.9. Strood Hall: Functional composition of ancillary vessels based on vessel count.

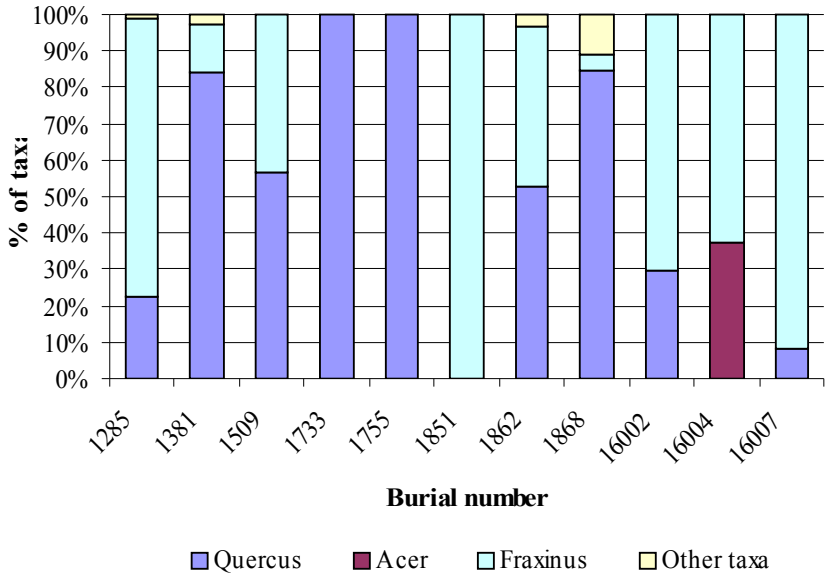
Fig. 4.17 Chart showing medieval jar rim diameters, West of River Roding



Chapter 7: figures

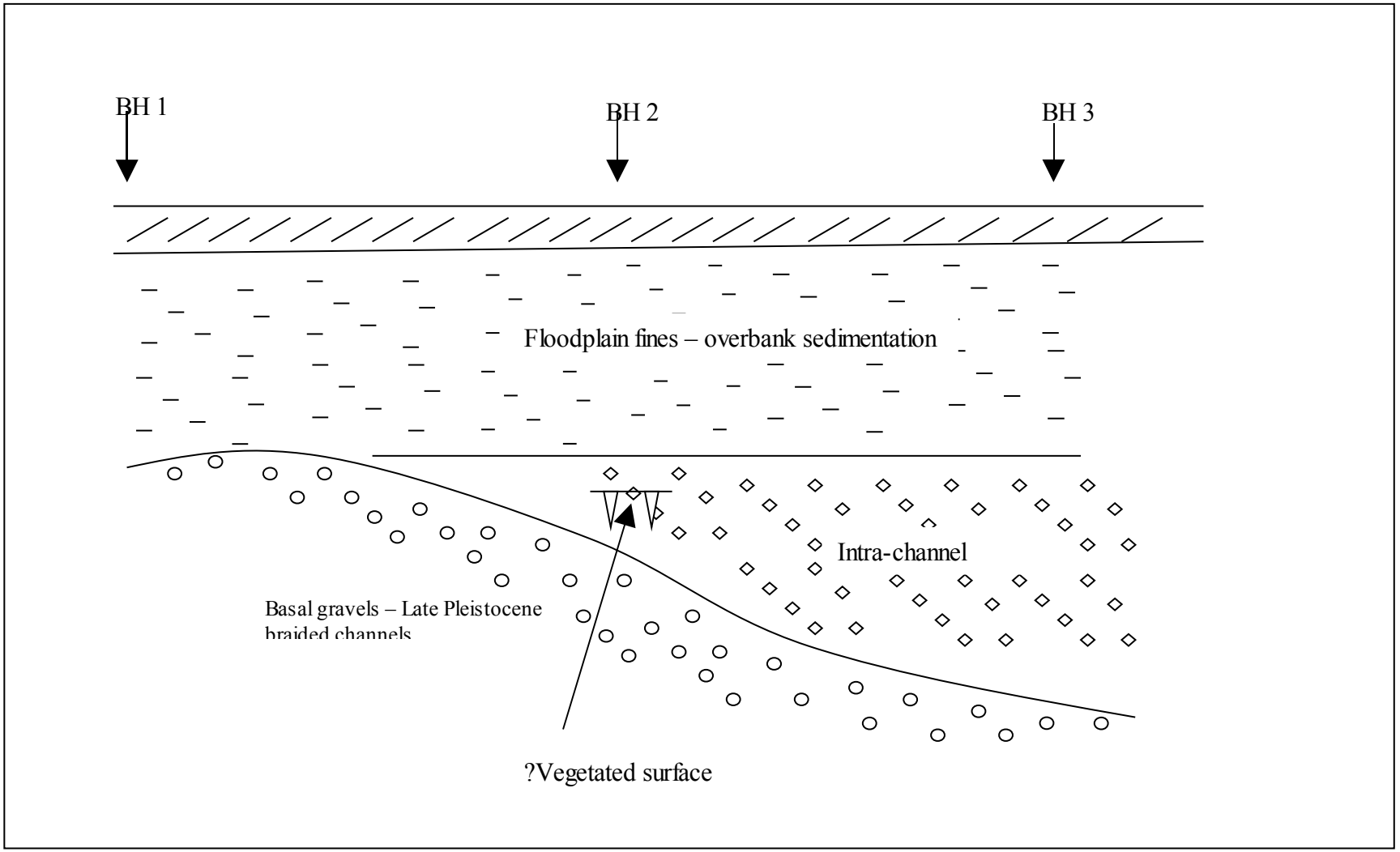
7.1 Taxonomic composition of late Bronze Age cremations (based on fragment count)



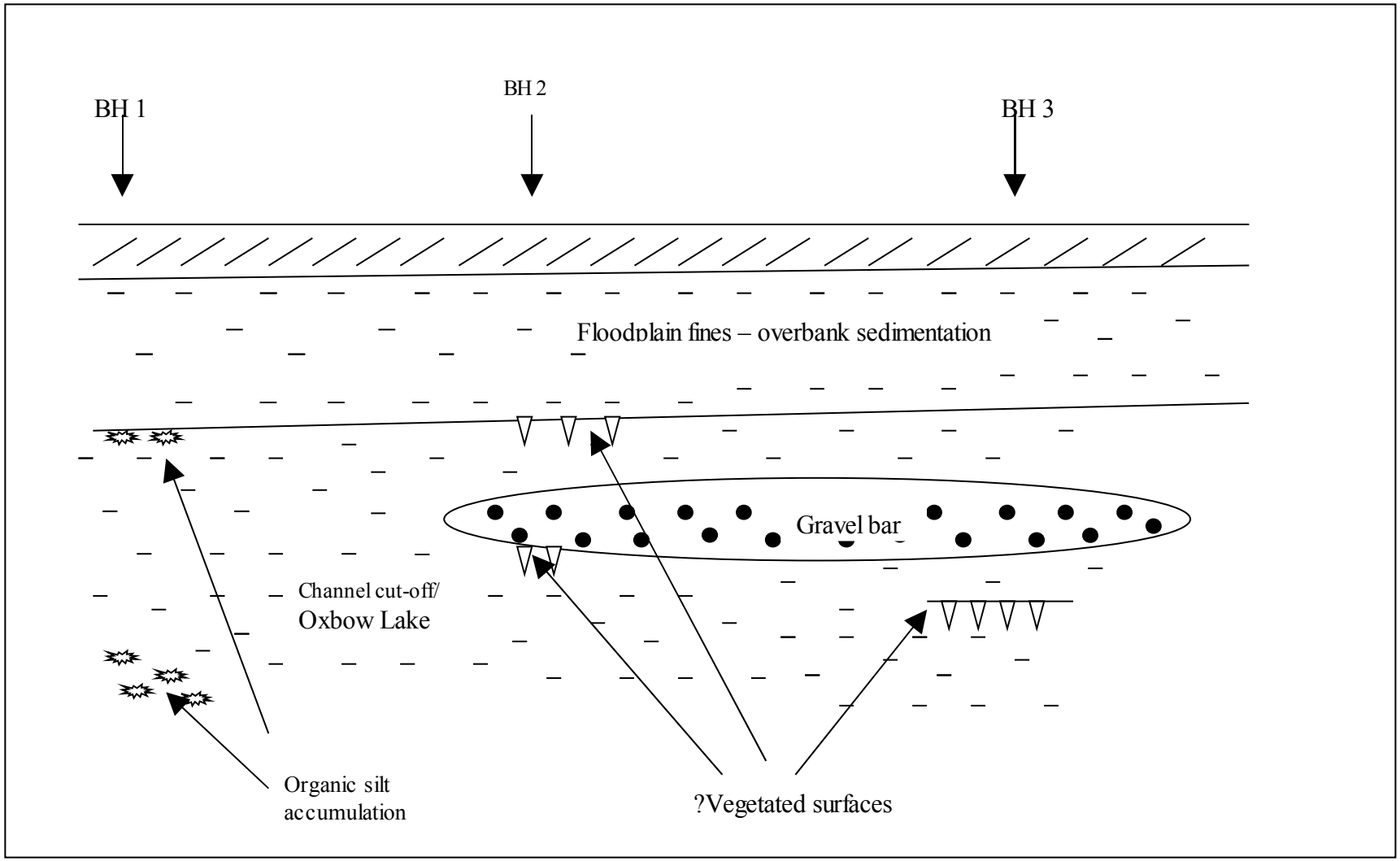


7.2 Taxonomic composition of Roman cremations (based on fragment count)

7.4 Schematic profile across eastern side of Pincey Brook



7.5 Schematic profile across eastern side of River Roding



8.1 A120: comparison of fieldwalking evidence against the excavated evidence

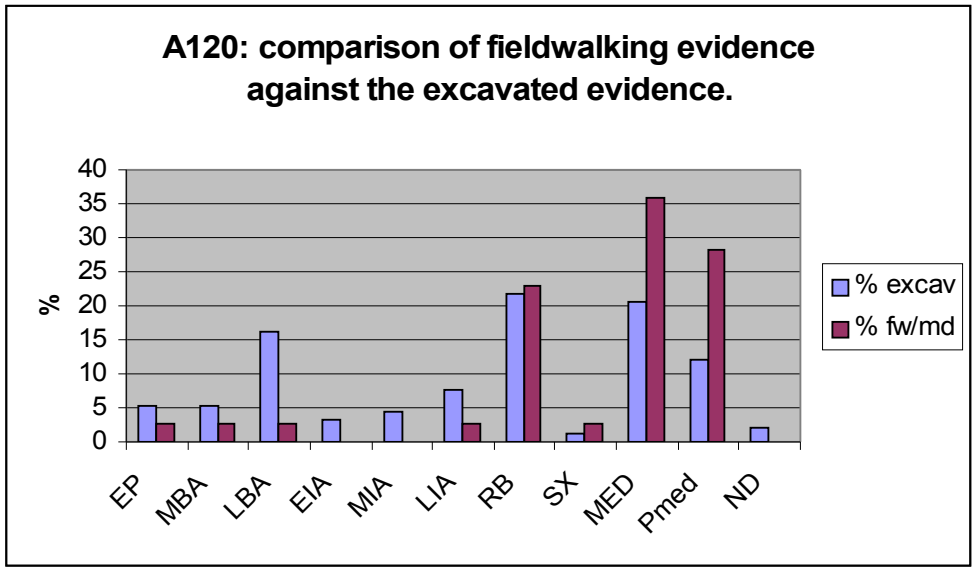
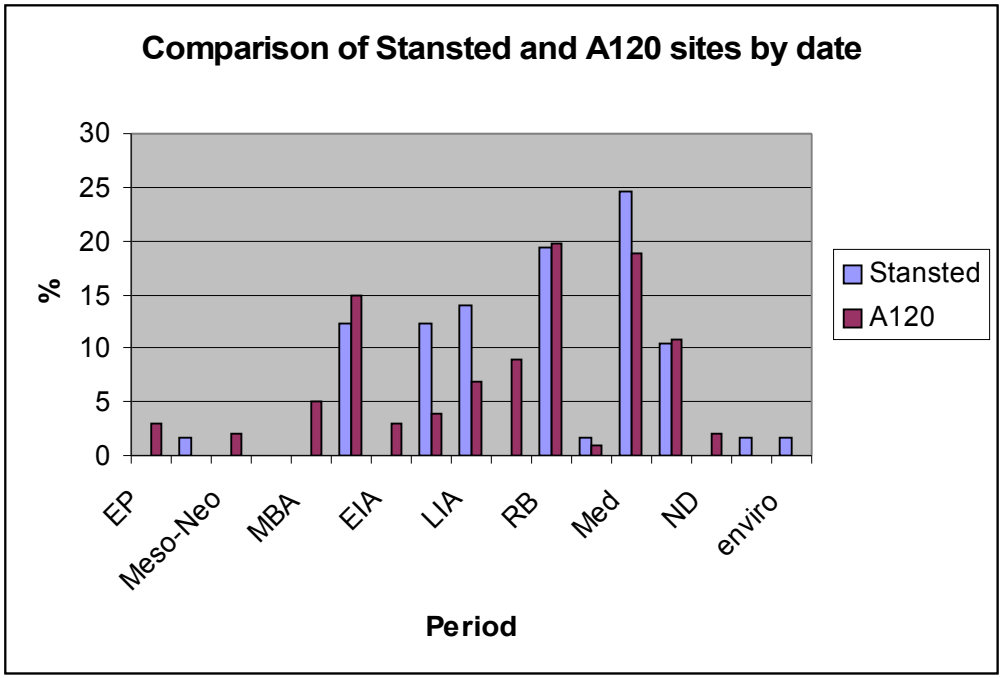
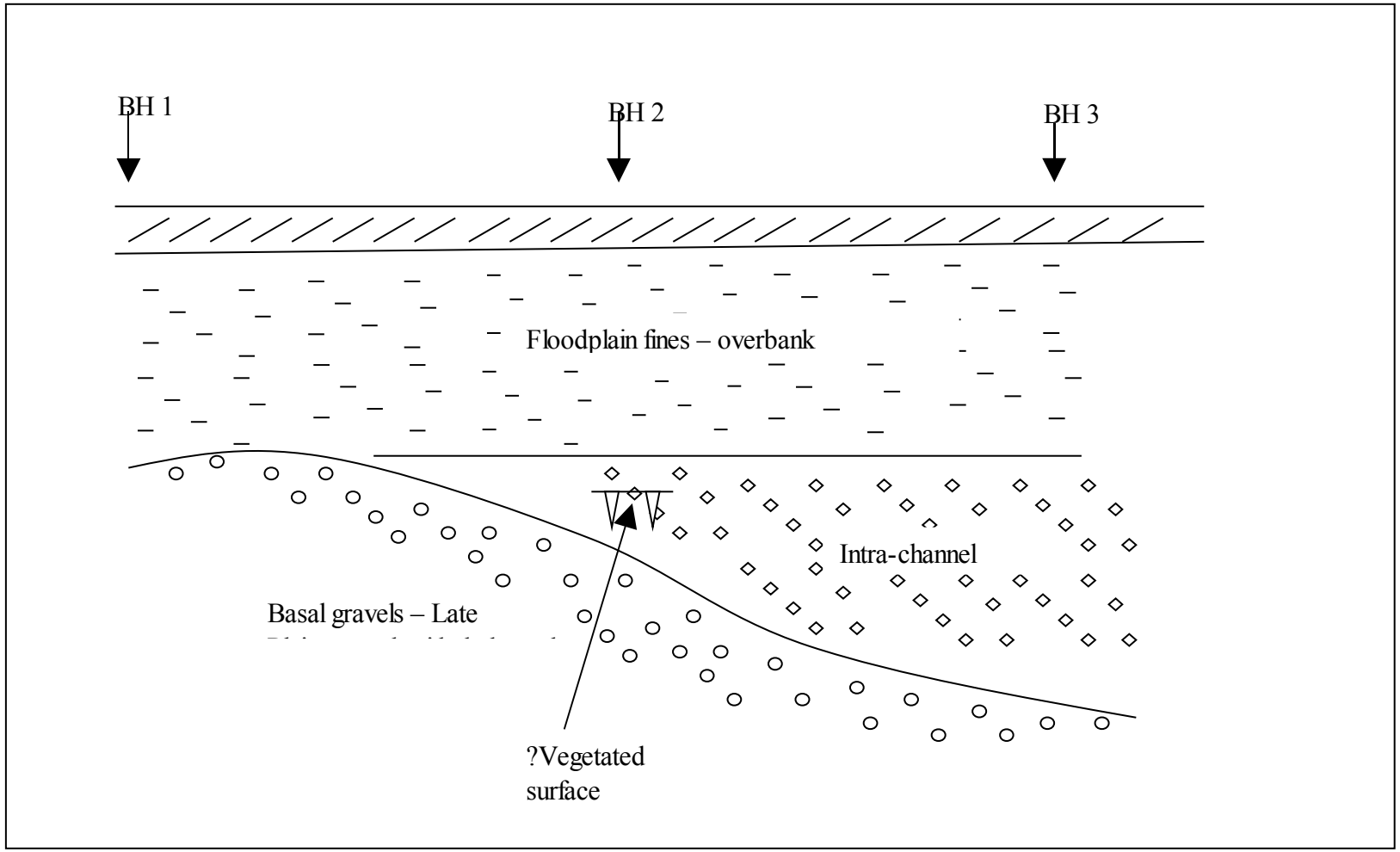


Fig. 8.2 Comparison of Stansted and A120 sites by date




BH 1
BH 2
BH 3
Floodplain fines – overbank
Intra-channel
Basal gravels – Late
?Vegetated
surface

HIGHWAYS
AG ENC Y