Excavations at Hunt’s House, Guy’s Hospital, London Borough of Southwark

Robin Taylor-Wilson
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Contributors

Principal author: Robin Taylor-Wilson
Editor: Monica Kendall
Lithics: Barry John Bishop
Prehistoric and Roman pottery: Malcolm Lyne
Decorated samian ware: Joanna Bird
Samian potters’ stamps: Brenda Dickinson
Mortaria: Kay Hartley
Amphorae: David Williams
Medieval and post-medieval pottery: Chris Jarrett
Clay tobacco pipes: Chris Jarrett
Building materials: Ken Sabel
Small finds: Nina Crummy
Roman coins: Michael Hammerson
Glass: Peter Moore
Mammalian remains: Robin Bendrey
Plant remains: Wendy J Carruthers
Dendrochronological dates: Ian Tyers
Finds illustrations: Cate Davies and Helen Davies
Graphics: Sally Pickard
Photography: Tim Loveless, Tudor Morgan-Owen, Richard Young
Project management: Peter Moore
Post-excavation management: Frank Meddens, David Divers, Victoria Ridgeway
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Summary

The redevelopment of Hunt’s House, a Victorian building within the Guy’s Hospital complex in north Southwark, on the west side of Great Maze Pond (centred at TQ 3275 7995; site code HHO 97), presented an opportunity to undertake a major programme of developer-funded archaeological fieldwork during 1997 and 1998. The site lies on the low-lying eastern margins of the sand islands upon which Southwark’s Roman settlement developed after the Claudian conquest. At the south-eastern corner of the site the western edge of Guy’s Channel, an ancient tributary of the Thames, was revealed. The stratigraphic record was dominated by alluvial horizons which provide evidence for fluctuations in the river levels of the Thames since prehistoric times.

A significant lithic assemblage indicates that the site was occupied during at least two prehistoric periods: the Later Mesolithic and Later Neolithic/Bronze Age, which is consistent with finds elsewhere on the islands. In addition, a cluster of possible ard marks suggests that the site was dry enough for cultivation, possibly during the 2nd millennium BC.

Current knowledge of the level of the Thames during the Roman period indicates that the site would have been intertidal marginal land until the 2nd century AD. The earliest Roman activity consisted of exploitation of the marshland’s natural resources. Two possible rivulets contained evidence for human activity including a possible dam and a fish weir or causeway. Parallel to the ‘rivulets’ were ditches interpreted as animal enclosures. A major discovery was a possible jetty and a post-and-plank revetment along the western edge of Guy’s Channel. Against a background of tidal regression after the late 1st century AD, these waterfront installations are dated to the early 2nd century AD and their abandonment to c AD 170. A brief period of severe flooding followed. The presence of partial donkey and horse skeletons implies that the site was used in this period to dump carcasses away from inhabited areas. Donkey bones are found infrequently on Roman sites in Britain.

The site may have remained relatively dry for the next 200 years as the river reached its lowest levels. Numerous ditches and gullies of 3rd- and 4th-century date probably formed part of an extensive drainage network on the settlement’s margins, and there were also possible livestock enclosures. An important discovery was the remains of a timber-walled structure dating to the second half of the 3rd century. It contained a significant proportion of amphora sherd, which implies that it was an amphora storage tank. It was situated in the most low-lying part of the site, highlighting the extent to which the river level had fallen by this time.

Guy’s Channel appears to have gradually silted up after AD 200 and into the 4th century. Numerous sherd of Camulodunum-type 306 bowls found in its bed and across the site, together with fragments of tazze, a face pot and two face masks from flagons, may indicate the presence of a shrine nearby. Eight copies of Severan denarii of the early 3rd century found in the channel bed and elsewhere on the site are an unusual find interpreted as the contents of a purse dropped and lost in the marshy ground. Other finds suggest leatherworking and leadworking in the vicinity and the processing of animal carcasses on or near the site.

Rising river levels perhaps prompted further embanking of Guy’s Channel in the mid/late 4th century. The watercourse may have been navigable again by c AD 400. There was also dumping of material across the site to maintain it as dry land, which has been seen at other sites in north Southwark in this period. The mid 4th to early 5th centuries also saw the peak of leadworking near the site, and possible copper-alloy working.

A group of parallel ditches, that effectively divided the site into roughly equal-sized corridors, may represent 5th-century fields or paddocks. Following this activity, thick alluvial clay deposits suggest permanent submergence of the site for about 900 years, until c 1300, when attempts to drain the area began. There may have been a further period of flooding in the early 17th century. Maps of the 18th century show housing on the site, but little has survived archaeologically because of truncation by the basement slab of Hunt’s House. However, deeply cut soakaways, cesspits or wells dating to the mid to late 18th
century contained finds suggesting that the housing just south of the new Guy's Hospital included at least one fashionable household, and there was some evidence for tanning activity in the vicinity.

The findings from Hunt's House are an important addition to our knowledge of both prehistoric and Roman occupation and activities in north Southwark, and provide significant information on Thames river levels from prehistoric times to the present.
Acknowledgements

Pre-Construct Archaeology Limited would like to thank European Land & Property Corporation (KC & UMDS) plc for funding the archaeological evaluation and Bouygues UK Limited, the principal contractor, for generously funding the excavation and post-exavcation work and for their cooperation during the main excavations.

Special thanks are due to Eric Norton of Norton Thompson Associates, who designed and monitored the archaeological project and without whom it would not have run so smoothly, and John Dillon and Sarah Gibson of Southwark Borough Council, for their help and constructive advice during the evaluation and main excavations respectively.

Many thanks also to H Smith Limited, whose attendance during both the evaluation and the main excavations was particularly helpful, and to MACE Limited, whose assistance during the evaluation and the initial stages of the main excavations was appreciated.

Thanks are also due to Monica Kendal for her hard work and enthusiasm in editing this publication and to Patrick Armstrong for his advice on the production of this monograph.

The author would like to thank the following: Peter Moore, for project management and for his support and advice throughout the project, Frank Meddens, for post-exavcation coordination, Josephine Brown, David Divers, Sarah Gibson, Eric Norton, Victoria Ridgeway and Harvey Sheldon for reading draft versions of this report and for their excellent suggestions for improvements.

Thanks also to Peter Moore and David Divers for proof reading this publication.

The author would also like to thank all the specialists who have contributed in any way to this report (who are listed at the beginning of this volume), as well as Evelyn Anderson, Dana Goodburn-Brown, Helen Keeley, Lynne Keys, Frank Meddens, Rob Scaife and Alison Telfer. Wendy Carruthers would like to thank Lisa Moffett for giving permission to quote from her unpublished work at Alcester.

Thanks are also due to the following: Sally Pickard for her work on the graphics in this report; Tim Loveless and Tudor Morgan-Owen for photographic work during the evaluation and main excavations respectively; Tim Carew, Alice Mayers and Alan Atken-Rae for surveying; Paul Thrale, the on-site environmental assistant and John Brown, the on-site finds manager, who provided invaluable support throughout the main excavations.

Finally, thanks to all those who worked on the site — their contribution is very much appreciated: Alan Atken-Rae, Beverley Archard, Colin Archard, Nick Armour, Mark Bagwell, Mark Beasley, Alex Best, Barry Bishop, Tim Carew, Jessica Cowley, Rob Cross, Cate Davies, Andy Daykin, David Dobson, Alistair Douglas, Shahina Farid, Phil Frickers, Anne George, Gavin Glover, Adrian Gollop, Ian Hanson, Chris Jarrett, Ruth Kelly, Dougie Killock, Su Leaver, Jon Lowe, Dave Mackie, Alice Mayers, Scott McDonnell, Joe Partidge, Jenny Proctor, Sally Randell, Mark Randerson, Victoria Ridgeway, Jerry Stone, Jez Taylor and, last but not least, Joanne Thomas.
1 Introduction

1.1 CIRCUMSTANCES OF THE FIELDWORK

An extensive programme of archaeological fieldwork was undertaken by Pre-Construct Archaeology in 1997–8 in advance of the redevelopment of Hunt’s House, Guy’s Hospital, in the London Borough of Southwark. The site, centred at TQ 3275 7995, is located on the west side of Great Maze Pond, c. 150m to the south-west of London Bridge Station and c. 400m to the south of the modern Thames waterfront (Figs 1 and 2). The site code for the project is HHO97.

Hunt’s House was constructed in 1852 by Rhode Hawkins, with a north wing added in 1871 and other parts since then. The redevelopment scheme involved demolition of the original structure, a 4–5-storey brick building measuring c. 145m north–south by 28m east–west, and replacement by a new building, slightly smaller in area and almost entirely within its footprint. The new building is a teaching and research facility for the recently merged Guy’s, King’s and St Thomas’ Schools of Medicine, Dentistry and Biomedical Sciences.

An initial archaeological trial-trenching evaluation was carried out during August and September of 1997 prior to demolition of Hunt’s House. During this part of the fieldwork 13 trenches were cut through the concrete basement slab, which lay up to c. 2.60m below modern street level. Although the vast majority of the post-Roman stratigraphy had been truncated by the basements, significant archaeological remains were encountered within every evaluation trench. Accordingly, open area excavation within a 12m wide central spine of the site, widening to 17m in the southernmost open area, was considered to be the most appropriate mitigation strategy in the face of the proposed configuration of piles for the new building.

Demolition of Hunt’s House, down to the level of the basement slab, began at the building’s southern end, immediately following completion of the evaluation. Removal of the basement slab was carried out under
archaeological supervision. Open area excavation began in early January 1998 in the south trench (Fig 3) before moving into the middle and north trenches in mid February, the latter two areas being investigated almost concurrently (Fig 4). The open area excavations were completed in early April 1998. The project was negotiated and managed by Peter Moore and all fieldwork was directed by the author.

1.2 RESEARCH OBJECTIVES

There were five site-specific research objectives within the project’s overall research agenda.

1 To establish the nature, date and extent of prehistoric activity and to assess its relationship with that already known in north Southwark.

2 To investigate the Roman waterfront installations associated with Guy’s Channel and establish their nature, date, phasing and construction.

3 To examine features and strata relating to any Roman domestic and/or industrial activity in the area to the west of Guy’s Channel.

4 To establish the presence or absence of the other marshland watercourse, ‘Southwark Street Channel’, in
the northern part of the site, and to examine any associated activity such as waterfront installations (see 1.4 below).

To sample for ecofacts in order to inform on the human occupation of the area and to sample the sedimentological sequence for data on the fluvial regime of the River Thames.

1.3 THIS REPORT AND THE ARCHIVE

Given the project’s research objectives, the bulk of the text deals with the prehistoric and Roman evidence, although the post-Roman evidence is summarised. Chapter 2 describes, illustrates and discusses the stratigraphic data from the site, with the integration of relevant dating evidence and parts of the specialist reports. There is a land-use diagram for all periods in the Conclusions (see Fig 36). Chapter 3 consists of summaries of the reports on lithics, pottery and the Roman small finds (including a catalogue), bones and plant remains. The full reports, catalogues and the methodologies used – as well as the specialist reports on clay tobacco pipes, building material, Roman coins and the glass – are lodged with the project archive at the Museum of London’s London Archaeological Archive and Research Centre, Eagle Wharf Road, where it can be consulted by prior arrangement.

During post-excavation analysis the stratigraphic information was organised into subgroups, which were then allocated to chronological periods, on the basis of stratigraphic and/or dating evidence. In the following text these periods are numbered as Roman numerals (e.g period VI), while individual context/feature numbers appear in square brackets (e.g [1337]). Although the subgroups were an essential element of the post-excavation analysis, particularly the organisation of the stratigraphic data, and appear throughout the archive, the numbers designated to them are not included here for the sake of clarity. Registered finds are shown as <100>; and soil samples as {100}. The site was divided into three main areas, north trench, middle trench and south trench. Each of these areas were sub-divided into north, central and south (e.g. middle trench (S)) and again into east bays and west bays. The post-excavation was managed by Frank Meddens with additional support from David Divers and Victoria Ridgway.

1.4 GEOLOGY AND TOPOGRAPHY

Flood plain (Pleistocene) gravels of variable height form the surface geology of north Southwark. In places the gravels are overlain with sand, which is sometimes capped by soft alluvium, deposited as river levels rose periodically during marine ‘transgressions’ of post-glacial origin (Tyers 1988, 5). Riverine erosion left sand islands, or eyots, of
relatively high ground, surrounded by extensive lower-lying areas of alluvium, to form a distinctive ancient landscape characterised by the presence of numerous braided channels of the Thames (Fig 5).

In recent years archaeologists have attempted firstly to plot and subsequently refine the map of north Southwark's complex ancient topography, using data collected from archaeological interventions and engineering boreholes (eg Heard et al 1990). Related research has focused on the evidence for, and implications of, a fall in sea level in the Thames region, which began around the time of the Claudian invasion (eg Brigham 1990). The resulting tidal 'regression' (Devoy 1979), which continued until c AD 300, affected the London region as a whole, and particularly the margins of the north Southwark settlement, since the south bank's topography had always previously been such a limiting factor in urban development.

It was known that Hunt's House was situated at a marginal location in the eastern part of the two main sand islands upon which Southwark's Roman settlement developed, and that there were two marshland watercourses in the vicinity. One of these, now known as 'Guy's Channel', was confirmed by the excavation as running across the southern 'oe' of the site. The undulating sandy bed of Guy's Channel was recorded as low as c -0.95m OD, although at no point were floodplain gravels reached. The excavations showed that a second watercourse to the north, 'Southwark Street Channel', did not cross the site as had previously been thought.

1.5 ARCHAEOLOGICAL BACKGROUND OF GUY'S CHANNEL

Guy's Channel, essentially a tributary of the Thames, was first encountered archaeologically at New Guy's House in 1958, during an investigation that discovered the remains of a shallow-draught river barge lying against the eastern edge of the watercourse (Marsden 1965; 1994). This vessel, thought by Peter Marsden to have been abandoned at the end of the 2nd century, was estimated to have been c 16m long with a beam of over 4m. It required less than 1m of water in which to float and could carry about 6 tonnes of cargo.

What may have been the same watercourse was observed at 13–19 Maze Pond prior to the construction of Guy's Tower (Bird & Graham 1978, site 61). In 1975 Guy's Channel was sectioned on Tooley Street close to the point at which it met the main channel of the Thames (Graham 1988a). In 1989–90 a major excavation was undertaken in advance of the construction of Philip Harris House at Guy's Hospital by the Museum of London's Department of Greater London Archaeology (Taylor-Wilson 1990). The latter site lies less than 100m to the north-east of Hunt's House. Extensive waterfront installations of 2nd- to 3rd-century date were discovered at the western edge of Guy's Channel, and again the feature's entire width was exposed.
2 The archaeological sequence

2.1 PERIOD I: PREHISTORIC

The earliest occupation deposit at the site — the ‘palaeosol’ — overlay ‘natural’ alluvial sandy clay. Subtle variations in the height of the palaeosol were recorded across the site (see Fig 6). In south trench (S), adjacent to the western edge of Guy’s Channel, it was recorded at c. 0.55m OD, and then sloped down gently to the north. Minimum heights, at c. 0.25m OD, were recorded in the southern part of north trench (S). From there the deposit rose again to c. 0.50m in the north. Possible evidence for arable farming was found, as well as worked and burnt flint, but only one tiny potsherd of prehistoric character.

**Worked and burnt flint**

The palaeosol produced a small but significant lithic assemblage, comprising accidentally burnt flint and 190 humanly worked pieces (see also 3.1 below). Although flints were recovered across the entire site, spatial analysis of their distribution identifies two particular areas of activity (Fig 6). The area between these major concentrations was truncated by a later (period II) rivulet. It is possible that they originally comprised a single concentration, or that an earlier rivulet existed during the formation of the palaeosol, with flintworking on both sides of the rivulet.

The generally small dimensions of the flakes, blades and cores suggest that quality raw material was at a premium. At least during earlier episodes of activity at this site, the raw material appears to have been imported from deposits containing better-quality flint than that available from the local alluvial gravels. As the majority of the assemblage was recovered from undifferentiated soil horizons, the material may be chronologically mixed and represent activity over a considerable period. The struck assemblage would appear to be the product of differing technological traditions, which are likely to reflect occupation of the area during at least two periods. The earlier, characterised by systematically reduced cores and carefully made blades, is consistent with a Mesolithic or Early Neolithic origin; the microlith recovered, if associated, dates the assemblage to the Later Mesolithic (c. 6500–4500 BC). The other element of the assemblage, characterised by an unsystematic and opportunistic approach to reduction and producing irregular squat and chunky flakes from locally available raw material, is much more comparable to traditions of the Later Neolithic and Bronze Age (c. 2500–1000 BC) (Edmons 1995).

Although the general debitage and retouched components could be divided roughly equally, there were noticeably fewer cores of an earlier type, suggesting that these activities were less concerned with core reduction and more with activities using previously manufactured imported tools. The later material appeared to have been manufactured on the site, probably expediently as the need arose and often from locally available raw material.

**Possible ard marks and ground clearance**

Within both bays of middle trench (S), removal of the uppermost spit of the palaeosol revealed numerus short lengths of narrow linear grooves, up to c. 0.80m in length, oriented principally in two directions: north-east to south-west and west-north-west to east-south-east (Fig 7). The grooves were typically c. 10mm in width, and the majority seemed to be V-shaped. Their criss-cross arrangement suggests that they may be ard marks; they were not encountered in any other part of the site.

A cluster of eight variously shaped depressions [1304] was exposed within the palaeosol in north trench (S) (see Fig 6). The largest measured 0.32m x 0.28m and was 0.13m deep. Sixteen chunks (155g) of burnt flint and one scrap of handmade pottery were recovered. The pottery was prehistoric in character but otherwise undatable. The fills were generally charcoal-rich, suggesting that this may have been the location of a small tree, possibly burnt in situ as the ground was cleared for cultivation.
Period I discussion

Evidence of prehistoric occupation in north Southwark is well attested (summaries in Heard et al 1990; Thompson et al 1998; MoLAS 2000). Of great significance was the discovery of an Early Bronze Age ring-ditch containing Late Bronze Age/Early Iron Age pottery at Fenning’s Wharf, close to the probable site of the Roman bridgehead (Swain 1988, site 90). Prehistoric habitation sites in north Southwark would presumably have been focused upon the areas of relatively high ground, and indeed the closest evidence of prehistoric occupation to Hunt’s House comes from investigations at two sites on ancient Southwark’s northernmost sand island, c 120m to the north-west. A barbed and tanged arrowhead and other flint tools of Mesolithic and Early Bronze Age origin were discovered at King’s Head Yard in the mid 1940s (Kenyon 1959), while an excavation at Guy’s Hospital in 1982–3 also yielded prehistoric artefacts (Swain 1988, site 98).

The concentrations of flint do not suggest actual settlement nuclei, but may indicate places where certain tasks requiring flint production occurred. The concentrations of burnt flint may also indicate the presence of a hearth. The two technological traditions of flintworking indicate activity during two periods: the Later Mesolithic, and the Later Neolithic and Bronze Age. This is consistent with finds from other parts of the island complex within Southwark,
such as the sites at Hopton Street, 15–23 Southwark Street and Lafone Street, where Mesolithic and Early Bronze Age lithics have been recovered. The flint indicates that exploitation of Southwark’s low-lying areas began at least 8000 years ago.

Lower-lying areas, like the Hunt’s House site, would also have had attractions, largely dependent on the ecological and environmental conditions prevalent at the time. There is a significant amount of evidence to suggest that the margins of north Southwark’s sand islands were dry enough, due to extremely depressed river levels, to allow cultivation during at least part of the 2nd millennium BC. The findings of several investigations are of relevance to the period I evidence from Hunt’s House – Phoenix Wharf, Jamaica Road (Bowsher 1991), Wolseley Street (Drummond-Murray et al 1994) and Lafone Street (Bates & Minkin 1999), all c 1km to the east in Bermondsey; and Hopton Street near Blackfriars Bridge, c 1km to the north-west (Ridgeway 1999) – all of which had traces of Bronze Age ard marks.

Heavy ard-ploughs or ‘rip’ ards were used for ground preparation in advance of cultivation throughout prehistory. This was a substantial implement which resulted in deep scoring of the subsoil, a fact which makes survival of ard-plough marks more likely even after the ground has been subjected to years of shallower ploughing and even serious subsequent erosion, for example by alluviation, as would have been the case in Southwark’s low-lying areas. The presence of ard-plough marks at Hunt’s House and the other north Southwark sites clearly implies that the area was used for arable farming. At Phoenix Wharf, Hopton Street and Lafone Street the ard-plough marks were revealed cutting into natural sand between c 0.20m–0.60m OD, which correlates closely with the height at which the features were revealed at Hunt’s House.

Immediately to the south of this were the remains of a possible drain.

**Possible jetty**

Only the ground plan of this structure [404, 787, 845] survived (Figs 9 and 10). It may have been built at the same time as the post-and-plank revetment to the north (see below) since three of its piles had been driven into the natural edge of the watercourse and continued the line of the piles in the revetment precisely. These piles, and those to their west, had been driven into the early Roman ground surface (the period I paleosol), and the uprights were decayed to that height or lower. About 1.5m to the east of the line of the waterfront revetment, there were two piles (the third destroyed by later intrusions). This pair of piles had been driven into alluvial deposits, which had probably accumulated against the lower part of the channel’s edge immediately prior to the construction of the waterfront installations (Fig 11). In one of these deposits [861] was found the flange of a South Gaulish samian bowl dated c AD 90–110. Several of the postholes in the western part of the structure were sealed below a thin layer of organic clay alluvium [763] (assigned to period III), which yielded pottery dated AD 100–50, implying that the jetty was abandoned during the second half of the 2nd century.

The jetty was c 2.5m wide, and consisted of three rows of five oak piles oriented at right angles to the channel’s edge. The rows were c 1.20m apart and they extended for c 6m to the west from the channel’s edge. The spacing between the piles in each row, to the west of the channel’s edge, increased from c 0.90m to c 1.40m from west to east. The natural sandy clay substratum was, therefore, exposed in a vertical section behind the piles and there was no evidence to suggest that plank shuttering had been wedged behind the piles at this point. An additional post adjacent to the southern limit of excavation may have been part of the jetty, or related to the possible drain (see below).

The lowermost portions of 13 of the uprights of the jetty were recovered, the remainder being far too decayed. In all but three cases the piles had been dressed roughly square, with conversion to box hearts, the exceptions being two radially cleft timbers and one complete roundwood. The uprights ranged in cross-sectional measurement between 100–150mm x 130–230mm. The average driven length of the timbers west of the channel was 1.32m. The bottom part of the posts had been sharpened to facilitate driving. Two timbers [771, 820] yielded dates by dendrochronological analysis – the *terminus post quem* for felling of these timbers was AD 61 and 66 BC respectively.

Only traces of the jetty’s horizontal structure survived. Four highly degraded, but evidently in situ, timbers (not illustrated) were found immediately to the west of the set

### 2.2 Period II: mid/late 1st to mid/late 2nd centuries AD

Period II (Fig 8) is assigned to the construction and use of waterfront installations along the edge of Guy’s Channel, and to other evidence for human activity including a possible dam, fish weir or causeway, and animal pens and boundaries.

**Waterfront installations: Guy’s Channel**

In south trench (S) the remains of waterfront installations were found in association with the western edge of Guy’s Channel (see Fig 8b). These remains comprised two collapsed sections of post-and-plank revetment and, to the south of these, three rows of posts driven into the marsh surface and representing what may have been a jetty.
of piles at the edge of the land surface. These timbers lay on the period I palaeosol, at c. 0.53m OD, and presumably represent the remains of the superstructure, possibly some form of plank ‘decking’. If true, this implies that little or none of the early Roman ground surface had been lost to the west of the waterfront. Two of the timbers lay along the line of the revetment while the other two abutted these at right angles and lay parallel to the line of the jetty. None of these timbers were greater than 0.84m in length and the largest measured cross-section was 40mm x 90mm. A number of iron ‘studs’ were revealed close to the line of the revetment pressed into the exposed palaeosol between the lines of uprights and these may also have been derived from the superstructure of the jetty (see Fig 9).

Fragmentary oak planks lay adjacent to the easternmost pair of piles in the structure. Both planks were c. 0.75m in length, although in each case the original full length was not seen. The plank to the south, 210mm wide x 25mm thick, ran into the southern limit of excavation. Its northern end had a square cut in its corner and this seemingly fitted around the upright, the (surviving) top of which was basically flush with the level of the plank, at c. 0.20m OD.

**Possible timber-lined drain**
Immediately to the south of the jetty were the remains of what may have been a deliberately constructed drain [002] (see Fig 9), although it is possible that an existing natural feature, perhaps a rivulet, had been adapted to facilitate drainage at the waterfront. The proximity to the limit of excavation and the poor survival of the timbers make a conclusive interpretation impossible.

The drain had been cut into the marsh surface near the limit of excavation. It was 0.55m deep and at least 0.85m wide. Associated with the soft alluvial clay fills of the drain were the remains of several timbers, all degraded, but seemingly in situ. The timbers comprised an upright plank evidently retained by a post, which possibly revetted the drain’s unseen southern side, and there were traces of planking across what would have been the opening. In addition, the southern pile of the jetty in the set at the edge of the land surface had been driven through the northern edge of the drain. The alluvial material immediately to the south of the plank that possibly revetted its southern edge contained a fresh pottery sherd from an everted-rim jar in Highgate Wood C ware dated to c. AD 120–60. The alluvial material to the north of the plank was notable for the relatively large quantity of spelt chaff and sprouts recovered from sample {43}. It is possible that the drain was used to discharge waste into Guy’s Channel from an activity related to the roasting of malted spelt (see also 3.6 below).
Although the drain had been allowed to silt up, its location remained visible on the marsh surface for some time, probably as a puddle. This area initially appeared as an irregular shallow depression within the period I palaeosol. In its sticky dark clay fill, sherds were found of a flagon in cream Verulamium Region White ware, dated c AD 60–80.

**Post-and-plank revetment**

Two lengths of post-and-plank revetment [554, 803] were recorded in south trench (S), to the north-east of the possible jetty (Fig 12). Both were of the unbraced type and 3.0–3.5m in length. The two lengths of revetment lay either side of a large concrete intrusion. It is assumed, however, that the structures were contemporary and that they had been inserted into the edge of Guy’s Channel during the same phase of activity that saw the erection of the jetty.
Fig 11  Reconstruction of east–west sections through Gay’s Channel, the conjectured jetty and adjacent activity, periods II–VI, in relation to predicted water levels
The revetment consisted of driven oak piles, spaced between 1.05–1.20m apart, retaining a shuttering of two or three oak planks. The piles had been dressed roughly square; three out of the five surviving piles had been converted as box hearts and the other two had been box quartered. The timbers had an average cross-section of 110m x 135mm and the longest surviving pile measured 2.13m. The bottom of the timbers had been sharpened to facilitate driving. The piles unfortunately had insufficient rings for dating purposes.

The planks from both revetment sections had been tangentially sawn and had been fitted behind the piles, laid edge to edge one on top of another, to create a solid wooden shuttering. Interestingly, the planks from the two sections of revetment were noticeably different; those from revetment [803] were narrower (average width 0.22m compared to 0.28m) but thicker (average thickness 37mm compared to 15mm) than those from revetment [554]. The longest surviving portion of plank was 2.58m (from revetment [554]), although this was clearly incomplete.

Because the revetment had collapsed forward into the channel it was not possible to establish precise details about construction. Whether or not the channel’s natural bank had been cut back prior to insertion of the revetment was unclear. The reconstructions outlined in the discussion (see below) suggest that all but the lowermost plank in the shuttering may actually have stood above the level of the contemporary ground surface, rather than being wedged behind the piles within a construction cut made in the channel’s edge. If there had been a construction cut, the backfilled material, along with any crucial dating evidence, had presumably been washed into the channel when the revetment collapsed.

Despite the absence of dating evidence from a construction-cut backfill, there are clues as to when the revetment was in use. A number of alluvial deposits were recorded which appear to represent the earliest accumulation of material against the lower part of the western edge of Guy’s Channel. This material was probably deposited after the construction of the jetty and the revetment, and prior to the collapse of the two excavated sections of the revetment. (However, although some of this material physically underlay the collapsed structures, this cannot be taken as conclusive proof that it accumulated prior to collapse, given the unusual nature of alluvial deposits.) These deposits varied considerably in their composition, ranging from soft blue clay to soft brown organic silt (presumably derived from vegetation in the stagnant base of the watercourse) and through to coarse sand and gravel. One deposit [676] below revetment [554] may have predated the collapse of the structure. It yielded 1.25kg of pottery, including a jar rim in Highgate Wood C ware (c AD 70–160), a fragment of Verulamium Region Marbled ware (c AD 120–60) and the
base of an unworn Central Gaulish cup with a fresh stamp of Tituro (c AD 160–90; see Table 1). The date range of the pottery indicates that the waterfront could have remained in use into the third quarter of the 2nd century, perhaps later. This deposit was also notable for the fairly high concentration of charred spelt waste recovered from a sample {36} (see 3.6 below).

Marsh rivulets and human structures

A number of features cutting into the period I palaeosol have been interpreted as rivulets formed naturally by the flow of water across the marsh surface. Two ‘rivulets’, both oriented north-east to south-west, contained evidence for human activity.

Rivulet and possible dam

One rivulet [130, 1476, 1478] (see Fig 8a) was traced for a total of c 22m in the northern part of the site; at its widest [1478] it was c 2.30m across and c 0.35m deep. At this location a ‘niche’ had been cut into its eastern edge in order to accommodate the end of a line of eight stakes that had been driven across it. An assortment of worked and unconverted timbers had been used, which had rotted in situ. These uprights had retained a horizontal timber, possibly a plank, which survived in a highly degraded state, 2.10m in length and 0.18m wide. The structure may have been erected as a simple dam to precipitate silting up of the rivulet. Further south, a line of stakes suggests that simple revetting of the eastern edge may have been undertaken.

A relatively large quantity of pottery (5.6kg) was found in this rivulet, dating to the mid 1st to mid 2nd centuries. This includes large parts of a bead-rim jar in patchy grey-black Highgate Wood B ware, the upper half of a screw-neck flagon in brown Verulamium Region White ware and a mortarium in a similar fabric with the stamp of ALBINVS (Fig 13), all dating to the second half of the 1st century. The fabric of the mortarium indicates manufacture in the important potteries along Watling Street, south of Verulamium. Albinus worked at Colchester for some time, perhaps early in his career, but all save two or three of his mortaria can, like this one, be attributed to a pottery in the Verulamium region. None of his kilns have been located, though he was the most prolific potter stamping mortaria in Britain (more than 400 mortaria have been recorded). His activity can be dated to AD 60–90. The neat gritting and scoring on the interior of this example is unlikely to have been done in the latter part of his career when this practice had been largely if not entirely abandoned, so its probable date is AD 60–80 (Frere 1972; 1984; Saunders & Havercroft 1977; Symonds & Wade 1999).

Other possible rivulets nearby (see Fig 8a) had only one or two isolated stakeholes within their bases and cultural material was rare, although rivulet [1362] yielded two sherds from a beaker dated c AD 60–120.

Rivulet, revetment and ? fish weir

Structural remains were encountered within a second rivulet further to the south (see Fig 8b), which was traced for a total of c 25m, again roughly parallel to Guy’s Channel. Where its full profile was revealed [657], it was up to 3.60m wide and up to c 0.60m deep. No cultural material was recovered. The rivulet possibly remained open until the second half of the 2nd century.

A total of 24 stakeholes were recorded cutting into its base and sides, most of which were filled with decayed wood indicating that the timbers had been left to rot in situ. All the stakeholes had distinctive pointed bases confirming that the original timbers, probably roundwoods, had been sharpened prior to insertion. A line of three stakeholes cut into the rivulet’s eastern edge probably represent simple revetting. Where the full width of the rivulet was exposed, a cluster of stakeholes could represent a fish weir or stake net operation, or there may even have been a single causeway – the rivulet would certainly have been too wide to step across. Several other stakeholes were recorded nearby and two of these, lying close to the rivulet’s eastern edge and c 2m apart, had been worked – one into a triangular cross-section, the other into a rectangular cross-section. They were 1.10m and 0.90m deep respectively, by far the greatest depths of any of the stakeholes assumed to be associated with the rivulet. Such dimensions indicate that stability was an important consideration for the structure, whatever its precise nature.

Fig 13  Roman mortarium with stamp of Albinus, from a rivulet in period II, dated AD 60–80 (pot 1:4; stamp 1:2)
Boundaries and possible animal pens

Several ditches and gullies were recorded (see Fig 8a). For the most part these ran parallel with the rivulets and in virtually every case a terminal was either recorded or could be reasonably inferred, which indicates that these were not for drainage but may have delineated boundaries, perhaps animal enclosures.

Ditch/boundary [904] (see Fig 8b) was oriented north-east to south-west. What was evidently the same ditch ended c 13m to the north in a rounded terminal [962]. Seven stakeholes were cut into its base and sides; the uprights had been removed prior to abandonment. The ditch was up to 0.85m wide but only c 0.15m deep and had a wide U-shaped profile. It resumed, as gully [1233], c 1.30m to the north and terminated c 12.50m to the north-east, as gully [1204]. The latter portion was so narrow and shallow, 250mm and 60mm respectively, that it is probable that horizontal truncation of the contemporary ground surface had occurred. A shorter length of a similar feature [39] ran parallel to gully [1204] and c 3.0m to the west.

Immediately adjacent to the terminal of gully [1204] was a group of 10 stakeholes [1189], of which seven formed a line extending c 1.50m north-west to south-east and could represent a simple fence line. Immediately to the west and embedded in the period I palaeosol was a complete bead-rim jar in wheel-turned grey Early Roman Sandy ware, dating to c AD 55–70. The remains of a skull from a small dog were found within the vessel, as well as single fragments of bone from a pig skull and a sheep-sized skull (R Bendrey, pers comm). The palaeosol in this area was also noteworthy in that two charcoal-rich spreads were recorded at its upper interface.

Another ditch [1584] (see Fig 8a) also contained the remains of a simple timber structure. The ditch was oriented north-west to south-east and had a maximum width of 1.05m and a maximum depth of 0.25m. In the western half of the excavated section the base was flat and level at c 0.05m OD, while in the eastern half the base was more uneven, varying between 0.01–0.12m OD. In the latter portion six stakeholes were cut into the ditch’s base in a roughly rectangular arrangement and all were filled with sticky dark brown decayed wood. The two westernmost stakes appeared to have retained a plank, which survived as a degraded line of timber c 0.60m in length and c 10mm thick. To the north this abutted an almost identical timber, similarly degraded, at right angles. The two elements formed a T-shaped arrangement [1558] of unknown function.

Evidence for another simple structure was provided by a group of nine stakeholes [1483], recorded in north trench (C) (see Fig 8a). Six of these formed a curving line, extending for c 1.60m, possibly representing a small animal pen.

A group of more than 40 stakeholes [768] was recorded in south trench (S) (see Fig 8b), spread out in a linear trench almost 8.0m in length. There was no evidence of decayed wood. Three fresh sherds from a jar were found in a stakehole, broadly dated to c AD 70–170. The structure was possibly a long-lived fence line running parallel to Guy’s Channel, which lay a few metres to the east. The fence line extended into the west end of the possible jetty, implying that it was probably not contemporary with the waterfront installations.

Period II discussion

Thames river levels

Current knowledge of river levels indicates that during the earliest decades of the Roman occupation the marsh surface at Southwark’s marginal locations would have been exposed on an intertidal basis. Inevitably this would have severely limited the nature and duration of human activity at sites like Hunt’s House. Nevertheless, some of the evidence assigned to period II at Hunt’s House could represent short-lived, perhaps seasonal, activities undertaken by Southwark’s earliest Roman inhabitants. In particular, several natural features, described above as rivulets, were possibly utilised to exploit the faunal resources of the tidal waters. These rivulets ran either parallel with or perpendicular to Guy’s Channel and any such activities would have probably been undertaken on the ebb tide as fish were carried along the rivulets towards the larger watercourses surrounding the site. Several linear features, which have been interpreted as being of human origin, follow the same alignments as the rivulets, as one might expect.

Brigham’s synthesis based on excavations at Roman waterfront sites in London up to the late 1980s led to the conclusion that the root cause of the continual extension of the north bank waterfront was the marine regression which occurred during the Roman period in Britain (1990, 143). He demonstrated that in London there was a substantial fall, of c 1.5m, in tidal levels between the end of the 1st century and the mid 3rd century AD (ibid, fig 12.2). But without formal timber waterfronts, or even basic earthen embankments, the low-lying margins of north Southwark’s settlement area would have been inundated by tidal water every day probably until at least the mid 2nd century.

A fall in river level after the late 1st century AD would have had a significant impact, in environmental and ecological terms, on Southwark’s marginal sites. Low-lying areas near the meandering marshland channels would have
gradually experienced less tidal inundation. During the Flavian period there was rapid development of the Southwark settlement, in tandem with that of Londinium, but while there was clearly a demand for land in early Roman Southwark, urban expansion must have been constrained by the natural topography of the area.

North Southwark’s waterfront installations and Hunt’s House evidence

The period II evidence from Hunt’s House indicates that a formal timber waterfront, consisting of an unbraced post-and-plank revetment, was erected at the western edge of Guy’s Channel, probably during the early 2nd century AD. A possible jetty/landing stage was apparently associated with the revetment. While the revetment would have served to protect the marshland to the west from riverine erosion, a jetty would have allowed rivergoing craft, such as that found at New Guy’s House (see 1.5 above), to bring goods and materials directly to the settlement area. As a result of many archaeological investigations conducted in north Southwark during the last 30 years, there is now a substantial body of evidence to indicate that during the 1st century or so of Roman occupation there was a concerted programme of construction of timber revetments along the edges of the creeks and channels which surrounded and bisected the settlement area.

To date there has been no discovery to parallel the massive Flavian quayside installations found on the north bank of the Thames (Milne 1985, 55–62). However, there will probably never be an opportunity to assess the extent and nature of the early Roman waterfront in the area of the Southwark bridgehead due to the severity of medieval riverine erosion (eg Perring 1991, 28). A hint of what may have existed on the main Thames waterfront came from excavations at Winchester Palace where a timber revetment of close-set piles survived on what would have been the Roman Thames edge (Yule 1989, 32).

Southwark’s ancient topography posed Roman engineers a slightly different set of problems to those of the Thames’s north bank. The available data, supplemented by the period II evidence from Hunt’s House, suggest a comprehensive scheme to protect the margins of the sand islands from inundation as well as to canalise and ultimately dam the narrower watercourses which effectively split the settlement area into smaller portions. The excavations at Guy’s Hospital in 1989–90, c 50m to the north-east of Hunt’s House, were the first to investigate in detail Roman waterfront installations associated with the western edge of Guy’s Channel (Taylor-Wilson 1990). Brigham has noted that post-and-plank revetting was the favoured method of waterfront construction only during the 2nd century AD in London, despite the fact that it has been demonstrated that the lifespan from construction to replacement of such structures was comparable to that of quay structures (1998, 32). One example that correlates to the suggested early 2nd-century date for the Hunt’s House waterfront comes from Lower Thames Street at Billingsgate Buildings (Jones & Rhodes 1980). Another example, from further afield in the Western Empire, comes from a tributary of the Haine at the village of Pommerœul in Belgium (de Boe 1978, 22).

At that site, migration of consecutive channels of the side branch of the main river necessitated repeated renewal of the bank revetments. The best-preserved version, of probable 2nd-century AD date, had, like the Hunt’s House installation, collapsed forward, although it was clear that in its upright state the structure had consisted of at least six courses of planking shored vertically against the bank by a row of piles. The use of a post-and-plank ‘breakwater’, seemingly similar in form to the Guy’s Channel waterfront revetments, to simply protect the late 3rd-century quay – a two-phase masonry structure fronted by a timber stage – on the Usk at Caerleon, underlines how this form of construction was evidently undervalued by the Romans in Britain (Boon 1978, 8–9).

It is noteworthy that not all investigations of Guy’s Channel have revealed evidence of waterfront installations. Although both sides of the watercourse were evidently located when the New Guy’s House boat was investigated in 1958, there was no evidence of revetting of either bank (Marsden 1965, 123–5). Similarly, the entire width of Guy’s Channel was sectioned on Tooley Street in 1975 close to the point at which the channel must have joined the Thames, although there was again no evidence of revetting on either bank (Graham 1988a, 49–53). During observations at 13–19 Maze Pond, revetting of a north-east to south-west watercourse, probably Guy’s Channel, was recorded (Bird & Graham 1978, site 61), although whether or not this was a similar structure to that recorded at Guy’s Hospital in 1989–90 or at Hunt’s House is not clear. Revetting of a watercourse that skirted the eastern margin of the settlement area may have been a piecemeal affair, as the available evidence suggests, although one would expect that for protection to be at all meaningful, the entire western edge of Guy’s Channel would have required a waterfront.

The evidence outlined above indicates that a relatively substantial waterfront was built to protect at least parts of the outlying eastern margin of the settlement area. Numerous sites in the vicinity of the intersection of modern Borough High Street and Southwark Street have produced evidence of formal canalisation of the smaller channels that divided Southwark’s islands. The latter activity was presumably related closely to the need to win and consolidate land close to the settlement nucleus. Two
examples are at 64–70 Borough High Street, where a post-and-plank revetment replaced a 1st-century post-and-wattle structure during the period AD 75–150 (Graham 1988b, 57–63), and at 93–95 Borough High Street, where a post-and-plank revetment constructed c AD 100 also probably replaced an earlier version (Sheldon 1978, 425–7). Unlike the Hunt’s House revetment, both structures were discovered still upright and although both were evidently unbraced, in each case there had been an attempt to support the planking; at 64–70 Borough High Street the base of the planking rested on a narrow shelf cut into the bank, while at 93–95 Borough High Street the planks were set upon a substantial base beam.

**The Hunt’s House jetty**

In the light of the excavated evidence, it is difficult to formulate a conclusive interpretation of the jetty at Hunt’s House. It is suggested that the structure was probably an open-fronted landing stage, broadly similar to a structure found on the Thames’s north bank at Swan Lane (Brigham 1990, 116–17, fig 6.3), although the Hunt’s House evidence indicates a far less substantial installation than that at Swan Lane (Swan Lane III). Nevertheless, if the suggested interpretation is accepted for the Hunt’s House structure, then this is an important finding as it indicates that the site had some importance in terms of trade as the Southwark settlement was flourishing.

The dimensions of the ground plan certainly support the suggestion that it was a landing stage. As to its superstructure, one can perhaps envisage an open framework with plank decking, although the excavated remains provide few clues as to the precise form. It did, however, extend at least 1.5m into the channel. At the river harbour at Pommersoeul in Belgium (see above), a massive oak platform, consisting of planks supported by cross-beams which had been bound to a series of driven piles, was interpreted as a landing stage erected in the middle of the channel when boats could no longer gain access to the quayside due to silting (de Boe 1978, 22). Rivergoing sideloading vessels of the New Guy’s House type could have docked against the Hunt’s House jetty at high tide to unload goods destined for the settlement area to the west. Such goods were presumably taken from shipping restricted by size to the main port facilities on the Thames waterfront. It is likely that there were several small docking installations at intervals along the Guy’s Channel waterfront to the east of the main settlement area. Part of a ramp or jetty was discovered in association with a timber revetment at 179–191 Borough High Street, where an inlet of Guy’s Channel met the edge of one of the main sand islands c 200m to the south-west of Hunt’s House (Heard et al 1990, 616).

**Construction of the waterfront**

Given the substantial evidence, as outlined above, of timber waterfront construction on both sides of the Thames in the early Roman period, it is clear that a ready supply of engineering and joinery expertise would have been available when the installations were built: a Hunt’s House (Milne 1985, 62–7; Goodburn 1991; Brigham et al 1995, 62–3). Construction must have taken place on an intertidal basis when the water level was sufficiently low to allow pile-driving equipment to be manoeuvred on to the western bank of Guy’s Channel. The natural bank of the channel was probably cut back by hand to create a vertical face, against which the piles were driven.

As mentioned above, the easternmost complete set of three piles of the jetty structure had been driven vertically into the channel’s natural bank and there was no evidence to suggest that plank shuttering had been inserted behind them, below the level of the contemporary ground surface. This clearly implies that an exposed ‘cut-back’ face of the natural deposits at the channel’s edge was visible between these three piles. At the 1989–90 Guy’s Hospital site, a similar arrangement seems to have existed in one section of the waterfront – the only surviving plank behind the revetment piles was a highly degraded timber at or just above the contemporary ground surface.

There was no direct evidence that nails were used at all in the construction of the waterfront, although one plank with several nails driven into it was found within a late Roman pit immediately to the east of the jetty, and it is possible that this, along with other timbers in the feature, was derived from the earlier installation.

**The possible drain**

Due to its situation against the southern limit of excavation, very little of what appeared to be a drain was exposed immediately to the south of the jetty. Degraded plank-like timbers at its opening and along the line of the revetment suggest some form of sluice-gate, although the remains were simply too degraded to be sure. If this were a drain of some kind it would have presumably discharged surface water from the marsh into the channel. Analysis of the material collected in the feature’s base identified burnt crop-processing waste (spelt chaff and sprouts). While this does not necessarily mean that it was deliberately constructed to carry such material for disposal in the channel, similar charred plant remains were recovered from periods II and III alluvial material deposited in the channel close to the drain and jetty. Therefore, it seems most likely that activities related to the roasting of malted spelt were taking place somewhere in the vicinity of Guy’s Channel, with the waste being washed down the drain into
the watercourse. It seems far less likely that the burnt crop-processing waste was a cargo of a river barge using the channel. The deposits were waterlogged, and if the material had originated as a cargo of primarily unburnt, unprocessed malted spelt, then waterlogged spelt remains would also have been recovered.

A structure interpreted as having a drainage function was discovered in association with the waterfront revetment at the 1989–90 Guy’s Hospital site. There a bored alder trunk had been inserted through the revetment planking, and further south at the same site drainage from a timber-lined ‘storage tank’ was provided through an elaborate arrangement of bored oak beams which discharged over the revetment planking (Taylor-Wilson 1990, 25–6, 29–31).

**Dating the waterfront installations**

A precise date for the construction of the Hunt’s House waterfront installations through tree-ring dating could not be obtained, as the oak samples had insufficient rings. Nevertheless, the ceramic dating evidence broadly indicates construction, usage and abandonment/collapse of the waterfront revetment all within the period AD 100–70. Even if the dating evidence is ignored, the early Roman topography of the site suggests that construction of the revetment would have been implausible before AD 100. The early Roman marsh surface survived to a maximum height of only \( \epsilon 0.55 \text{m OD} \) to the west of the Guy’s Channel in south trench (S). Current knowledge of the Roman Thames river level indicates that tidal waters in London attained their highest levels of the entire Roman period between AD 50 and 100, when Mean High Water (MHW) was probably at least \( \epsilon 1.50 \text{m OD} \). However, as a result of marine regression, it may have fallen as low as \( \epsilon 0.50 \text{m OD} \) by AD 150. This broadly implies that construction of the revetment at Hunt’s House most likely took place in the first half of the 2nd century when the river level was falling dramatically.

Brigham has highlighted a crucial point regarding estimates of levels of mean high tide by stating, ‘the upper range of levels for mean high tide can only be positively established from the lowest contemporary revetment’ (Brigham et al 1995, 11). As both sections of revetment at Hunt’s House were discovered in a state of collapse, estimates of how high they originally stood can only be obtained through reconstruction. At worst such analysis is of little value, given that a host of assumptions have to be made about the original structures; at best the results should be treated with caution. Perhaps the most significant assumption is that although the revetment(s) had collapsed forward in antiquity, there had been little or no displacement of the base of the piles from their original positions. A further important assumption (and one that is typically made when reconstructing revetments) is that the face of the waterfront was built high enough to protect the ground behind it from inundation only during MHW Spring Tides — occasional flooding during Highest Astronomical Tides (HAT) was presumably regarded as acceptable.

When reconstructed, pile [584] in revetment [554] stood to a height of at least \( \epsilon 1.70 \text{m OD} \) (see the research archive for more details). It is possible that very little of this pile rotted after collapse, given that the structure was almost face down and buried in alluvial material. Three planks survived with this pile, and reconstruction puts the top of the revetment face at \( \epsilon 1.40 \text{m OD} \). It is assumed that no planking above this was missing. Piles [813] and [814] in revetment [803] can be reconstructed to heights of \( \epsilon 0.80 \text{m OD} \) and \( \epsilon 1.10 \text{m OD} \) respectively. In both cases there may have been more substantial rotting of the top of the timber given that collapse of the structure was less severe than for revetment [554] and the top of the piles may, therefore, have been subject to alternate periods of being dry and wet for some considerable time.

Reconstruction of the two planks found with revetment [803] elevates the revetment face to a height of \( \epsilon 1.10 \text{m OD} \) behind pile [813] and \( \epsilon 1.25 \text{m OD} \) behind pile [814], which indicates at least \( \epsilon 0.30 \text{m} \) and \( \epsilon 0.20 \text{m} \) of the piles had rotted, respectively.

The estimated original height of the plank face of the revetment therefore varies between \( \epsilon 1.10 \text{m OD} \) and \( \epsilon 1.40 \text{m OD} \). If the lowest reconstructed height is assumed to represent the MHW at the time of construction, then Brigham’s graph (1990, fig 12.2) suggests that this occurred at or after \( \epsilon AD 110 \) — a date that broadly agrees with the ceramic dating evidence. At the 1989–90 Guy’s Hospital site, at least part of what was probably the earliest revetment had, like the Hunt’s House structure, collapsed forward into Guy’s Channel. There, however, a substantial front-braced structure had been erected to retain what was almost certainly a subsequent phase of revetment in the northernmost portion of the waterfront – tree-ring dating indicating that this probable repair phase occurred sometime after AD 161.

An interesting point arising from the revetment reconstructions at Hunt’s House is the fact that the contemporary ground surface to the west of Guy’s Channel survived at a maximum height of only \( \epsilon 0.55 \text{m OD} \). If the reconstructions are reliable, then practically all the planking in the revetment face would have been above that level, rather than wedged behind the retaining piles within a backfilled construction cut in the channel’s edge as one might expect. While it is not certain whether the lowermost surviving plank was the
original bottom plank of the revetment, it seems likely that this was the case. Such an arrangement would surely only have provided a watertight frontage if either the planking was nailed on to the uprights, or a rear-bracing or tieback structure was employed, or substantial quantities of material were banked up behind the planking in order to stabilise the structure. As mentioned above, there was no direct evidence to suggest that nails had secured the surviving planks or that a rear-bracing structure had existed. To the west of revetment [803] no embanked material of contemporary date to the period II waterfront installations was encountered, although the relevant deposits could conceivably have been pushed, or even washed, into the channel following the collapse of the revetment. Immediately to the west of revetment [554] none of the contemporary channel bank or ground surface survived due to later intrusions.

Abandonment of the waterfront installations

The waterfront installations were evidently abandoned in the second half of the 2nd century, indicating that they had a lifespan of perhaps 60–70 years at the most. Their abandonment can be viewed in the context of two events. Firstly, there was the continuing steady fall in the river level in London during the second half of the 2nd century. After c AD 160–70 even the lowest points of the marshland at Hunt's House may have been inundated only during Highest Astronomical Tides. Secondly, there was the well-documented reverse in the economic fortunes of Roman London as a whole between AD 150 and 200, which has become apparent as a result of numerous excavations conducted on both sides of the river (Perring 1991, ch 5). It can be argued that at marginal locations such as the Hunt's House site, wide-ranging economic misfortune would have manifested itself in specific ways, for example discontinuation of maintenance of ageing waterfront installations.

The Hunt's House revetment probably collapsed as a result of water action and erosion of the channel's sandy bed in the vicinity of the piles, causing them to gradually loosen and ultimately fall to the east. As mentioned above, there was no evidence to suggest that the structure had been anchored into the bank. The uprights of the jetty were probably left in situ to rot after the superstructure of the installation fell into disrepair. The surviving uprights of the jetty at the channel's edge were noteworthy in that they remained upright despite their situation. Accumulation of alluvial material beneath the jetty during its lifetime may have prevented those uprights from suffering the same fate as those associated with the revetment (see Fig 11).

It has been noted above how, at the 1989–90 Guy's Hospital site, the northernmost portion of the waterfront had been extensively modified, probably in the second half of the 2nd century, and that structure may have remained functional until the late Roman period. Pairs of piles were used to retain the revetment planking with one upright in each pair supported on its eastern side by an elaborate, and at the time unparalleled in Roman Britain, front-brace system (Taylor Wilson 1990, 21). A section of collapsed revetment, which possibly corresponds to the revetment at Hunt's House, clearly predated the modified structure. Given that it stood at the edge of an area divided, during the early Roman period, from the main islands by marshland watercourses, the Hunt's House site may have simply been too marginal to warrant the undertaking of such an engineering scheme.

2.3 PERIOD III: c AD 170–90

A number of deposits have been assigned to period III – a short-lived period of activity dated to the second half of the 2nd century AD (not illustrated). The majority of these deposits were of alluvial origin and a summary of their extent and nature is described below. Three phases of accumulation have been defined. This period had the largest number of equid bone fragments (followed closely by period V) (see Table 2), including donkey bones, which are rarely identified on archaeological sites.

Phase 1: reversion to marshland

In the most low-lying parts of the site – middle trench (N) and north trench (S) – a highly organic clay overlay the period I palaeosol. It contained little cultural debris apart from occasional sherds of pottery, fragments of building material and degraded animal bones. The layer was typically 50–100mm thick, although on occasion the same material appeared to infill, to a greater depth, some of the features recorded at the upper interface of the period I palaeosol. A similar clay filled a cluster of period II features in the east bay of south trench (C).

In parts of the higher areas of the site, a similar layer was recorded, and interpreted as having been laid down at the same time. This layer was recorded in the eastern half of north trench (N), parts of middle trench (S) as well as in the southernmost portion of south trench (S). Although this deposit had a far less significant organic component in comparison with the material from the lower-lying areas of the site, its distinctive brown colour
was undoubtedly derived from organic material. On the whole this was a fairly patchy layer, typically 50mm thick, although, as layer [763], it did attain a maximum thickness of c. 150mm in south trench (S). Here it sealed the rotted tops of several of the piles in the possible jetty.

A total of 52 sherds (1.3kg) of pottery was recovered, all of which was residual late 1st- to early 2nd-century material, and was, therefore, presumably derived by erosion from underlying features.

**Phase 2: human activity and burial of the revetment**

Overlying the phase 1 deposit in middle trench (N) (see Fig 8a) was a loose spread [1028], up to 50mm thick, consisting of silty sand, pea grit, fine and medium pebbles, crushed and fragmented charcoal, broken pottery, fragmented building material and animal bones. This material possibly represents the only evidence of human, rather than alluvial, activity on the short-lived ground surface formed by deposits assigned to phase 1. Although the spread may have been washed in during a brief fast-flowing alluvial inundation, it could have been deliberately laid, and was possibly even a crude surface, although not enough was exposed to be able to confirm this interpretation. The spread yielded c. 3.5kg sherd of pottery (including a fragment of an imported Pompeian Red ware platter) – with an unusually large pre-Flavian element – although a degree of residuality can be inferred.

As stated above (see Period II discussion), abandonment and collapse of the waterfront revetment in south trench (S) probably occurred during the mid 2nd century, c. AD 170. Both revetment sections were buried by alluvial deposits that had accumulated towards the channel’s western edge probably fairly soon after collapse. These deposits have been assigned broadly to phase 2. In the area of revetment [803] (see Fig 9), a series of deposits were broadly indicative of material that had accumulated in a slow-moving or stagnant alluvial environment. None of these deposits produced any dating evidence.

In the area of revetment [554], however, a rapidly fluctuating depositional environment was indicated, which yielded pottery dated to c. AD 130–60. Sample {34} taken here contained fairly high concentrations of charred spelt waste, though much less than period II samples, which may indicate period II deposits moved about by alluvial activity (see 3.6 below). Sample {35} interestingly contained beet fruit fragments (cf Beta vulgaris). Sea beet is a native coastal plant, but leaf and root beet varieties have probably been cultivated since at least Roman times (de Rougemont 1989).

The general effect of the alluvial deposition in phase 2 was the creation of a ‘new’ natural western bank to Guy’s Channel. There was evidently no attempt to replace the formal waterfront structure of the previous decades (see Fig 11).

**Phase 3: severe flooding**

Most of the phase 1 alluvium was overlain by a new layer (c. 0.10–0.40m thick) as a result of riverine flooding. This alluvial silty clay lay across the entire site, containing occasional flecks of charcoal, flint pebbles, fragments of building material, degraded animal bones and 300 sherd of pottery (5.6kg). An unusual find was a reeded rim fragment from a carinated bowl or jar of 2nd-century date in hackly grey Rowlands Castle ware from south-east Hampshire (Marsh & Tyers 1978). There was also a heavily cordoned fragment from a giant pithos, used for the storage of grain and in the production of wine. Two sherds from a vessel of this type, with an estimated rim diameter of 800mm, came from the Roman quay at New Fresh Wharf, just downstream of the bridge on the north bank of the Thames (Green 1986, 106), and were thought to have a Mediterranean and possibly North African origin. On the whole there was no material that was later than that from the preceding phases, which suggests that (eroded) occupation horizons belonging to phase 2 were the source of the material. A date c. AD 180 is suggested for deposition of the phase 3 alluvium.

**Donkey bones**

A number of bones in south trench (C) [382] were identified as the left foreleg of a donkey, Equus asinus. Its presence is significant, as the species is recorded infrequently from Roman sites in Britain (see 3.5 below). It had a number of transverse cut marks, consistent with the animal having been skinned, and was older than 3 1/2 years at death. In the same context were found the hindlegs of a horse, which may also have been skinned, or merely dumped in a convenient place.

**Period III discussion**

The distinctive organic component of the alluvium of phase 1 most likely came from marshland vegetation, probably rushes and sedges. The origin of this horizon may have been the initial action of the phase 3 alluvial episode as it encountered marshland vegetation established on the early Roman (period II) marsh.
surface. That the phase 1 horizon accumulated in south trench (S) following abandonment of the waterfront installations on the western edge of Guy's Channel is an important point. It suggests that the relative environmental stability, necessary for the establishment of vegetation, was not a result of the mudflats being protected by the period II waterfront, but more likely a consequence of the lowering of the river level in London during the 2nd century.

The possible interpretation of the phase 2 gravel spread, in the most low-lying part of the site, as a deliberately laid surface is an intriguing one. As an anthropogenic deposit the spread appears virtually in stratigraphic isolation, sandwiched between the underlying organic-rich alluvium of phase 1 and the overlying clay alluvium of phase 3. It is possible that other, similar, deposits were removed by erosion when the floodwaters of phase 3 engulfed the site. Alternatively, the material may simply have been washed in by riverine action from early Roman occupation levels beyond the limits of the excavation. An additional possibility is that organic alluvium accumulated at slightly different times at different locations on the marsh surface, presumably dependent on the relative height. This would explain the high proportion of 1st-century ceramics within the spread.

The origin of the phase 3 alluvium was a relatively low-energy alluvial environment such as may have occurred in the aftermath of a severe episode of riverine inundation. The duration of this inundation is uncertain but it may have been a relatively short-lived affair. It may even have occurred during the course of one extremely wet season when river levels rose far above their depressed late 2nd-century levels.

The presence of the partial donkey and horse skeletons implies that the area was a convenient wasteland for dumping whole or partial carcasses away from inhabited areas, after their useful working lives were over.

### 2.4 PERIOD IV: c AD 190–225/40

Across the site, numerous features were recorded cutting into the period III phase 3 alluvium. On the basis of stratigraphic and dating evidence these have been assigned to either period IV (Fig 14) or period V. Parts of the northern half of the site saw the accumulation of a distinctive layer of mottled silty clay, interpreted as the final activity of period IV at those locations. Features directly cut into this were assigned to period V regardless of dating evidence (although the pottery was largely abraded 2nd- to early 3rd-century material, which was presumably residual). In south trench (S) the stratigraphy attributed to period IV was relatively more complex.

**Drainage ditches in the north**

Several ditches dating to this period were perhaps intended to carry off surface water from riverine flooding or simply following heavy rainfall. These were particularly concentrated in the northern half of the site. Two parallel ditches [1274, 1280] are good candidates for drainage features (see Fig 14a). They lay c 14m apart and were of very similar dimension and form, 0.60–0.70m wide and up to 0.20m deep with almost V-shaped profiles. Along the base of each ditch there was a slight downward gradient from east to west, indicating that if they had been dug as drainage features then they were conveying water away from Guy's Channel. It is possible that they discharged into the period II rivulet [130, 1476, 1478] (see Fig 8a). The fill of [1274] had a relatively large quantity of cultural debris within it. Building material, degraded bone and oyster shells were all frequent inclusions, and a total of 3.6kg of fresh-looking pottery was recovered. This includes a near complete white-slipped poppy-head beaker in grey Highgate Wood C ware, a dot-babotine decorated beaker in the same fabric with black slip, and a face pot in Verulamium Region White ware (Fig 15). The assemblage includes many large fresh sherds and is dated to c AD 140–200.

**Deliberate dumping in the north**

Also in the north of the site, parts of a distinctive layer were recorded overlying the period III phase 3 alluvium and sealing period IV features cut into that deposit. This material seems to represent a relatively short-lived period of deliberate dumping. The pottery recovered includes imports and is generally residual 1st- and 2nd-century material, although some dates to the early 3rd century. Accumulation of this layer is considered to signify the end of period IV in the northern part of the site.

**Land boundary in the centre**

The central portion of the site saw less activity during this period. One noteworthy feature, however, was a land boundary oriented north-east to south-west (see Fig 14b) which may have redefined a similar period II boundary recorded a few metres to the west (see Fig 8b). The period IV version had two phases, underlining the fact that this was a boundary of some importance. Pottery from the primary phase amounted to 93 sherds of late 1st- to early 2nd-century material, which was clearly residual. The most substantial surviving portion of the secondary phase was
the southernmost, [344], which was c. 0.8m wide and up to 0.18m deep, with steep straight sides and a slightly concave base. Further north, a portion of the same version of the ditch must have butted immediately beyond the northern limit of excavation. Pottery recovered from this secondary phase is of late 2nd- to mid 3rd-century date.

**Ground levelling towards the south**

An interesting cluster of intercutting non-linear features were recorded in south trench (C), which may simply have been the result of deliberate dumping for ground levelling (see Fig 14b). Ceramics were recovered from several of them. In pit [373] a particularly significant assemblage was found, which dates the backfilling of the pit to the first quarter of the 3rd century. Its two fills produced 357 sherds (4kg). Black-burnished 2 ware predominates, and there is also an unusual closed form with a down-turned lid-seated rim in a very fine sanded cream fabric, probably a continental import, as well as fragments of decorated samian ware from central and south Gaul (see 3.2 below), two tazza bases in Verulamium Region Coarse Whitenslipped ware and a copper-alloy drop-handle once attached to a wooden box <62> (see Fig 39 no. 3, and 3.4 below).

**Guy’s Channel**

Adjacent to the southern limit of excavation in south trench (S) was a series of deposits indicating that material had been deliberately dumped to the west of Guy’s Channel during this period. The aim was presumably to raise and consolidate the ground surface. Although this activity was evidently carried out at a time when tidal levels in London continued to fall, it is possible that it was undertaken as a safety measure to protect newly available land still prone to occasional flooding, as shown by the period III phase 3 episode.

The most substantial deposit interpreted as being part of the embanked material was an extensive sandy clay layer [520] up to 0.15m thick, including flint pebbles and pottery sherds (mostly residual 2nd-century material), crushed charcoal and an ash-like deposit, particularly noticeable within the upper portion of the layer. Other smaller clayey deposits overlay parts of layer [520], one of which, [542], skirted the southern limit of excavation. This deposit was itself partially overlain by a distinctive spread [596] of large flint nodules, which may represent the remains of a deliberate surface – possibly an area of hardstanding adjacent to the channel – at a height of c. 0.85m OD (see Fig 14b).
Fig 14(b) Main archaeological features, period IV: southern area

Fig 15  Roman face pot in cream Verulamium Region White ware, c AD 150–200, from drainage ditch in period IV (drawing 1:4)

Period IV discussion

By the end of the 2nd century the Hunt's House site would have remained drier for increasingly long periods of time due to the continuing decline in the level of the river. By c AD 200, with MHW in London perhaps as low as 0m OD, according to Brigham's analysis (1990), it is possible that sites as low-lying as this would only have been inundated during exceptional high tides or after seasonal
phenomena such as severe winter rainfall. Such episodic events may have prompted those using the Hunt's House site to embank the western edge of Guy's Channel. The majority of the activity assigned to this period broadly confirms the notion that Southwark's marginal sites were more or less permanently available for utilisation by AD 200. Some linear features at Hunt's House were suggestive of land drainage, while others may have delineated plots of land intended for other purposes, for example livestock enclosures. However, the overall extent to which the site was exploited during period IV was probably determined more than anything by the status of Southwark's settlement to the west, following its contraction throughout the second half of the 2nd century.

In Londinium there was clearly something of a restoration c AD 200 with the commencement of a series of major public urban-renewal projects, most notably the construction of the town wall to enclose about 125ha of the north bank settlement (Perring 1991, 90). However, the extent to which the Southwark settlement was revitalised at the same time is not as clear, and Perring has outlined evidence to suggest that Southwark's major revival was delayed until the late 3rd century (ibid, 117–18). Nevertheless, the south bank settlement was clearly anything but deserted, and evidence from a number of Roman Southwark's most important sites indicates that it had a sizeable population. For example, the public/official buildings at the site of Winchester Palace appear to have remained in continual use between the 2nd and 4th centuries (Yule 1989), while at 15–23 Southwark Street a substantial masonry structure, Building 7, with hypocaust systems and tessellated and mosaic floors, was probably constructed c AD 200 (Cowan 1992, 49).

2.5 PERIOD V: c AD 225/40 TO MID/LATE 4TH CENTURY

The higher ground at the northern and southern ends of the site saw again the greatest concentration of activity (Fig 16). Numerous ditches and pits were dug here (only the land boundary parallel to Guy's Channel is discussed below). One of the most interesting discoveries of the excavation was the 3rd-century timber structure in the lowest part of the site. Interpreted as a possible storage tank for amphorae, its existence also indicates the extent to which the river level had fallen by this time. There is evidence for the silting up of Guy's Channel in this period, followed by further embanking of the channel, possibly in the 4th century, as river levels rose.
**Possible amphorae storage tank.**

At the most naturally low-lying part of the site, in north trench (S), part of a rectangular timber structure [1337] was recorded (Figs 17 and 18). It was oriented north-east to south-west and was adjacent to the eastern limit of excavation. It has been possible to date both its construction and its abandonment fairly precisely – to the second half of the 3rd century.

The structure was 2.60m wide at the fully exposed southern end. Its full length is not known as it continued beyond the limits of the trench, but it was in excess of 6m. The method of construction is reasonably clear from the surviving evidence. A generally neat cut, between 0.30m and 0.40m deep, was made into the contemporary ground surface – the consolidated period III phase 3 alluvium – down through the period I palaeosol and into the natural sandy clay. The edge of the cut was straight and fell almost vertically for between one- and two-thirds of the full depth before becoming more irregular and falling far more gently to the base which was generally flat at, or a few centimetres below, 0m OD. Timber uprights had been driven at intervals into the gently sloping portion of the cut, and wall planks had been inserted on edge behind the line of uprights. On the three sides of the structure that could be investigated, degraded portions of the lowermost of a possible series of wall planks remained *in situ*. The narrow space between the side of the construction cut and the lowermost wall plank had been backfilled with silty clay containing frequent fragments of pottery, building material and occasional flecks of charcoal. The pottery indicates that the structure was erected during the mid 3rd century. At the south-eastern corner the construction cut was far more irregular, bulging outwards by up to 0.40m, and in this portion the backfill consisted of a more mixed deposit of silty clay and sand. It is possible that the cut collapsed at this point during construction.

It is not certain that the walls of structure [1337] originally stood more than one plank high, but there was strong evidence to suggest that it had. Firstly, the primary infill (see below) contained the jumbled remains of numerous broken planks, and while these could conceivably have derived from plank flooring or even ‘roofing’, the preferred interpretation is that they were the remains of collapsed walls. Secondly, along the structure’s western side and overlying the secondary infill (see below) were parts of two degraded planks lying edge to edge and parallel with the surviving *in situ* lowermost wall plank. The situation of these planks suggests that they were parts of the structure’s wall, which had either collapsed or been pushed inwards following the abandonment of the

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*Fig 16(b) Main archaeological features, period V: southern area*
structure. If this interpretation is correct, the walls originally stood at least three planks high, and at least \( \epsilon 0.30 \text{m} \) higher than the contemporary ground surface. Fig 19 shows a possible reconstruction. It may have had a roof covering, but this is speculation. The surviving lowermost wall planks and loose planks were generally \( \epsilon 0.20 \text{m} \) wide x \( \epsilon 20 \text{mm} \) thick, and the longest surviving section measured \( \epsilon 2.90 \text{m} \). Along the structure’s western side there was what appeared to be a deliberate interruption, 0.90m wide, to the lowermost surviving wall plank(s). Precisely what this represented is not clear.

The majority of the internal uprights, around two-thirds of the 30 recorded, were probably inserted at the time of construction. They lay just inside the line of the
wide variation, between 100mm and 900mm, in the spacing of these uprights. From the surviving evidence it seems that the larger uprights (120mm and more in diameter) were used at the most widely spaced intervals within the central parts of the longest sides of the structure, whereas the smaller uprights were concentrated around the corners and along the short southern end and were generally more closely spaced. The range in depth of all the stakeholes and postholes thought to derive from initial construction was 80mm to 900mm (the latter may not have been bottomed), the average depth being 560mm. Two stakeholes and one posthole were located well inside the line of the lowermost wall plank and could not have retained that plank. These uprights may have been inserted during the structure’s lifetime to give additional support to the higher wall planks as they began to lean inwards.

There were two examples of what appeared to be subdivision within the structure. Most notably, a line of four postholes and stakeholes seemed to represent an internal partition 1.20m wide towards the southern end of the structure (see Fig 17). The middle two of the uprights in that line may have framed a narrow entrance, 0.80m wide. A line of four similarly sized stakeholes, 80mm in diameter, were arranged diagonally across the south-western corner and these could have been inserted to provide additional support to the walls at that point, or else they could represent some other internal subdivision. Three other postholes were recorded just outside the structure’s south-western corner but it is not certain that they were related. One of these was the largest of any of the uprights potentially associated with the structure, 340mm in diameter, and all three were 300mm in depth.

Fig 18  View of storage tank [1337], looking south (0.5m & 1.0m scale)

lowermost wall planks and were clearly intended to retain them. A variety of roundwoods had evidently been used, for example there were stakeholes as little as 30mm in diameter through to postholes 180mm in diameter, the average diameter being just under 100mm. There was also

Fig 19  Reconstruction of storage tank [1337] looking south-west
and filled with mid grey silty or sandy clay, the timbers presumably having been removed in antiquity.

The lowermost 0.20m of structure [1357] had been backfilled with soft sandy silty clay [1219], with frequent flecks and small fragments of charcoal and occasional small pebbles throughout. Also buried within the deposit were frequent degraded wood fragments, some of these recognisable as planking. In terms of cultural material, there were pottery sherds, fragments of building material, degraded animal bones and oyster shells, as well as metal objects. Among these was a cast copper-alloy handle <420> (see Fig 41 no. 5), with a terminal in the form of an eagle's head, possibly from a toilet or surgical instrument (see 3.4 below). Deposit [1219] represented a rapid and deliberate infilling of the base of the structure following its abandonment and collapse/demolition. The pottery suggests a date during the period AD 270–90 for backfilling, indicating that the structure may have had a lifespan of around 30 years, although it may have been considerably less.

Overlying the primary fill of the structure, at c. 0.30–0.35m OD, was a thin layer of soft alluvial clay [1212], representing a brief period of inundation. Overlying parts of the latter deposit were the two planks supposedly from the collapsed western wall (see above). Two similar deposits [1208, 1547] of silty clay, both up to c. 100mm thick, had then been dumped into the abandoned structure; this contained large fragments of chalk blocks, ceramic building material and degraded oyster shells. The structure was finally covered with a dump layer of silty clay [1152] with crushed oyster shells and charcoal, fragmented building material and pottery sherds – which dated this fill to the first half of the 4th century, prior to the site-wide ground raising of period VI.

Within this layer [1152] was found a copper-alloy phallic strap-mount <382> (see Fig 41 no. 2). Mounts of this type derive from auxiliary military equipment (Oldenstein 1976, 158–60). The symbolism of potency and virility would have been credited with the further power of conferring masculine strength on the wearer. In Britain they are commonest along Hadrian's Wall (eg Bidwell 1985, fig 40, 25; Allason-Jones & Miket 1984, 3.588–9) but not all are found in specifically military contexts (Crummy 1983, fig 163, 4257).

**The amphorae and other pottery in timber structure [1357]**

A significant proportion (70% by weight) of the ceramic assemblage recovered from fills [1208, 1212, 1219] of the structure consisted of amphorae sherds. Large fragments from about five different vessels were present and such quantities imply that the original function of the structure may well have been a storage facility for amphorae. The group was made up primarily of Gauloise 4 sherds (81 in total), with a small amount of Dressel 20 (six sherds) (Peacock & Williams 1986, classes 25 and 27). The Gauloise 4 was a flat-bottomed amphora from southern France, which seems normally to have carried wine. The globular-shaped Dressel 20 came from Baetica (southern Spain), and transported locally produced olive oil. Both Gauloise 4 and Dressel 20 enjoyed a long period of production and importation to Britain from the 1st century AD onwards (see 3.2 below, Amphorae). These are the most commonly met amphorae types found on Romano-British sites.

The fills also contained a high percentage of British-made Black-burnished 1 ware, similar to that found at 10–18 Union Street, Southwark in 1988, dated there to c. AD 270–90 (Lyne 1994). The pottery also includes smaller amounts of Black-burnished 2 ware, sherds of Camulodunum-type 306 bowls (which had a possible ritual function, see below; and see 3.2), Speicher ware imported from east Gaul (which was also present in early 3rd-century assemblages at New Fresh Wharf/St Magnus House; Richardson 1986, 109) and the base of a tazza with a hole drilled through its base after firing, which may indicate its conversion into a strainer (Fig 20).

**Guy's Channel**

There was evidence of further embanking of Guy's Channel during period V (see Figs 11 and 16b), with dumps of mostly clay and silt [600, 662–3]. The overall effect of this dumping was to raise the ground adjacent to the channel to a height of 0.80–0.90m OD. Dating evidence recovered from these dumped deposits indicates only that this activity occurred sometime after the mid 3rd century, but it is perhaps indicative of rising river levels in the 4th century (see below).

The alluvial depositional processes at work in the bed of Guy's Channel during period V were undoubtedly complex. Brigham's (1990) analysis indicates that MHW level in London fell from 0m OD to −0.50m OD between AD 200 and 300, and from then it probably began to rise again but may not have reached 0m OD until the last quarter of the 4th century. Throughout the first half of the Roman period, the flowing channel had cut a shallow bed for itself down into natural sand in the south-eastern corner of the site. In south trench (S) the bed was recorded typically at −0.50m OD, although in places undulations were as deep as −0.90m OD. From this sandy bed up to c. 0m OD the channel was filled with a highly variable deposit [595], which consisted of interleaved
lenses of alluvial material representing what appeared to be a wide range of relatively short-lived and fluctuating depositional environments.

When initially exposed and isolated in the south-eastern corner of south trench (S), an investigative sondage was excavated through deposit [595] in order to establish its likely depth and whether or not it displayed coherent stratigraphy so that the various parts could be removed using standard techniques of excavation. But work in the sondage established that this was not possible because of the mixed nature of the alluvially deposited materials. The deposit was, therefore, rapidly excavated by hand, and the spoil was carefully sorted through (one member of the team using a metal detector) for maximum finds retrieval. This yielded a vast amount of cultural material (see below), including 65% of the entire site’s animal bone assemblage and 10% of the pottery assemblage, the dating of which suggests that the channel bed began to silt up after AD 200 and continued to do so into the 4th century.

The pottery consists of 908 sherds (30.7kg), with an abnormally large number of Camulodunum-type 306 bowl fragments (14.2%), which is repeated in an early 4th-century assemblage from the Walbrook Mithraeum site (Bird 1998). Henig has suggested (1998) that such vessels were used as cups and broken during rituals. The content of the late 2nd- and 3rd-century assemblages from Hunt’s House is striking for both the large number of tazze fragments and the frequency of Camulodunum-type 306 bowls. Both these vessel types are believed to be associated with ritual activities: their presence in such large numbers — together with the face pot from a period IV ditch in the north trench (see Fig 15) and two face masks from flagons from period VI dump deposits in the same trench (see Fig 24) — suggests the presence of a shrine or shrines somewhere near Guy’s Channel.

**Finds from channel deposit [595]**

Over half of the 18 coins recovered from deposit [595] were minted in the mid 4th century or later. One most unusual find was a large bronze coin of the usurper Magnus Maximus (AD 383–7); most British finds of Maximus are of his commoner small ‘Fourth Bronze’. Three silver-plated bronze copies of Severan denarii of

< Fig 20 Roman pottery from fills of storage tank [1337]: Black-burnished 1 ware: 1) everted-rim cooking pot, 2) and 3) beaded-and-flanged bowls, 4) dist; 5) Black-burnished 2 ware bowl; 6) and 7) Camulodunum-type 306 bowls; 8) Speicher ware bowl; 9) East Kent Native Coarse ware necked bowl; 10) tazza base in Verulamium Region Coarse White-sipped ware (1:4)
the early 3rd century were found in the period V basal fill of Guy's Channel, including one from [595]. Altogether eight copies were found on the site, and are worthy of comment as such finds are normally scarce. The Severan period saw a drastic official debasement of the silver coinage, prompting the hoarding of the better denarii previously in circulation. The result was the appearance of copies or forgeries of coins of the Severan dynasty in great quantities. None of the eight found on the site came from period IV, the period during which they would have been manufactured and used, and they would have been unlikely to circulate much beyond the end of the Severan period, c. AD 225. It is unusual for these coins to form such a high proportion (13%) of the coins from a site. While eight coins cannot be classified as a 'hoard', they possibly represent the contents of a purse, dropped in marshy ground in the early 3rd century, and gradually scattered over the centuries.

Fragments of three piped clay Venus figurines were found across the site (see Fig 40 nos 6–8), including <198> from [595], showing the legs, left hand and most of the drapery. As with most of the other small finds, it was probably domestic refuse. This was a popular cult; such statuettes were mass-produced in central Gaul during the 2nd century and found ready markets in the north-west provinces of the Empire. They are particularly numerous in Roman London (Jenkins 1959, 71–2), which served as the chief port of entry and centre of distribution. One area of concentration within the city is on the waterfront, where a deposit of six, three nearly complete, came from the New Fresh Wharf site (ibid, 205–6). All three Hunt's House fragments show the goddess preparing for her bath, standing naked, clutching her discarded tunic in her left hand, her right raised to a tress of her hair (ibid, 60–1; Lindgren 1980, pls 45–9).

These ceramic figurines, less costly than bronze, supplied the demand for cheap votive offerings, particularly as additions to the family divinities in household shrines. Here Venus, along with the dea nutrix, or nursing Mother Goddess, appears to have been venerated as a protector of domestic life and fertility (Webster 1986, 60). Although these three figurines were found in riverine contexts, they are unlikely to be direct offerings to the water; their small size suggests instead that they were from household shrines, broken and thrown away as rubbish.

Deposit [595] produced the only substantial group of leather footwear from the site (see 3.4 below): the bottom units of a minimum of 20 nailed shoes, 7 sandals and 3 slippers, together with several small scraps from uppers, at least one of which is from a slipper. A few fragments of leather waste were also recovered. Most appear to be offcuts, likely to be produced during footwear manufacture, which suggests that the discarded shoes came from a cobbler's workshop.

A particularly distinctive find assemblage of lead or lead-alloy fragments also came from deposit [595], suggesting leadworking in the vicinity of the site, which peaked in period VI (see 2.6 and 3.4 below).

Animal bone in channel deposit [595]

Most of the animal bone found on the site (65%) came from deposit [595] in Guy's Channel (see also 3.5 below). Mature cattle clearly dominate the assemblage. Many of the long bones had undergone very intensive butchery with a heavy chopping implement, and were often split longitudinally, presumably for marrow. The butchery and fragmentation of long bones to such a degree can be for a number of products, such as soups, stocks and glue. The cattle assemblage suggests that the bones were processed on or near the site, probably on a commercial scale, but that this was not an area for primary butchery.

Nearly 50% of pig bones, the second most common animal on the site, came from [595], as did sheep bones (over 60%). The disarticulated horse bones on the site, also mostly from this context, infer the use of horse skeletons, although there is no direct evidence of butchery. Red deer was present; these bones suggest waste from primary butchery as well as boneworking. Most of the dog bones on the site were also found here, at least one of which had been skinned.

Building materials

The Roman building material found on the site represents demolition, repair and other waste material from a variety of buildings that was dumped here. Many fragments were burnt, indicating a possible reason for the demolition of some of the buildings. A high proportion is likely to have been brought on to the site for use in land reclamation; most appeared in period V contexts, especially in the fill and alluvium around the storage tank [1337] and in the basal fill of Guy's Channel [595]. This section is a summary of the ceramic building material found (see the research archive for the full report, and for discussion of the stone and daub fragments found).

Most of the roofing tile consists of tegulae, with fewer imbrices; some tally marks and other manufacturers' inscriptions are visible. There are fragments of tegula mammata, two complete bricks of opus signinum, box and half box-flue tiles, wall tiles and some tesserae. Two stamped tile fragments are present: one from period V...
deposit [376] in south trench (S) is a rare die used by the *Clavis Britannica*, the same die used on a tile found at Beaufort Park, East Sussex (Collingwood & Wright 1993, 22). The die is round, although much of the stamp is missing; the letters CB appear distinctly. Unfortunately the surviving fragment is from the same portion of the stamp as that found at Beaufort Park. A number of waste products of tile manufacture were found, which may represent the discarding of unusable tile fragments from material being transported by river and loaded/unloaded on to vessels moored in Guy’s Channel, or used as ballast in ships in the channel. The bulk of material, as expected, was of local London fabric group 2815.

**Land boundary in the south**

A substantial boundary ditch, running north-east to south-west, was recorded in the south trench (see Fig 16b). Two phases of the ditch [545, 523] appeared to correspond with two versions of the terminal [541, 514], beyond a modern intrusion in the extreme south-western corner of the site. Only the straight eastern side and part of the flat base of ditch [545] survived. The recut [523], which was up to 2.0m wide, was unusual in that it had been cut deeper than the earlier version – its maximum depth was 0.57m compared with 0.30m for ditch [545]. The base of [523] was at 0.35–0.40m OD along the excavated portion. To the north, in south trench (C), a single phase [506] of the same boundary ditch was recorded, which may have obliterated an earlier version. Ditch [506] was 1.50m wide x 0.43m deep, with its base level at a consistent 0.24m OD. The ditches delineated a land boundary running parallel with and only a few metres to the west of Guy’s Channel, and was possibly intended to prevent the movement of livestock towards the channel. The northernmost section of ditch [506] had 13 stakeholes cut into its base or the lower part of the eastern side. These may represent a simple stake palisade erected within the ditch as an additional measure to prevent livestock from crossing. Where ditch [506] met the eastern limit of excavation, there was some evidence of the upcast bank along its eastern side.

Both ditches [506] and [523] contained relatively large quantities of cultural material, particularly animal bone and pottery. The pottery dates the infilling of the ditches to the 4th century, but there is also one unusual residual piece from [523] – a handled type IVA bowl in Verulamium Region Coarse White-slipped ware, which is dated c AD 100–20 in London (Davies et al 1994, fig 48-272).

**Roman glass**

The fill [445] of ditch [506] contained a notable fragment of flat millefiori cast glass (Fig 21). It was formed from fused canes, each consisting of alternate bands of purple and opaque white bands around a core of opaque white glass. It is similar in colour and form to other pieces of polychrome glass from Southwark Street (Shepherd 1992, 121, nos 2 & 5), but could also come from a plate as from Piercebridge, Co Durham, dated between the last quarter of the 1st century to the third quarter of the 2nd century (Price & Cottam 1998, 55, fig 12c, pl 1.4).

This was the most notable piece of Roman glass found on the site, most of which came from periods V and VI. The majority of the datable material represents re-deposited glass from the 1st and 2nd centuries (see the research archive). In total 129 sherds of Roman glass were recovered from periods III to IX, a rather small number, taking into consideration the size of the site and the level of bulk wet-sieving undertaken, when compared with other domestic sites in Southwark (Shepherd 1992, 120). It seems likely that much of this collection may have originally been dumped elsewhere and have ended up on this site as imported make-up material.

**Period V discussion**

**Possible amphorae storage tank**

Timber structure [1337] was evidently built, utilised and abandoned during the second half of the 3rd century. It is surely significant that this was the period when river levels in London were possibly at their most depressed, thereby allowing relatively permanent use of the most low-lying parts of the site. The high proportion of amphorae fragments within the ceramic assemblage from the
structure’s backfill indicates that such vessels were lying around when it was abandoned. It is possible that this debris was derived from the structure’s original usage and, therefore, a plausible interpretation for the structure is that it was an amphorae storage tank.

Several examples of Roman timber buildings have survived at riverside locations in Southwark, most notably the possible warehouse found at the Courage’s Brewery site off Park Street in 1988 (Brigham et al 1995). The 1989–90 excavations at Guy’s Hospital recorded a sub-square structure, possibly a settling tank, with base plates and floor planks, close to the edge of Guy’s Channel (Taylor-Wilson 1990, 29–31).

However, the Hunt’s House tank is most closely paralleled by other structures from sites on the eastern side of Southwark’s Roman settlement. An excavation in the mid 1940s at Newcomen Street, c 50m to the southwest of Hunt’s House, discovered a rectangular structure with oak plank walls retained by uprights, but no floor planks. The structure measured c 5.80m by at least 3.0m and had been cut c 1.30m into the contemporary ground surface. It was of probable 4th-century date and was interpreted by the excavator as possibly being a storage tank for oysters (Kenyon 1959, 31–2).

An excavation at 1–7 St Thomas Street in 1974, c 200m to the north-west of Hunt’s House, discovered three rectangular timber-lined pits without floor planks in close proximity to each other (Dennis 1978, 304–5). The most substantial of these, F28, measured at least 2.4m in length by 2.0m wide; it had oak plank walls retained by uprights, and internal compartments were recorded. This structure along with another timber-lined pit (F29) were of late 2nd-century date and had been cut c 2.0m into the contemporary ground surface. Both F28 and F29 had probably been fitted with ‘lids’, and they were notable for the quantities of edible fruit and fish contained within their fills, evidence which led the excavator to suggest that they were used in the processing of fish, perhaps for the preparation of garum. A third timber-lined pit (F31) at St Thomas Street also shared similarities with the Hunt’s House tank. This structure, which was c 2.7m long x c 1.10m wide x c 1.60m deep, had wall planks retained by uprights; it was interpreted by the excavator as a possible cresset, and was of 3rd-century date.

There are minor constructional variations between these structures (eg the size of the gap between the wall planks and the construction cut: see the research archive). But the sides of the four structures described above all consisted of horizontal planks on edge with no traces of floor planking, and in all the structures, with the exception of F29 at St Thomas Street, the wall planks were retained by a series of uprights.

**Site-wide activities and river levels**

Brigham’s graph (1990, fig 12.2) of tidal levels in the Thames estuary and the City of London during the Roman period indicates that the river was at its lowest levels between the mid 3rd and mid 4th centuries, with MHW in the City probably remaining below 0m OD during this time. This suggests that Guy’s Channel would not have existed as a watercourse as such, within the Hunt’s House site, during period V – and this is confirmed by deposit [595] (see also Fig 11). The channel possibly cut a deeper course for itself in the mudflats to the east of the site, allowing the earlier bed to silt up over a period of time. There was clearly little need for a formal waterfront revetment during this period of depressed river levels and no evidence for one was found. It is worthy of note that at the 1989–90 Guy’s Hospital site a line of posts had been inserted into Guy’s Channel, to the east of the elaborate 2nd-century front-braced waterfront revetment, sometime after AD 241 (Taylor-Wilson 1990). The purpose of these timbers may have been to keep rivergoing craft away from the silted-up channel’s edge and within deeper water as the channel migrated east.

These natural processes were accompanied by the dumping of refuse – both domestic and industrial – probably derived from the settlement area to the west. The material recovered in period V, particularly from channel deposit [595], indicates leatherworking and leadworking in the vicinity, and that the site may have been used for the smelly business of processing animal carcasses (Rixson 1989, 58), while the land boundary suggests the keeping of livestock in the area. In contrast, the unusual amount of fragments from ‘ritual’ vessels also suggests the presence of a nearby shrine.

The source of the dumped building material could also be the settlement to the west. Perring summarised evidence available at the time of writing for Roman London’s late 3rd-century ‘revival’, as indicated largely by the findings from several Southwark sites (1991, 117–18). For example, earlier buildings at Winchester Palace, 15–23 Southwark Street and 1–7 St Thomas Street were redeveloped during the late 3rd or early 4th century and he has estimated that there may have been around a dozen large buildings, some public, in Southwark by the 4th century.
2.6 PERIOD VI: MID/LATE 4TH TO EARLY 5TH CENTURIES AD

The last years of Roman occupation saw a great deal of activity across the site, which can perhaps be viewed in the context of renewed tidal influence in London. The activity can be broadly divided into two phases: the first comprising apparently intense activity at the western edge of Guy’s Channel (Fig 22); the second comprising a site-wide dumping of material to maintain the site as dry land. Although sub-phases can be defined in each case, particularly with the channel-side activity, for the sake of clarity the text below refers only to the two main phases.

**Phase 1: Guy’s Channel**

At the western edge of Guy’s Channel there was a concentration of activity to prepare the ground prior to laying down a gravel surface to form a consolidated ‘shelf’ along the bank (see Fig 22a and b). Two versions of this surface lay near the southern limit of excavation, suggesting that the site again became an important location for riverside activities, even if only briefly.

This activity may have commenced with the cutting of a large pit [695], some 3m in diameter, towards the channel’s early Roman bank. The pit had been cut through the mixed alluvial infill of the channel’s bed, deposit [595]. The pit had steep, sometimes almost vertical, sides and was at least 1.0m deep, although due to the present-day water table it was not possible to confirm whether or not the feature’s real base had been reached when excavation of the feature had to be abandoned at ~0.85m OD. The primary fill of the pit consisted of clayey organic silt, within which was what appeared to be a jumble of dumped timbers. One was a short length of plank, sawn at both ends and with several iron nails driven into it, while the remaining nine were an assortment of roundwoods and converted posts. All the timbers presumably derived from earlier structures, for example one converted post [760], some 1.3m in length, had a tenon fashioned at its end. It is likely that the period II waterfront was the origin of some or all of these timbers. Post [760] produced a terminus post quem for felling of AD 79, through tree-ring analysis.

The western side of pit [695] was filled with organic silt which was subsequently buried beneath a substantial and highly distinctive silt layer almost peat-like organic deposit [713]. This had accumulated upon the bank to a depth of ~0.40m. To its east, an extensive dumped deposit [457] was laid down and this extended further to the east, infilling...
the eastern portion of pit [695], before pattering out well beyond the edge of the pit over the channel bed fill. The deposit was characterised by the frequent inclusion of crushed and fragmented chalk, with pottery of similar character to the material from the channel bed sitting [595], including fragments of amphorae and residual sherds of samian ware.

Further north a very similar deposit [481, 524] also overlay the infilled channel bed and can reasonably be equated with dump [457]. It seems that the purpose of these dumps was to form a relatively consolidated lower part of the channel’s bank at a height of c. 0.10–0.30m OD. Such an interpretation is broadly supported by the fact that deposit [481, 524] had been cut through by pit [475] (see Fig 22a), which contained two timber planks. Quite what this feature represented was not clear, although it is possible that the planks derived from earlier timber structures, such as the buried post-and-plank revetment [554] (see Fig 9), which had clearly been disturbed by the digging of this pit.

Another substantial organic deposit [762], physically identical to [713], similarly formed part of the channel’s bank. Pit [712, 692] had been cut into both deposits, indicating that they were broadly contemporary. After this pit was filled, silty clay deposits were dumped on to the bank as bedding for the first version of the gravel surface (see below).

**Gravel surface**

Two portions of a gravel surface [191, 660] were recorded (divided by a concrete footing), extending for a total of c. 6.50m along the western edge of Guy’s Channel (see Fig 22b). The surface was made up of compact silty sand and gravel (up to 60% consisting of flint pebbles), frequent fragments of building material, oyster shell and charcoal. While the pottery within surface [660] was mostly 3rd century in character, several 4th-century coins were recovered, one of which was a probable Valentinianic cast copy, c. AD 365–78, which gives a *terminus post quem* for the surface. One residual find in [660] is a 2nd-century copper-alloy plate brooch with a mosaic enamelled central plate <184> (see Fig 38 no. 2, and 3.4 below).

In its southernmost portion, [191], the gravel surface was 2.10m wide and up to 0.18m thick. To the west, where it had been laid against the embankment formed during periods IV and V, the surface was at c. 0.63m OD, but there was a general fall to the east, with a distinctive hollow, at 0.43m OD, at its eastern extent, where it overlay the material interpreted as deliberate bedding deposits. In the northernmost portion, [660], there was a level area, at 0.60m OD, at the northern end, then a sharp drop down to a southern area, at c. 0.30m OD. What was evidently the true western edge of surface [660] survived, lying against dumped bedding material, while its entire eastern edge had been truncated by a large modern intrusion. Beyond the eastern edge of the intrusion was a distinctive dumped deposit, [377, 437], that seemed to represent the lowermost part of the channel’s western bank during period VI, possibly contemporary with the gravel spreads. At its western extent [377, 437] was c. 0.15m thick, with its upper surface at 0.40m OD, but it fell away to the east pattering out at 0.20m OD. Within deposit [377] was the (residual) rim profile of a mortarium rarely found in Britain (see Fig 37 no. 3, and 3.2 below).

A second phase of the consolidated gravel surface was laid during period VI, although this appeared to represent piecemeal repair of the earlier surface rather than wholesale resurfacing. To the south, the hollow in the eastern part of [191] was infilled with a dump [294] of sandy gravel including flint pebbles and fragments of building material. This formed a level area at c. 0.50m OD. To the north, the lower-lying portion [660] was infilled with a deposit [254], which was similar to dump [294]. This material also created a level area, at c. 0.45m OD, in the worn earlier surface. Pottery from the secondary gravel surface is of late 4th-century date.

**Possible palisade**

Lying to the east of the gravel surfaces a possible palisade [233] was recorded (see Fig 22b). The structure, which extended for 3.40m along the bank of the channel, consisted of a fairly regular line of 35 driven stakes. Two other uprights, one immediately to the west of the northernmost stake in the main line, and one c. 0.30m to the east of the main line, could well have been related; the former possibly marking the eventual northern extent of the structure. All but the northernmost four stakes in the main line had been driven through dump deposit [457] which infilled the eastern half of pit [695]. The remaining four had been driven through the silty clay fill of the surviving southern portion of pit [530], which had itself been cut through dump [457]. The latter pit, along with the four uprights driven through it, may possibly have been associated with an addition to the palisade. The southern edge of pit [695] ran right up to the southern limit of excavation and the line of stakes ended precisely at this point.

Four out of the five longest and most deeply driven stakes in the palisade, all c. 1.0m in length, were located in the very central part of the pit, with a steady decrease in size and driven depth towards the edges, where the stakes had been driven as little as 100–200mm into the
contemporary ground surface.

Two assumptions have been made about the palisade. Firstly, on the basis of the evidence outlined above, pit [695] seems to have been dug as part of preparatory groundwork prior to the insertion of the palisade. Secondly, the palisade was probably associated with the gravel surface(s) and had probably been inserted in order to retain it. On the basis of stratigraphic evidence, the palisade and the gravel surface were almost certainly contemporary, although subsequent erosion at the eastern edge of the surface had removed a direct stratigraphic relationship, if one had existed.

Rising river levels and drains
Evidence that the level of the river was rising rapidly at the end of the Roman period was provided by a patch of alluvial silty clay [407], recorded at a maximum height of 0.80m OD, which overlay the northern part of gravel surface [254]. There was also an attempt to drain the ground adjacent to the channel sometime after this inundation: two portions of a flat-bottomed ditch [380, 519] were recorded (see Fig 22c). It appeared to have been dug across the sloping ground surface to the west of the channel and was roughly at right angles to its edge. Along the excavated sections the base sloped down from 0.55m OD in the west to 0.45m OD in the east, indicating that the ditch carried surface water into the channel. The ditch was 1.25m wide and attained its maximum depth, c.0.28m, at its western end. A possibly contemporary, narrower, ditch [493], which may have had the same function, lay to its south.

Phase 2: site-wide dumping
Adjacent to the southern limit of excavation in south trench (S) a layer of silty clay [451] sealed infilled ditches [493, 519] (see Fig 22c). This clay, typically 80mm thick, was alluvially deposited, up to a height of 0.95m OD, and the inundation responsible could perhaps have been the spur for the programme of site-wide dumping which comprises the broadly defined second phase of activity within period VI. Fig 23 shows the topography of the site after the phase 2 consolidation and ground raising.

The western part of alluvium [451] was buried beneath a dump, up to 0.10m thick, of silty clay [409], which was buried by another dumped deposit [379], up to 0.20m thick, adjacent to the channel’s edge (see Fig 11). The latter contained frequent fragmented building material and

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Fig 23 Plan of topography of the site, period VI
charcoal. In south trench (S) this deposit formed the final ground surface, up to a height of 1.08m OD, prior to the period VIII inundation. The eastern edge of deposit [379] had been eroded by the rising water level during period VII. To the north, layer [379] had been truncated by a combination of modern intrusions and period VII features. In the northern part of south trench (S), portions of a horizon equivalent to [379] were recorded up to a height of c. 1.0m OD (deposits [463–5]).

In every other area of the site the accumulation of a distinctive horizon, which can be broadly equated with deposits [379] and [463–5], created the final Roman and sub-Roman ground surface prior to the inundation and eventual submergence of the site in period VIII. These deposits provide evidence for a large-scale and deliberate programme of dumping — of clayey silt riddled with pottery, building material and degraded animal bone — which was presumably undertaken in order to raise the ground level in the face of renewed tidal incursion. The maximum thickness of the dump material was 0.5m — this was in north trench (N), where the ground surface had been elevated to a height of c. 1.05m OD.

The various tips making up the final Roman land surface produced more than 94kg of pottery; by far the largest assemblage from the site. The abraded condition of much it, however, implies a high degree of residuality and this was largely confirmed by the dating evidence. The vast majority is 2nd and 3rd century in date, with only a few clues as to the probable true date of deposition, although some mid to late 4th-century material was recovered, most notably in north trench (N). The pottery includes two face masks from flagons (Fig 24), probably dating to the late 4th century (M Lyne, pers comm.). The first, from dump [45] in the north of the site, is in pinkish-white Nene Valley Colour-coated ware; the second is in Oxfordshire Red/Brown Colour-coated ware. There were also two Camulodunum-type 306 bowls and several amphorae sherds, mostly Dressel 20 and Gauloise 4. Twelve sherds, however, also from dump [45], came from a fairly wide-bodied broad-ribbed amphora in a light reddish-brown micaceous fabric that is strongly reminiscent of the BIV form (Peacock & Williams 1986, class 45). This form of amphora probably came from the region of the Maeander Valley in western Asia Minor. It had a very long production life with several typological changes (although these are not discernible with featureless bodysheds) stretching from the 1st to the later 6th century AD. Prior to its occurrence on British post-Roman sites, the majority of the finds in the province seem to be of 3rd- to 4th-century date (Thomas 1981).

A coin, possibly of Theodosian (AD 388–402), was recovered from the deposit forming the period VI ground surface, also in north trench (N).

**Leadworking debris and other finds**

Leadworking in the vicinity of the site, seen in period V (see above), peaked in this period in terms of both the quantity of debris and the number of objects produced (see also 3.4 below). The period VI assemblage includes at least two repair plugs from vessels, and five weights of varying types that were probably made for use on an equal-armed balance for measuring out small quantities, possibly spices or herbs. One of these is an unusual and ill-made spool-shape <55>, unusual for a weight. There were also two fragments of thick lead sheet that were possibly once attached to a wooden structure; and two small weights from fishing-nets.

Personal and household items (see also 3.4 below) include two fragments from a shale armlet <380> (see Fig 38 no. 5), and a fragment from a ceramic factory lamp, perhaps of local manufacture and dating to the 4th century <457> (see Fig 39 no. 2). A copper-alloy drop-handle fragment from furniture <99> (see Fig 39 no. 4)

![Image](image-url)

**Fig 24** Two face masks from flagons, from dumps in period VI, 224 late 4th century: 1) in Nene Valley Colour-coated ware, 2) in Oxfordshire Red/Brown Colour-coated ware (1:2)
Period VI discussion

Renewed waterfront activity at Guy's Channel

The initial phase of period VI activity at the western edge of Guy's Channel implies that by the end of the 4th century tidal levels in London had recovered sufficiently for waterside activities to resume in the location of the early Roman bank (see Fig 11). Brigham's (1990) analysis suggests that by AD 400, MHW in London may have attained a height of between 0.0–0.50m OD, which indicates that Guy's Channel would have once again existed as a shallow watercourse at Hunt's House. The suggested level for MHW is largely supported by the evidence provided by the gravel surfaces on the channel's bank (see above). Therefore, by AD 400 Guy's Channel could well have been navigable once again to shallow-draught vessels bringing goods into the settlement area, which was extensively redeveloped during the late 3rd to early 4th centuries (see 2.5 above, Period V discussion). While the preparatory groundwork at the channel's edge, in particular pit [695], is of note, such activity was undoubtedly responsible for the destruction of earlier waterfront evidence at that location, while modern disturbance had removed a great deal of important period VI evidence.

Land reclamation in late Roman north Southwark's marginal areas

Late Roman dumping to the east of the settlement area has been recorded at several sites so the evidence of the second phase of period VI activity is not surprising. At the Newcomen Street site a similar deposit was recorded consistently across the area of investigation (Kenyon 1959, 32, where the layer is referred to as ‘Lower Black’), which was interpreted by the excavator as of possible alluvial origin, due to its sticky consistency; dating evidence indicated that it had been deposited after the mid 4th century.

Evidence of late Roman dumping in order to raise and consolidate the low-lying settlement margin was also recorded 100m to the north of Hunt's House at 21–27 St Thomas’ Street (Girardon & Heathcoe 1989), and less than 80m to the north-east in trench A at the 1989–90 Guy's Hospital site (Taylor-Wilson 1990, 14). The importance of the Hunt's House evidence is that it demonstrates the sheer scale of the undertaking, something which smaller invasive fieldwork, such as that described above, can never hope to achieve. The fact that a site more than 100m in length was deliberately buried beneath dumped material towards the end of the period of Roman administration is a finding of note and one which forms a background against which evidence of similar activity from adjacent sites should be viewed.

Fig 25 Copper-alloy cockerel figure <43>, from a dump in period VI (height 23mm)

may indicate copper-alloy working nearby. A copper-alloy enamelled fitting <201> (see Fig 41 no. 3) may be a fastener for two straps on a horse harness.

A small copper-alloy cockerel figure <43> (Fig 25; see also Fig 41 no. 1, and 3.4 below) came from a dump [322] in south trench (C). It is not free-standing, and was possibly originally soldered on to a plinth. In its original state the bird would have had a lively and reasonably naturalistic appearance, with the forked tail attempting to catch the spreading fan of high feathers of a live bird. The cockerel was one of the animals, along with the tortoise and the ram, that are the associates of Mercury, the patron of merchants and of flocks and herds (Webster 1986, 60; Lindgren 1980, 39). Its crow to greet each dawn represented its role as herald (Green 1997, 169). The Hunt's House cockerel probably formed part of a Mercury group set up in a household shrine, a good example of which comes from Verulamium (Lindgren 1980, pl 19). An alternative association may be with Harpocrates, as is the case with a group including a cockerel from the Thames at London Bridge (Green 1977, 301, pl 12.1a).
The almost totally residual nature of the pottery recovered from the period VI land surface underlines the dangers inherent in relying on pottery for dating late Roman waterfront contexts in Southwark. Although rising water levels led to marginal sites becoming uninhabitable during the 4th century, sites like Hunt’s House were once again usable for unloading vessels and conducting quayside commercial transactions. Had mid to late 4th-century coinage not been dropped into the period VI Guy’s Channel silts and on to the early period VI gravel surface [660], on the channel’s bank, it is likely that the overwhelmingly residual pottery contained in the dump deposits forming the late Roman land surface at the site would have led to the early period VI features being dated more than 50 and perhaps 100 years too early.

2.7 PERIOD VII: 5TH CENTURY AD

Land management across the site

Land management was still being undertaken at the site during the 5th century AD. Four north-west to south-east oriented ditches were recorded between south trench (N) and north trench (S) (Fig 26). These were evenly spaced c 18–20m apart and had been cut into the ground surface formed by material dumped across the site during period VI.

On the northern side of ditch [1096, 1358] was an alluvial clay fill which seemingly predated the insertion of posts, represented by a line of four postholes, which may have served to continue the line of the boundary as the ditch gradually silted up. The largest of the postholes had housed a substantial triangular upright, up to 150mm in cross-section and 600mm deep. Decayed wood in this posthole and one of the others indicated that these uprights had been left to rot in situ. Both this ditch and ditch [990, 1002, 1077] had a slight downward gradient from south-east to north-west.

Most of the pottery from ditch [1096] was residual but it included a rim fragment from a convex-sided bowl in North-east Gaul Grey ware, with parallels in 4th- and early 5th-century assemblages in north-eastern Gaul (Tuffreau-Libre 1979, fig 88–4). Earlier versions of the same form were present at New Fresh Wharf (Richardson 1986, fig 1.51–2).

South trench (S) witnessed the greatest concentration of activity in period VII. The line of the earlier north-east...
to south-west oriented channel-side boundary was redefined as ditch [363] (see Fig 26b). As with the earlier version of this boundary, there was a recut, [365], immediately to the west. This was 0.65m wide, up to 0.18m deep, and had a steep western side, a more gently sloping eastern side and a flat base which fell away from 0.84m OD in the south to 0.72m OD in the north. Both versions of the ditch were filled with similar deposits — sandy clay and gravel with frequent fragments of building material. To the east and west of the boundary ditches the 5th-century ground surface was pock-marked with a series of shallow pits and hollows, containing building material and charcoal.

**Guy’s Channel**

Bands of alluvial silty clays were recorded in the low-lying eastern portion of south trench (S) (not illustrated). Two principal strata were recorded. The earlier [278] was up to 0.30m thick and extended eastwards from where it overlay the lowest part of the period VI gravel shelf [294], submerging the rotted tops of palisade [233] (see Fig 22b). The material appeared to form a broad low, probably short-lived, western bank for Guy’s Channel at a maximum height of 0.48m OD. The later horizon [277] accumulated as a result of further alluviation. It elevated the bank formed by deposit [278] and extended further westwards across the period VI gravel shelf and also further eastwards, infilling the channel’s bed as far as the limit of excavation. Its maximum height was 0.60m OD. These deposits may be evidence of the beginning of a prolonged period of marine transgression which affected the Thames Basin for several centuries after the Roman period. Many of the period VI deposits on the channel’s western bank, particularly the gravel shelf itself, seemed to have been scoured as a result of the erosional effect of the inundation(s) responsible for the deposition of [277–8].

Relatively little pottery was recovered from the various alluvial deposits, nearly all of which was residual and abraded. There are, however, fresh-looking sherds from two vessels which broadly point to a 5th-century date of deposition. One of these from alluvial deposit [357] in south trench (S) is a handmade beaded and flanged bowl in black Richborough Grog-tempered ware (Lyne 1994, Industry 7B), dating to ₣ AD 370–420 (see below).

**Leadworking debris and other finds**

As in period VI, lead dominates the assemblage of small finds recovered from very late Roman and sub-Roman...
deposits; and some analysed pieces were found to be pewter. Far less was found than in the previous period, and the material was scattered across the site, occurring in pits and ditches as well as alluvium. The pieces can be seen here as chiefly residual, disturbed and redeposited from the earlier levels by land-management activity. The few finds from across the site include a bone hairpin with a globular head <30> (see Fig 38 no. 4); a fragment of a plain shale armlét <391> (see Fig 38 no. 6); and a copper-alloy handle with lozengedecorated shaft, possibly in imitation of a palm trunk <85> (see Fig 40 no. 5) (see also 3.4 below).

Period VII discussion

Increasing riverine influence at the site during the 5th century was represented by the series of alluvial clay deposits which accumulated in the Guy’s Channel area and gradually encroached upon the late Roman bank. Brigham’s 1990 analysis indicates that by AD 420, MHW in London was probably around 0.80–0.90m OD.

The extensive land-reclamation activity of period VI, possibly stimulated by rising tidal levels in London, was succeeded in period VII by the division of the site into a series of corridors c 20m wide. Given the regularity of the layout of the ditches, it is probable that they delineated a series of fields or paddocks, although if river levels were rising during the 5th century their function could also have been to drain the area before complete submergence occurred.

The pottery assemblages are small and largely residual in nature. However, a few sherds of sub-Roman character do indicate 5th- to 6th-century activity at the site. These include one small ribbed bodysherd, from the fill of pit [244] in the north trench, in a similar Roman fabric to the 12 sherds in the period VI assemblage from dump [45] (see 2.6 above), which may have come from the same vessel. The presence of the Richborough Grog-tempered ware bowl fragment in the period VII silting of Guy’s Channel is of particular interest in that vessels in that fabric are almost entirely restricted to Kent, east of the River Medway. This primitive east Kent industry had its inception during the period AD 350–70 and accounts for up to 80% of pottery assemblages from Canterbury dated to AD 370–420. It is uncertain as to when production ceased but it is possible that handmade wares in this fabric continued to be made into the second quarter of the 5th century. A further Richborough Grog-tempered ware beaded and flanged bowl has recently been recognised in an assemblage from the make-up of the floor of a sub-

Roman building in Insula XIII at Verulamium (Lyne in prep), and it is possible that both examples are the result of small-scale, long-distance trade at a time when the production of good-quality wheel-turned Romano-British pottery had ceased.

2.8 Period VIII: 5th/6th Century AD to c 1300

Site-wide alluvium

A distinctive alluvial clay layer was recorded overlying the period VI land surface and, consequently, sealing any period VII features cut into that land surface. At only a handful of locations did the upper interface of the alluvial material survive truncation by the basement of Hunt’s House. For example, in the extreme south-western corner of south trench (S) the deposit was c 0.60m thick and its upper interface was recorded at a maximum height of 1.68m OD, while in the east bay of north trench (S) the upper interface of what was evidently the same horizon was recorded at c 1.10m OD and the deposit had a maximum thickness of only c 0.25m. No cultural material was recorded.

Period VIII discussion

The alluvium indicates that the whole site was submerged by catastrophic inundation, probably sometime after the collapse of Roman administration in the early 5th century AD and prior to the medieval activity of period IX. Brigham’s graph of tidal levels in the Thames estuary and City of London (1990, fig 12.2) indicates that Mean Low Water in the City could have reached c 1.0m OD before AD 600. Such levels would have rendered the entire Hunt’s House site unusable.

2.9 Period IX: c 1300–1500

Drainage features

Two substantial east–west oriented ditches [944, 988] and [954, 964] were recorded in middle trench (S) (Fig 27). Another ditch [1049, 1074] of similar alignment and dimension was excavated further north. Medieval pottery was almost absent from the site except in ditch [1049], which contained a near complete squat rounded Coarse Border ware jug (Fig 28), dating to c 1270–1350 (Pearce & Vince 1988). All three ditches were of considerable size,
Fig 28  Medieval jug in Coarse Border ware, from fill of ditch, period IX (drawing 1:4)

up to c. 4.50m wide and up to c. 1.50m deep, and all had the remains of at least one timber upright associated with them.

Period IX discussion

The Hunt's House area seems to have remained as marshland until the medieval period. Alluvial clay layers, probably of medieval origin, were recorded to the east of south trench (S). It is likely that all the ditches and gullies assigned to period IX were attempts to drain the area. Dating evidence collected from two of the ditches indicates that they were probably infilled during the first
half of the 14th century. On the whole, however, activity at the site was very limited during the medieval period, and it was clearly peripheral to the medieval settlement on Borough High Street.

### 2.10 PERIODS X–XI: c. 1450–1650

Period X has been assigned to a small number of features and deposits dated c. 1450–1650, while period XI has been assigned to an early 17th-century flood inundation. Period X features are shown, along with those of period XII, on Fig 29, overlaid on to Rocque’s mid 18th-century map.

#### Drainage, dumping and a barrel-lined well

A vast north-east to south-west oriented ditch [88] was recorded in the eastern half of evaluation trench 13, cutting into the period VIII alluvial layer (see Fig 29). The ditch was at least 6.20m wide with a maximum depth of 1.35m. The earliest deposits upon its lowermost edges and base were alluvial clays, from one of which three worked timbers were recovered. Two were discarded uprights, while the third was a flat rectangular piece through which a cluster of holes had been bored; it was probably a drain cover. Most noteworthy among the remaining fills of the ditch was a thick silty organic deposit, derived from rotting vegetation within the stagnant base of the ditch. The overall dimensions and conjectured alignment of this ditch suggest that it had been deliberately dug to carry surface water across that particularly low-lying part of the site. A massive feature shown on Rocque’s map may be a slightly later version of the ditch.

Pottery from the fills of ditch [88] include fragments of a Coarse Border ware jug of probable late medieval date; a Tudor Green ware jug dated c. 1380–1550; Early Post-medieval Redware c. 1480–1600; and Border ware, giving a late 16th-century date (Pearce 1992) for the infilling of the ditch.

Infilling of the ditch was followed by extensive dumping in this area, presumably to level and consolidate the newly won land. Evidence of similar dumping was recorded at a handful of other locations across the site, indicating that the early post-medieval ground surface was

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**Fig 29**  Detail of John Rocque’s map of 1745 and main archaeological features, periods X and XII, laid on to Rocque’s map >
elevated to a height of up to 1.35m OD across most of the southern portion of the site, and up to a maximum height of 1.55m OD in the extreme south-western corner of south trench (S).

The base of a barrel-lined soakaway or well [1101] was recorded in north trench (N). Of the barrel itself only highly degraded spongy wood survived, and there was evidence for an iron hoop and nails. The barrel had been inserted into a construction cut, 1.10m x 0.90m, which had been cut to a depth of 0.12m OD. It was finally used as a cesspit. Pottery recovered from it is of late 16th-century date, including Border wares, Post-medieval redwares and Dutch Slip-coated ware, mostly fragments of cauldrons and pippins. The latest datable wares include sherds of Weser and Werra Slipwares, which date from the very late 16th to mid 17th centuries, but the absence of 17th-century pottery types indicates that the barrel well was infilled by 1600.

Alluvium

Riverine inundation, possibly of early 17th-century date, seems to have submerged the area once again. The resulting alluvial clay survived and was recorded at one or two locations at the site (eg the extreme south-western corner of south trench (S); height 1.85m OD and at least 0.47m thick). Further north, a possible equivalent horizon had a maximum height of 1.60m OD, immediately to the west of middle trench (S). And in north trench (S), what was probably the same alluvium was recorded in section at a maximum height of 1.50m OD and at least 0.30m thick. Alluvial organic clay layers were recorded in trench 14 and dated by pottery to the 17th century, although at that very low-lying location the deposits attained a maximum height of only 0.70m OD.

Periods X–XI discussion

During the early post-medieval period the site was still generally unusable and presumably subject to lengthy periods of inundation. The dimensions of ditch [88] suggest that it was dug to facilitate water flow across that low-lying part of the site, in the approximate location of the ancient Guy’s Channel. During the 16th and early 17th centuries some domestic pottery began to be dumped at the site. However, the relatively small amounts of pottery underline that the site was not yet a focus of activity.

2.11 Period XII: c LATE 17TH TO EARLY 19TH CENTURIES

As mentioned in the Introduction, the project’s research objectives did not include detailed examination of the post-Roman uses of the site, so documentary and cartographic information for period XII is only briefly touched on here, in particular to give a context for the pottery finds. Period XII features are overlaid on to Horwood’s map of 1799 (Fig 30) and Rocque’s earlier map (see Fig 29).

Guy’s Hospital was built just to the north of the site in the 1720s, and was gradually enlarged, with Hunt’s House being added to the complex in the 19th century. On the site, stratigraphy from the late 17th century onwards was limited because of the depth of the basement slab. However, a few post-medieval features, of late 17th- to early 19th-century date, were recorded. Notable among these were two circular brick-lined cesspits [19] and [230] which lay to the rear of terraced housing on Maze Pond road. The cesspits were dated to the mid to late 18th century, and produced the majority of the site’s pottery from this period, as well as glass and clay tobacco pipes.

Brick-lined cesspit [19]

Pit [19] was 1.50m in diameter, and had been dug down to –0.66m OD (1.20m was the surviving depth). As with pit [230] (see Fig 34), the brickwork lining was dry bonded and roughly coursed. It contained 207 sherds of pottery (26.177kg), with some whole or near complete pots present.

The main pottery type present by EVEs (estimated vessel equivalents) is Red Border ware. This is unusual as local wares are the most frequently occurring pottery types in 18th-century London assemblages, and the Hunt’s House assemblage does not fit the pattern seen in north London: perhaps the owners of this pottery had more access to this type of red earthenware from local shops or showrooms (Edwards 1974) and desired to have better-made redwares than the locally produced products.

The second most frequent fabric in the assemblage is Tin-glazed ware (probably made locally) – predominantly chamber pots, but also including two vessels that show evidence of affluence or monarchy: the first is a tea bowl with Chinese-style Kang Xi style decoration, dated c 1690–1710 (Fig 31) – drinking tea at such an early date indicates affluence; the second is a fragment of a Tin-
Fig 31 Teabowl in Tin-glazed ware with Chinese-style Kang Xi decoration, c 1690–1710, from cesspit [19]

Fig 32 Eighteenth-century pottery from cesspit [19], all in Staffordshire White Salt-glazed Stoneware, c 1720–80: 1) teapot, 2) teapot dated c 1720–80, 3) teabowl, 4) sauce (1:4)

< Fig 30 Detail of Richard Horwood's map of 1799 and main archaeological features, period XII, laid on to Horwood's map
Fig 33  Post-medieval pottery from cesspit [19]: Post-medieval Redware: 1) horizontal-handled bowl, 2) flared bowl with thumbed rosette (17th century), 3) colander, 4) pipkin or large ladle-like vessel; 5) chamber pot (Pearce type 2) in Green-glazed Border ware; 6) rare complete dish in Brown-slip Yellow-glazed Border ware (1:4)
Pit [19] also produced the largest assemblage of tobacco pipes on the site. Four bowls were initiated H B, which can be linked to Henry Blundell (1745–64), who resided c 600m to the north-east of the site (Oswald 1975, 131). On clay pipe evidence the pit was finally infilled by the latest known date of Blundell in 1764. The pipes were undecorated, which may be evidence of low class, but a high proportion of the bowls were initiated, though not always legibly, while Blundell’s pipes are mostly well made, and overall the pipes give the impression of a middle socio-economic group.

Brick-lined cesspit [230] and pit [328]

Pit [230] (Fig 34), a few metres to the south, was c 1.60–1.80m in diameter, and had been dug down to −0.58m OD (c 1.40m was the surviving depth). It contained a similar, though smaller, assemblage of pottery (80 sherds; 6858 kg), including largely complete vessels in good condition. The main pottery type is Tim-glazed wares followed by Red Border ware and Post-medieval Redwares; Frechen Stoneware and Chinese porcelain are the only imports. The assemblage is composed mainly of tablewares. The dating of the deposition of the pottery is not as clear as for [19]. Among the latest datable styles of pottery is one sherd of an Early Creamware plate which dates to c 1750–70.

One clay pipe bowl has the initials TR, possibly Thomas Ram who was apprenticed to R Steele, Southwark, in 1718; but the bowl type can only be broadly dated to c 1700–70. The wine bottles date to 1730–50 (Dumbrell 1992, 84, fig 110, and 86, fig 125). Two wine glasses were recovered, dating to 1720–40 (Klein & Lloyd 1992, 130–2).

Pit [328], also in south trench (C), contained sherds of onion bottles dating to 1680–1710, including one sealed example (Fig 35).

Wattle-lined well and possible tanning activity

The base of a well [56] was recorded in evaluation trench 1 in the north of the site (see Fig 30). The lowermost c 0.90m had what appeared to be a wattle lining, of which only the horizontal impressions survived within the surrounding backfill of its construction cut. Traces of the vertical elements of a barrel survived, as degraded spongy wood, at the very top above the lower lining. In terms of construction the well closely parallels a structure of...
medieval date at 199 Borough High Street (Schaaf 1988, 121). In its construction backfill were sherd of Border ware pipkins and a skillet, and a Tin-glazed drug jar, the latter dating to c 1612–50.

Dumped material was recorded in section at one or two locations, but in trench 14 (see Fig 30) it was possible to hand excavate c 0.80m of post-medieval stratigraphy. A distinctive horizon was found, up to c 0.25m thick, which consisted predominantly of crushed and burnt animal bone. This can reasonably be interpreted as a by-product of tanning activity, for which this part of Southwark was noted. The upper interface of the deposit was recorded at c 1.20m OD, and the survival of strata of such a late date at this location can be attributed to its particularly low-lying situation. Pottery within its layers dates mainly to the 17th and 18th centuries, and includes Tin-glazed ware chargers, one with Chinese Wan Li style decoration, as well as a bowl, dish and ointment pot.

**Period XII discussion**

The real extent of 17th- to early 19th-century activity at the site could not be discovered archaeologically, as strata of this date generally did not survive below the basement slab of Hunt's House. The surviving strata assigned to period XII demonstrate that, c 1700, ground level across most of the site was at c 1.75m OD, although it was probably at least 0.50m lower in the southern ‘toe’ of the site at that time.

The majority of the archaeological evidence for activity in this period came from deeply cut features, some of which could relate to the housing shown fronting on to Maze Pond on Rocque’s map of 1745 and Horwood’s map of c 1790. The 1751 poor rate book for the Second Division, Landside of the Parish of St Olave’s (Southwark Archives) lists people living on the west side of Maze Pond, but does not list their professions or any indication of which properties they occupied. The poor rates paid by householders ranged from nothing to 6s 6d, indicating a varied standard of housing, with most residents paying either no poor rate or the lowest sum set, 2s 2d. This implies an impoverished area of housing, but the evidence of the late 18th-century pottery in pit [19] suggests there was some diversity. The large proportion of teawares reflect a middle-class household; the English porcelain suggests affluence, but not necessarily the Chinese porcelain as single items were generally affordable in the early 18th century. The Tin-glazed wares, however, are mostly of poor quality and suggest either that the assemblage came from different households of varied affluence, or that the better-quality vessels were gifts, such as wedding presents.

The only evidence of industrial activity was the possible tanning activity, the German Hessian crucible from pit [19], a sherd of a sugar cone mould and a possible syrup-collecting jar (from ditch [879]). Although evidence for sugar refining is known in Southwark, two fragments of vessels from this industry on the site must be seen as stray finds. The crucible indicates that an artisan was working near the site, possibly working with precious or small quantities of metals. But the evidence shows that the site was a mainly domestic area in the post-medieval period.

### 2.12 CONCLUSIONS

The Hunt's House site provided a rare opportunity to obtain a substantial cross-section of archaeological strata within the eastern margin of early Southwark's settlement area. A vast quantity of stratigraphic, topographical, artefactual and palaeoenvironmental data was recovered during the fieldwork. This corpus of information has added to a broader understanding of the development of this important archaeological area.

The majority of the post-Roman stratigraphy did not survive beneath the basement of Hunt's House, although a handful of deeply cut features of medieval and post-medieval date were recorded. However, the project's
<table>
<thead>
<tr>
<th>Period</th>
<th>North Trench</th>
<th>Middle Trench</th>
<th>South Trench</th>
<th>Guy's Channel</th>
</tr>
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<tbody>
<tr>
<td>XI</td>
<td>Features associated with housing shown on 18th c maps</td>
<td>Wattle-lined well, some pitting</td>
<td>Rear gardens of properties</td>
<td>E-W ditch (vestige of channel), dumped tanning waste</td>
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<tr>
<td>17th century</td>
<td>Period XI</td>
<td>Riverine inundation</td>
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<td>Large ditch</td>
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<td>c AD 1650</td>
<td>Period X</td>
<td>Barrel-lined well</td>
<td>Land-reclamation dumping</td>
<td>Massive ditch/watercourse</td>
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<td>c AD 1450</td>
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<td>Land-reclamation dumping</td>
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<td>14th century?</td>
<td>Period IX</td>
<td>Drainage features</td>
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<td>Watercourse?</td>
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<tr>
<td>5th century</td>
<td>Period VII</td>
<td>Land division, drainage features &amp; some pitting (focused in S)</td>
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<td>Dwinding trading activities</td>
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<tr>
<td>early 5th century</td>
<td>Period VI</td>
<td>Land-reclamation dumping</td>
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<td>Increasing tidal influence</td>
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<td>mid/late 4th century</td>
<td>Period V</td>
<td>Land division, drainage features, focus of pitting Amphorae storage Commercial activities?</td>
<td>Some pitting</td>
<td>Trading activities?</td>
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<td>Period III - phase 3</td>
<td>Short-lived (severe) riverine inundation</td>
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<td>Waterfront abandoned due to decreasing tidal effect</td>
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<td>c AD 110</td>
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<td>Early agriculture Ard marks</td>
<td>Flintworking and use Hearths</td>
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<td>Sporadic visiting of site</td>
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**Fig 36 Land-use diagram**

A research agenda focused upon the site’s use during prehistoric times and the Roman period, and the fieldwork was highly successful in achieving the research objectives covering these archaeological eras. A summary of the land use of the site is shown in Fig 36.

**Prehistoric evidence**

Overlying the natural substratum at Hunt’s House was an ancient soil or subsoil formation that contained a small but significant lithic assemblage indicating activity at the site during both the Later Mesolithic (c 6500–4500 BC) and Later Neolithic and Bronze Age (c 3200–650 BC). The upper interface of the palaeosol came to form the marsh surface during the early Roman period, presumably as a result of truncation by alluvial action sometime between the Bronze Age and the 1st century AD.

The presence of Mesolithic flintwork is consistent with findings at alluvial areas elsewhere in London (MoLAS 2000, 55). These finds broadly suggest a relatively complex
exploitation of the site by hunter-gatherers. No evidence of structural or settlement-related features of prehistoric date was recorded. The possible ard-plough marks within the palaeosol may derive from the later phase of prehistoric activity when the site was probably on the periphery of a settlement. Their presence suggests that the site was once dry enough to allow cultivation and this information adds to an increasing body of knowledge of palaeoagricultural activity and settlement patterns across this complex early landscape.

**Roman evidence**

The Hunt’s House site lay within the low-lying margins of Southwark’s Roman settlement. The latter began to develop, initially around the bridgehead and along the edges of the main approach road, during the late 1st century AD. While the settlement was focused on sand eyots which lay above the level of normal high tide in the 1st century AD, its low-lying margins were exposed at low tide and subject to daily flooding, creating extensive areas of intertidal marshland, with tidal creeks draining into the Thames. The Hunt’s House site was clearly part of such a waterscape during the earliest part of the Roman period. Although the site would not have been available for permanent utilisation, the expanding population exploited the great diversity of wetland environment that lay within easy reach of their homes.

One of these tidal creeks, Guy’s Channel, was encountered in the southern toe of the Hunt’s House site. The western bank of the channel was stabilised during the early Roman period with the insertion of an oak post-and-plank revetment. Dating evidence from pottery and knowledge of waterfront construction techniques and possible tidal levels in early Roman London suggest that this was undertaken during the early 2nd century AD. Unfortunately it was not possible to obtain a precise date for felling of the trees used in the structure, although the results of tree-ring analysis broadly support the idea of an early 2nd-century date for construction. The principal purpose of the revetment was to stabilise the channel bank. This would have facilitated trading activities, which are attested to by the presence of a possible jetty at the site, in addition to the discovery in 1958 of a Roman river barge just to the north, abandoned at the end of the 2nd century (Marsden 1965; 1994). The evidence of a waterfront at Hunt’s House also complements information from other investigations in Southwark, particularly the findings of excavations in 1989–90 adjacent to St Thomas’ Street. The revetment at Hunt’s House was probably in use until the mid to late 2nd century, when it collapsed forward into Guy’s Channel. The associated jetty also fell into disrepair before an alluvial episode briefly submerged the site.

Serious attempts at reclamation of the low-lying margins of the settlement area were only possible as a result of marine regression, which caused a dramatic fall in the level of the Thames between the late 1st and mid 3rd centuries. While this may well have meant that river levels fell too low for late Roman London as a whole to enjoy the effects of the tide, it would clearly have allowed far more of the previously unusable margins of Southwark’s eyots to be utilised by the resident population. This was highlighted at Hunt’s House by the discovery of a timber-lined ‘storage tank’ within the site’s most low-lying area. Pottery dating indicates that the feature was constructed, used and abandoned during the second half of the 3rd century. Several parallels for this feature exist from the eastern side of Southwark’s Roman settlement, but it has never been easy to determine their precise functions and this is also true for the Hunt’s House ‘tank’. It could have been an amphorae storage facility.

The pottery assemblages from late 2nd- and 3rd-century features at the site were notable for the quantity of vessel types believed to be associated with ritual activities. This could indicate the presence of a shrine or shrines on the newly won land to the east of the settlement nucleus as the river reached its lowest levels.

Part of a network of boundary (animal enclosures?) and possible drainage features on the ‘dry land’ to the west of Guy’s Channel was recorded, adding to a greater understanding of late Roman land management within the settlement’s margins. Although a formal timber waterfront at the western edge of Guy’s Channel was evidently not necessary at Hunt’s House during this period, there was a need for some embanking of the channel’s edge. By AD 300 the channel had probably migrated further east, cutting itself a deeper course out in the marsh and causing the earlier bed within the Hunt’s House site to silt up. Material dumped into the channel bed during the late Roman period was undoubtedly derived from the settlement to the west and it seems that butchery of cattle bones was undertaken on an organised scale close to the site at this time. Although probably not primary butchery, it is likely that narrow extraction was the principal purpose of this commercial/industrial activity. Other finds relate to leather-, lead- and copper-alloy working in the vicinity. There was a significant amount of lead or lead-tin-alloy fragments in periods V–VII, some of which was found to be pewter. Lead was worked in London throughout the Roman period and was important not only for its high silver content but also for use in buildings, water
supply, funerary canisters and coffins, and smaller objects. Pewter was often used for dinner services. The dumps of Roman building material, mainly dating to the mid 2nd to early 5th centuries, represent demolition and repair from a variety of buildings, some of which may have burned down, and could derive from the settlement to the west.

By the 4th century the effects of marine regression had been reversed and there was renewed tidal influence in London. Guy's Channel, therefore, resumed its earlier course across the Hunt's House site and this led to consolidation of the early bank, possibly to facilitate waterside activities. However, a combination of the collapse of Roman administration and increasing riverine transgression meant that activity at the site was swiftly curtailed. There was, however, some evidence of land management in perhaps the 5th century before the site submerged beneath river waters.

Post-medieval evidence

Despite the post-Roman stratigraphy at the site having been extensively truncated by the basement of Hunt's House, it was possible to piece together a broad picture of events between the medieval period and construction of the 19th-century building. Most post-Roman activity was related to land reclamation and drainage, before domestic housing could be established at the site for the first time, probably in the 18th century.
3 Specialist report summaries

3.1 LITHICS

BARRY JOHN BISHOP

A total of 190 pieces of struck flint, 1488 fragments of unmodified burnt flint (weighing 8534g) and a small quantity of red sandstone were recovered during the fieldwork at Hunt's House. Nearly all of the struck material and most of the burnt flint were recovered from the period I palaeosol. The majority of the struck assemblage consisted of complete pieces. The deliberate burning of large nodules of flint has been recorded from prehistoric sites in many areas of Britain. Vast quantities of burnt flint were recovered from prehistoric levels at Phoenix Wharf, c 1km to the east, which were interpreted by the excavator as being the waste from food preparation (Bowsher 1991). The relatively small sizes and quantities recovered from Hunt's House, however, are more suggestive of incidental burning from hearth construction. Eleven struck flakes had also been burnt.

Red sandstone has been shown to break down rapidly in water, staining the water a very bright red colour comparable to that of red ochre. An alluvial origin is unlikely and, therefore, it has been suggested that the material was deliberately brought to the site for its staining or preservative properties. Identical material was also recovered from a prehistoric soil horizon nearby at Hopton Street (Ridgeway 1999).

See 2.1 above for more details on the worked and burnt flint.

3.2 ROMAN POTTERY

MALCOLM LYNE

The evaluation and open area excavation at Hunt's House produced 31kg and 250kg of pottery, respectively, of 1st- to 4th-century Roman and probable 5th-century sub-Roman occupation. Most of the material is late 2nd to 3rd century in date, with much smaller amounts of earlier and later material reflecting periods of higher river level when any occupation in the area was severely restricted. Levels of residuality are very high because of the nature of the site, with most of the pottery being from old refuse brought in to build up the ground surface to counteract rising river levels. Separate sections below summarise the amphorae, samian and mortaria found. Discussion of the pottery is also integrated within the text, above.

The largest assemblage of all, from the period VI rubbish dumping at the end of the 4th century (94kg), is made up almost entirely of sherds dating to before AD 300. Nevertheless, enough features on the site produced contemporary pottery assemblages to ensure reasonably close dating for most of the successive periods and sub- phases of occupation. The research archive includes tables showing quantification for EVEs for pit [373] in period IV (predominantly Black-burnished ware (BB2)), and tables for the following from period V: the tank [1337], fills of ditch [133] (marked preponderance of late 3rd- and 4th- century sherds), and the basal alluvial deposit [595] of Guy's Channel (c 31kg, with significant percentages of BB2, Verulamium Region White ware, Black-burnished ware (BB1), Oxfordshire White ware mortaria and Camulodunum-type 306 bowls). The content of the late 2nd- and 3rd-century assemblages is striking for the large number of tazze fragments (from at least 14 examples) and frequency of Camulodunum-type 306 bowls, both associated with ritual activities (see 2.5 above, Guy's Channel).

Camulodunum-type 306 bowls were originally described as a fabric (Cam306), but were revised in 1995 as a form (MoLS form code 4C306). The majority are recorded as SAND (miscellaneous sand-tempered ware) (Robin Symonds, pers comm).

Changes in the pattern of pottery supply

Because of their high residual content and probable derivation from elsewhere, most of the assemblages from the site are unsuitable for determining changes in the pattern of pottery supply to this part of the Southwark settlement. There are, however, a few pottery assemblages with less residual material. The largest of these
assemblages of pottery, but still rather small, come from the fills of pit [373] (c. AD 200–25), the fills of the timber-lined tank [1337] (c. AD 270–90) and ditch [133] (c. AD 270–350) and give some idea of changes in pottery supply to Southwark during the 3rd and early 4th centuries.

These changes seem to broadly mirror those described for the City during the same period (Symonds & Tomber 1991), but no assemblage discussed by Symonds and Tomber corresponds closely in date with that from timber-lined tank [1337]. The author did, however, carry out EVEs quantification of significant 3rd- and 4th-century pottery groups from the Walbrook Mithraeum (Lyne 1994). The quantification of Mithraeum Group VIII (ibid; Shepherd 1998, 155), c. AD 250–300, shows a great increase in the significance of BB1, making the Dorset industry the largest single supplier of pottery during the late 3rd century. This is repeated in the Hunt’s House tank assemblage, as is the decline in the importance of BB2. The contemporary material in the assemblage dated c. AD 270–350 from ditch [133] is dominated by late Alice Holt/Farnham products, which seem to have largely replaced BB1 in both the City and Southwark after AD 300.

**Amphorae**

**DAVID WILLIAMS**

The majority of the amphorae sherds, which come from various contexts in periods III and V–VIII, are mainly Dressel 20 from Baetica and the flat-bottomed southern French Gauloise 4 (see also 2.5 above). Featureless bodysherds from these amphorae are notoriously difficult to date within the general production range. There is, however, a degree of typological change to be seen in the Dressel 20 rim and the three recovered from Hunt’s House can all be paralleled with Martin-Kilcher’s classification of the well-dated series from Augst (1987). Another useful aid in dating Dressel 20 is the presence of impressed stamps on the vessels. These normally consist of the abbreviated names of individuals and/or their *figliu- nae*, and in many cases can be dated by parallels to particular periods. Unfortunately, probably less than half of the extant Dressel 20 vessels contain stamps. There are two stamps present at Hunt’s House, one handle stamp and a less commonly found body stamp. The rest of the Dressel 20 material could theoretically date anywhere from between the 1st century AD and around the mid 3rd century AD.

The picture is somewhat complicated by the fact that a slightly smaller amphora, Dressel 23, was adopted in Baetica to replace the heavier Dressel 20 from the mid 3rd century until at least the end of the 5th, perhaps early 6th, century AD. Dressel 23 was made in the same fabrics, often at the same production sites, as the earlier Dressel 20, and as a consequence it can be difficult to differentiate between plain bodysherds of the two types. Dressel 23 certainly reached Roman Britain, though almost certainly in fewer numbers than Dressel 20 (Carreras & Williams in prep). The bodysherds from late Roman levels identified as Dressel 20 are most probably from that form and as such residual. It is possible, however, that some might well be from later imports of Dressel 23.

Gauloise 4 also had a long production life, imports into Roman Britain stretching from the later 1st century AD to the 4th century (Laubenheimer 1985). Unfortunately, it is difficult to place any of the Gauloise 4 material from Hunt’s House to particular periods within this broad timespan.

The fills of the tank [1337] yielded 322 sherds of pottery, of which 113 are from a variety of amphorae, particularly Gauloise 4 and Dressel 20, and include large fresh pieces. A full catalogue is lodged with the research archive.

**Decorated samian ware**

**JOANNA BIRD**

With the exception of the Dr29 stamped by Bionis (Table 1), and perhaps one other Dr29 sherd, the decorated samian from the site begins in the early Flavian period; apart from a third Dr29, these 1st-century bowls were all of form Dr37. They are South Gaulish, all probably from La Graufesenque, and include bowls in the styles of Patricius, Calvis and probably Pontus. Some of them date up to the turn of the 2nd century, including one by a potter working in the style of Germanus. There is also a single bowl of Haddrianic date, which probably came from the South Gaulish pottery at Banassac. Two South Gaulish plainware stamps, of Iucundus iii and Pugnus i, are of Flavian date.

The Central Gaulish samian came from both Les Martres de Veyre and Lezoux. There are six bowls from Les Martres, all of Trajanic to early Haddrianic date, including two by Drusus 1 and two or three by X-9. The Lezoux products range from the Haddrianic period to the end of the 2nd century, including Haddrianic to early Antonine bowls of Butrio, X-5, Sacer, Artianus, Docilis, Geminus and perhaps Avitus, at least four Antonine bowls of Cinnamus, and mid to late Antonine bowls by Doceccus (three) and Servus II. Also of later 2nd-century date are four Central Gaulish Dr45 mortaria, two with applied lionhead spouts (one of them stamped) and two with
Table 1 Details of samian potters’ stamps, compiled by Brenda Dickinson

<table>
<thead>
<tr>
<th>Period</th>
<th>Context</th>
<th>Potter</th>
<th>Die</th>
<th>Form</th>
<th>Reading</th>
<th>Pottery of origin</th>
<th>Date AD</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>[1169]</td>
<td>Bionis</td>
<td>2a</td>
<td>29</td>
<td>BIOFECI</td>
<td>La Graufesenque(^a)</td>
<td>c 55–70</td>
</tr>
<tr>
<td>II</td>
<td>[676]</td>
<td>Tituro</td>
<td>5b</td>
<td>31</td>
<td>TTTVRONIS(^1)</td>
<td>Lezoux(^b)</td>
<td>c 160–90</td>
</tr>
<tr>
<td>II</td>
<td>[105]</td>
<td>Iucundius iii</td>
<td>5f</td>
<td>718</td>
<td>[OEIV]CVN(^2)</td>
<td>La Graufesenque(^b)</td>
<td>c 70–90</td>
</tr>
<tr>
<td>V</td>
<td>[595]</td>
<td>Aestivus</td>
<td>2a</td>
<td>33</td>
<td>ABISTIV[EM]</td>
<td>Lezoux(^b)</td>
<td>c 160–90</td>
</tr>
<tr>
<td>V</td>
<td>[595]</td>
<td>Comitialis</td>
<td>5c</td>
<td>37 (mould stamp)</td>
<td>COMITIL ISF rct(^3)</td>
<td>Rheinzabern(^a)</td>
<td>c 175–220</td>
</tr>
<tr>
<td>V</td>
<td>[520] &amp; [595]</td>
<td>Geminus vi</td>
<td>1a</td>
<td>45 (stamped on collar)</td>
<td>MFEGEMINLM</td>
<td>Lezoux(^b)</td>
<td>c 170–200</td>
</tr>
<tr>
<td>V</td>
<td>[598]</td>
<td>Martinus iii</td>
<td>1a</td>
<td>31</td>
<td>M RT[NIM](^4)</td>
<td>Lezoux(^b)</td>
<td>c 160–200</td>
</tr>
<tr>
<td>V</td>
<td>[393]</td>
<td>Paulus v</td>
<td>4a (almost certainly)</td>
<td>33</td>
<td>P[WLJ](^5)</td>
<td>Lezoux(^a)</td>
<td>c 160–200</td>
</tr>
<tr>
<td>V</td>
<td>[1219]</td>
<td>Tinturio</td>
<td>2a</td>
<td>33</td>
<td>TINTIRIO</td>
<td>Lezoux(^a)</td>
<td>c 155–85</td>
</tr>
<tr>
<td>VI</td>
<td>[959]</td>
<td>Burdo</td>
<td>6a</td>
<td>33 (large)</td>
<td>BVROVF</td>
<td>Lezoux(^a)</td>
<td>c 140–60</td>
</tr>
<tr>
<td>VI</td>
<td>[1051]</td>
<td>Pugnus i</td>
<td>2a</td>
<td>27</td>
<td>PVGMA</td>
<td>La Graufesenque(^a)</td>
<td>c 75–100</td>
</tr>
<tr>
<td>VI</td>
<td>[333]</td>
<td>Quintus iv</td>
<td>2a</td>
<td>33</td>
<td>QVINITH(^7)</td>
<td>Lezoux(^a)</td>
<td>c 140–60</td>
</tr>
<tr>
<td>VI</td>
<td>[1109]</td>
<td>CIVCA</td>
<td>-</td>
<td>on form 33</td>
<td>-</td>
<td>Central Gaulish</td>
<td>Antonine</td>
</tr>
<tr>
<td>VI</td>
<td>[457]</td>
<td>JIVA</td>
<td>-</td>
<td>on a flat dish</td>
<td>-</td>
<td>East Gaulish</td>
<td>late</td>
</tr>
</tbody>
</table>

Key

\(^a\) = stamp attested at the pottery in question; \(^b\) = not attested at the pottery in question, but other stamps of the potter known from there


usual incised incisioned. There are two early to mid Antonine Central Gaulish plain-ware stamps and five of mid to later Antonine date, with a further one too broken to identify.

The East Gaulish wares came from Trèves – a bowl of the 3rd-century potter Dubiatus and a third lionhead spout on form Dr45 – and Rheinzabern. The Rheinzabern pieces date from the late 2nd century up to the mid 3rd and include a mould-stamped bowl of Comitialis VI, bowls of Cerialis and the Reginus II group, an incised beaker and a barbotine-decorated bowl of form Lud.SMb/c. The single East Gaulish plain-ware stamp is fragmentary and not identifiable.

The full report and catalogue of the mould-decorated samian as well as the incised, applied and barbotine decorated ware are lodged with the research archive.

\[ \text{Mortaria} \]

\[ \text{KAY HARTLEY} \]

Eleven mortaria were examined from the site: five were made at workshops in England and six at workshops in western Europe (Fig 37, and see Fig 13). They came from contexts in periods II, V, VI and VII and range in date from the Flavian period to the late 2nd century.

The potteries in the Verulamium region and at Colchester were normal suppliers of the London area, as were the potteries in northern France, one of whose workshops was at Noyon (Oise) (Hartley 1998, 203). Soller was another normal supplier. The really unusual mortarium to find anywhere in Britain is [377] (Fig 37 no. 3). Few of the mortaria in reddish-brown fabrics, made at Bavay in the 1st and 2nd centuries, are known at sites in Britain. In the 2nd century, mortaria in cream/white fabrics were also being made in the Bavay tradition; these are most commonly found in what is now Belgium and most of them were probably made there. To date about three of these (including the above) have been noted from sites in Britain.

One mortarium from [1032] (not illustrated), dated to AD 55–75, is typical of mortaria made in the important potteries south of Verulamium. The badly damaged stamp, OAI[...O with central dot], is from the single die used by Oestrius, one of whose kilns has been excavated at Little Munden Farm, Bricket Wood, Herts (Saunders & Havecroft 1977). This fabric is far more typical of the Verulamium region than that in Fig 13.

The catalogue below is a summary of the mortaria illustrated; for full details and references, see the research archive.

Summary catalogue of illustrated mortaria

[125] PII, diam 26.75cm (Fig 13)

The namestamp ALBIVNVS survives on the left-facing side of the spout and just the edge of a second stamp on the right-facing side. The namestamp is from the same die as in Frere 1972, fig 145 no. 5. The second stamp, preserving the bottom of the letter D, is an FLVGVDV stamp, but
too fragmentary for the die to be identified, though it is almost certainly from the same die as in ibid, no. 6. Made in the potteries along Watling Street, south of Verulamium. AD 60–80. (See also 2.2 above.)

[340] PVI, diam 23cm (Fig 37 no. 1)
Made in the 2nd-century potteries at Colchester. AD 130–60.

[381] PVI, diam 30cm (Fig 37 no. 2)
Form Gillam 255, a type which was never stamped. Made in northern France. Its floruit was in the Antonine period.

[377] PVI, diam 27.5cm (Fig 37 no. 3)
Yellowish-cream fabric. The rim profile is one never produced in Britain. It can be readily matched with mortaria made at Bavay and in Belgium, but those made at Bavay would be more likely to be in a reddish-brown fabric. This form can be closely matched with mortaria made by Vacasatus Brarius who had workshops at Bavay (Nord) and elsewhere in Gallia Belgica. A stamp of his is recorded from Verulamium from a context dated AD 155/60 (Frere 1972, fig 146 no. 40). There is, however, no question of attributing this example to him because other potters will have produced similar work. Such mortaria are very rarely found in Britain in either fabric, but an especially good example in similar fabric and form is recorded from South Shields (Dore & Gillam 1979, fig 38, no. 108) in a mostly Antonine group sealed under the flagged floor of an early 3rd-century guard chamber.

[457] PVI, diam 28.5cm (Fig 37 no. 4)
The right-facing stamp is impressed down what could be described as a ‘collar’ rather than a flange. It is unfortunately very faintly impressed, but M[.....] can be read and there is indication of a narrow border. The border and letters, especially the unusual A, fit perfectly with stamps from one die of Martinus 2 of Colchester (Hull 1963, fig 60 no. 9). Only one further example of this stamp is known, an unpublished example from Great Chesterford. AD 150–80.

[660] PVI, diam c 35cm (Fig 37 no. 5)
The slightly damaged stamp is from a die which gives MARTINFEC with MA and TI ligatured, when complete. Other mortaria of Martinus 1 have been noted from London and elsewhere in England. His fabric fits production in the Verulamium region. AD 110–40.
3.3 MEDIEVAL AND POST-MEDIEVAL POTTERY

CHRIS JARRETT

The post-Roman pottery from Hunt's House consisted of 463 sherds of pottery, weighing 45.696kg. The pottery dated from the late 13th to late 18th centuries and was present in periods IX–XII. (See Figs 28, 31–3.) Medieval pottery was almost absent on the site, with the exception of one largely complete Coarse Border ware jug (see Fig 28). Due to the site's marginal location it was not until the 16th century, and particularly the latter half of it, that domestic pottery began to be dumped at the site in significant quantities. Southwark has produced a number of large published 16th-century assemblages (eg Toppings Wharf; Orton et al 1974) and, in particular, excavations in 1967 to the east and north of the site, at Guy's Hospital (Dawson 1979), were of importance in defining the ceramics of that period. However, the relatively small amounts of 16th- and 17th-century pottery from Hunt's House underline how limited activity was at the site during this period. Since the vast majority of 17th- to 19th-century strata did not survive beneath the basement slab of Hunt's House, it was left to a handful of deeply cut features to provide ceramics of this period: two brick-lined pits [19] and [230] produced the largest amount of pottery on the site and were of mid to late 18th century in date (see 2.11 above for a discussion of the pottery).

3.4 ROMAN SMALL FINDS

NINA CRUMMYY

Footwear and leatherworking

As is often the case with Roman leather from London, these pieces are generally in poor condition. They were recovered from periods II, V (the only substantial group) and VI. Edges are rarely neat and original, most are frayed, and many bottom-unit fragments have the semicircular indentations typical of breaks between lines of closed-set nail holes. The group is not large, providing little data for meaningful comparison with other London assemblages. Most of the pieces are soles, middle-soles or insoles; only a few fragments of uppers can positively be identified. Nailed shoes predominate, but there are also several sandal fragments, a few soles from stitched shoes, and some upper fragments.

A few fragments of leather waste were recovered from the same period V deposits that produced leather shoes. Most appear to be offcuts likely to be produced during footwear manufacture, which suggests that the discarded shoes from the same contexts came from a cobbler's workshop.

Lead(-alloy) debris and objects

The Hunt's House small finds assemblage is particularly distinctive for the high quantity of lead or lead-tin-alloy fragments that it contains. Most are spills or drips of molten metal, but also included are offcuts of both thin and thick sheet, several weights and other objects. While similar lead items form part of the general 'background noise' of any urban Roman site, they are usually far outnumbered by objects of copper alloy and iron. Dribbles, spills and offcuts may indicate nothing more than small-scale plumbing or structural operations, or minor house fires. At Hunt's House, dribbles and spills were present in period V in sufficient quantity to come close to matching the retrieval rate of both iron and copper alloy. Most came from a single dump deposit [595], which produced a fragment of sheet lead, several drips and at least two spills. These pieces, together with the high proportion of lead objects to those of other metals, is the earliest indication of leadworking in the vicinity of the site. A few pieces were analysed at the Ancient Monuments Laboratory using X-ray fluorescence. Some were found to be pewter.

In the brief description of the minerals to be found in Britain included by Caesar in his account of his second invasion, neither lead nor the silver extracted from it by cupellation is mentioned (Conquest of Gaul 5.12), though Strabo, in the early 1st century, includes silver in his summary of British exports (Geography 4.199), as does Tacitus, writing with hindsight, in the later 1st century (Agricola 12). It was not long after the successful Claudian invasion, certainly by AD 49, that the silver-bearing lead deposits of the Mendips were being mined under imperial control (Collingwood 1937, 42–3; Salway 1982, 634). The importance of British lead to the emperor lay not only in its high silver content, the production of the one metal being closely bound up with that of the other (Whittick 1982, 117; White 1984, 124–5), but also in its use for public and military building works (Salway 1982, 635).

Other small finds

The majority of the other small finds consist of personal and household objects. Though dress accessories predominate, they are not particularly numerous. Domestic activities represented include spinning, sewing
and playing board games. Household equipment consists of lamps, drop-handles from furniture and four figurines from household shrines. A small strap-mount with phallic decoration is probably from auxiliary military uniform. All these items can be seen as domestic refuse, apart from one of the drop-handles (<99>) (see Fig 39 no. 4), which appears to be unfinished and may therefore be indicative of copper-alloy working nearby.

**Catalogue of illustrated Roman small finds**

<101> [445] PV (Fig 38 no. 1)

Equal-ended copper-alloy plate brooch with oval plate, recessed for glass or stone setting, or enamel. L 32mm. There are two small square side lugs. The missing pin was hinged between two lugs. The ends are astragaloid moulded; the one over the hinge is broader than that over the catchplate. Along with other equal-ended brooches, date is 2nd century. A similar example comes from Richborough (Bushe-Fox 1949, pl XXIX, 43).

<184> [660] PVI (Fig 38 no. 2)

Equal-ended copper-alloy plate brooch with mosaic enamelled rectangular central plate. L 36mm. Hull's type 231A (in prep) in which the centre is flanked down each long side with a wide fluting, and a square lug is set at each corner. The narrow ends are astragaloid moulded. The long sides are knurled, paralleled on a brooch from Richborough (Bushe-Fox 1949, no. 1747). Both sides damaged, only one lug remains. Enamel very decayed, but appears to have incorporated at least three spots of black set into a green field. The missing hinged pin was fixed between two lugs. Catchplate damaged. The type is 2nd century, possibly early. (Examples in England, France and Switzerland.)

<77> [375] PV (Fig 38 no. 3)

Fragment of a bone hairpin with a conical head above two grooves, neither of which quite meets around the circumference of the shaft (Crummy 1983, 21, type 2). L 53mm.

<30> [78] PVI (Fig 38 no. 4)

Well-made bone hairpin with a globular head (ibid). L 69mm. The tip is missing.

<380> [1109] PVI (Fig 38 no. 5)

Two fragments from a shale armlet with notched edges producing zigzag decoration on the outer face. Diam 60mm, h 6mm, th 7mm. Unlike most examples of this type of decoration, the notches are not evenly sized and spaced, making the zigzag quite irregular.

<391> [993] PVI (Fig 38 no. 6)

Fragment of a plain shale armlet of oval section, with a ridge running along the centre of the inner face. Diam r 65mm, h 8mm, th 6mm.

<19> [135] PV (Fig 38 no. 7)

Bone needle with a conical head. L 110mm. The eye is figure-of-eight-shaped, formed by drilling two overlapping holes. The tip may have been re-pointed.

<156> [501] PII (Fig 38 no. 8)

Spindlewhorl made from a sherd of Roman red ware, the surfaces very worn, as much by water action as use. Diam 34mm, h 6.5mm; diam of straight-sided central perforation 8mm.

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**Fig 38 Roman small finds: 1) 2) plate brooches, 3) 4) bone hairpins, 5) 6) shale armlets, 7) bone needle, 8) spindlewhorl**

(1—2, 1:1; 3—8, 1:2)
Fragment from handle end of a moulded ceramic factory lamp in a coarse gritty fabric. The handle has a large perforation. Little of the body survives, but it appears to have had a small diameter compared to the size of the handle. In this respect it may be similar to a 4th-century lamp from Colchester (ibid, fig 82, 2104) and is likely to be of the same date. The low quality of the fabric suggests local manufacture.

Copper-alloy drop-handle of lozenge-shaped section with moulded terminals and split-spike loops for fixing in wood. L 53mm, h 36mm. The split-spike loops suggest a wood thickness of 20mm for the box to which the handle was fixed. Drop-handles were used as early as the 1st century on wooden caskets containing cremated interments (Borrill 1981, fig 112) while examples with moulded terminals, as here, occur in late 3rd- and 4th-century contexts (Crummy 1983, fig 85, 2134).

Copper-alloy drop-handle fragment, possibly unfinished. L 92mm. The piece has the lozenge-shaped section typical of such handles, tapering at the surviving end to circular and very narrow. This end is long and formless. It may have been pulled out of its original shape, but its length and the absence of a terminal suggests rather that has never been finished.

Copper-alloy strap-fitting from furniture. L (bent) 130mm. The shank has a slightly hollow convex section and is bent over at an acute angle at one end. Each terminal is flattened and perforated. That on the shorter, bent, end is plain, while the other is leaf-shaped and marked at the junction of the shaft by two transverse mouldings. The point of this terminal bends inwards sharply.

Similar iron strap with two flattened and pierced terminals, one broken across the perforation. L 143mm. The surviving one has a small lug on the end.

Small plain wooden counter in six fragments. Diam 15mm, th 3mm. There is a faint X on one face, and I on the other.

Fragment of a bone counter with a sunken centre (ibid, type 1). Diam 21.5mm, th 3mm.
Fig 40  Roman small finds: 1) wooden counter, 2) bone counter, 3) stylus fragment, 4) ferrule, 5) handle, 6) 7) 8) Venus figurines (1:2)

<455> [1173] PIII (Fig 40 no. 6)
Two fragments from the hollow base of a pipeclay Venus figurine, showing the goddess's toes. Diam 41mm, h 30mm.

<198> [595] PV (Fig 40 no. 7)
Lower front fragment of a pipeclay Venus figurine, showing the legs, left hand and most of the drapery. L 66mm.

<459> [1271] PIV (Fig 40 no. 8)
Lower fragment from the front and back of a pipeclay Venus figurine. L 76mm. Most of the right leg, the left leg from the knee, the lower part of the drapery and most of the feet survive, though at the back the upper part of the right leg has broken off.

<43> [322] PVI (Fig 41 no. 1; see also Fig 25)
A small copper-alloy cockerel. H 23mm. The surface metal is scarred by corrosion, but some details of the features can be distinguished. The eyes are defined by small raised rings with a central dot, and the plumage of head, wings and tail by grooving. The tail is forked. The space between the short legs is solid, and the bird stands on a small base, rounded at the rear, following the shape of the toes at the front, but it is not free-standing. There is a substantial assemblage of copper-alloy cockerels from Roman Britain, as well as examples in stone and clay (Green 1976, 255). They vary from the naturalistic and well executed to the highly stylised. A cockerel from Great Canfield, Essex, has a forked tail and base similar to the Hunt's House bird, though its general stance is altogether different (Drury & Wickenden 1982, figs 1 & 2) and the forked tail is also present on a cockerel from Nettleton, Wiltshire (Toynbee 1982, pl XXXIa). (See also 2.6 above.)

<382> [1152] PV (Fig 41 no. 2)
Copper-alloy phallic strap-mount with two projections on the reverse for attachment. L 26.5mm. (See also 2.5 above.)

<201> [1051] PVI (Fig 41 no. 3)
Copper-alloy enameled fitting, consisting of a disc to the front of which is riveted a prominent stud with a spoon-shaped shank of lozenge section. Diam 27mm, h 22mm. At the base of the disc is a short, broken, strip, 10mm long, 8mm wide. Apart from where this joins it, the edge of the disc is decorated with inward-facing triangles of enamel in a symmetrical pattern running from each end blue-red-blue-green-blue to meet at red at the top. The stud-like projection was probably originally lozenge-
with its superficial similarities to harness rings, may be a fastener for two straps.

<199> [595] PV (Fig 41 no. 4)
Jointed iron object, consisting of two penannular tubes linked by tapering loop-ended bars. L 158mm. The length of the tubes and the asymmetry of the jointed loops argue against this being a snaffle-bit.

<420> [1219] PV (Fig 41 no. 5)
Cast copper-alloy handle. L 125.5mm. The terminal is in the form of an eagle’s head, the eye and beak shown by delicate incised lines. Below the head is a rectangular block with narrow transverse rectangular perforation, and below this the shaft has a tapering circular section. The handle is over heavy for a spoon, but may be from a toilet or surgical instrument, several continental examples of which have ornate stout handles. A zoomorphic terminal occurs on a strigil from Palmyra (Hattatt 1989, fig 17, 114) and perforated handles on surgical tools from Pompeii (ibid, fig 29, 178, fig 30, 187).

3.5 ROMAN MAMMALIAN REMAINS

ROBIN BENDREY

The majority of the mammalian remains analysed from Hunt’s House were hand-recovered (Table 2; note that the human bone in period V is the shaft fragment of an ulna). Sieving was undertaken in selected contexts, which confirmed the pattern from the hand-recovered assemblage. Most of the assemblage, comprising 2449 fragments (65%), derived from a single context [595]. Only eight hand-recovered fragments show evidence of burning, and the assemblage probably underwent relatively quick burial after deposition. There are few immature bones present, and small bones, especially of the smallest mammals, are absent, but this may be due to preservational biases.

Butchery

Cattle clearly dominates the mammal bone assemblage. It comprises over 80% of the identified mammal bone by number and weight and came from almost all contexts analysed (Table 3). No other taxon comprised over 10% of the identified assemblage (pig was the second most common animal; nearly 50% of the bones came from [595]). An interesting phenomenon is that high numbers of cattle limb bones make up 61% of the cattle bones. Many of the cattle and cattle-sized long bones had

Fig 41 Roman small finds: 1) cockerel figurine, 2) strap-mount, 3) enamelled fitting, 4) iron object, 5) handle in form of eagle’s head (1, 1:1; 2–5, 1:2)
Table 2 Summary of mammal bone assemblage by number of fragments (NISP)

<table>
<thead>
<tr>
<th>Period</th>
<th>II</th>
<th>III</th>
<th>IV</th>
<th>V</th>
<th>VI</th>
<th>VII</th>
<th>Total no. (NISP)</th>
<th>Total weight (g)</th>
<th>Mean fragment weight (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cattle, <em>Bos</em> (domestic)</td>
<td>4</td>
<td>5</td>
<td>59</td>
<td>1554</td>
<td>260</td>
<td>65</td>
<td>1947</td>
<td>103724.5</td>
<td>53.3</td>
</tr>
<tr>
<td>Pig, <em>Sus</em> (domestic)</td>
<td>1</td>
<td>1</td>
<td>23</td>
<td>101</td>
<td>30</td>
<td>8</td>
<td>164</td>
<td>2768</td>
<td>16.9</td>
</tr>
<tr>
<td>Sheep, <em>Ovis</em> (domestic)</td>
<td></td>
<td>1</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>11</td>
<td>192</td>
<td>17.5</td>
</tr>
<tr>
<td>Sheep/goat, <em>Ovis/Capra</em></td>
<td></td>
<td>5</td>
<td>9</td>
<td>43</td>
<td>11</td>
<td>2</td>
<td>70</td>
<td>740</td>
<td>10.6</td>
</tr>
<tr>
<td>Horse, <em>Equus caballus</em></td>
<td>1</td>
<td>33</td>
<td>6</td>
<td>32</td>
<td>1</td>
<td>-</td>
<td>73</td>
<td>8075</td>
<td>110.6</td>
</tr>
<tr>
<td>Donkey, <em>Equus asinus</em></td>
<td></td>
<td>5</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>5</td>
<td>409</td>
<td>81.8</td>
</tr>
<tr>
<td>Dog, <em>Canis</em> (domestic)</td>
<td></td>
<td>2</td>
<td>1</td>
<td>32</td>
<td>-</td>
<td>-</td>
<td>35</td>
<td>756</td>
<td>21.6</td>
</tr>
<tr>
<td>Red deer, <em>Cervus elaphus</em></td>
<td>7</td>
<td>6</td>
<td>3</td>
<td>9</td>
<td>-</td>
<td>-</td>
<td>9</td>
<td>970</td>
<td>107.8</td>
</tr>
<tr>
<td>Roe deer, <em>Capreolus capreolus</em></td>
<td>-</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>3</td>
<td>157</td>
<td>52.3</td>
</tr>
<tr>
<td>Cat, <em>Felis</em> (domestic)</td>
<td></td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>4</td>
<td>4.0</td>
</tr>
<tr>
<td>Human, <em>Homo sapiens</em></td>
<td></td>
<td>18</td>
<td>81</td>
<td>20</td>
<td>7</td>
<td>126</td>
<td>131</td>
<td>1</td>
<td>1.0</td>
</tr>
</tbody>
</table>

**Total** | 6   | 65  | 225 | 2734 | 591 | 130 | 3751 | 135344.5 | 36.1 |

Table 3 Number of contexts containing identified bone per period

<table>
<thead>
<tr>
<th>Period</th>
<th>Cattle</th>
<th>Pig</th>
<th>Sheep</th>
<th>Horse/donkey</th>
<th>Dog</th>
<th>Cat</th>
<th>Red deer</th>
<th>Roe deer</th>
<th>Human</th>
<th>No. of contexts</th>
<th>No. of fragments</th>
</tr>
</thead>
<tbody>
<tr>
<td>II</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>6</td>
</tr>
<tr>
<td>III</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>65</td>
</tr>
<tr>
<td>IV</td>
<td>7</td>
<td>6</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>7</td>
<td>225</td>
</tr>
<tr>
<td>V</td>
<td>10</td>
<td>7</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>10</td>
<td>2734</td>
</tr>
<tr>
<td>VI</td>
<td>8</td>
<td>4</td>
<td>5</td>
<td>1</td>
<td>-</td>
<td>-</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>9</td>
<td>591</td>
</tr>
<tr>
<td>VII</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>-</td>
<td>5</td>
<td>130</td>
</tr>
</tbody>
</table>

**Total** | 35  | 20  | 16    | 10           | 4   | 1   | 3        | 3        | 1     | 37             | 3751           |

undergone very intensive butchery with a heavy chopping implement, and are often split longitudinally, presumably for marrow. The butchery and fragmentation of long bones to such a degree, beyond the needs of normal butchery, can be for a number of products: for soup or broth (Rixson 1989, 57) or protein for glue (O’Connor 1988, 117). It is the blood and fat in the epiphyses that is used for soups and glue (ibid), therefore the preponderance of diaphysis fragments suggests marrow processing. Contexts [595] (period V) and [377] (period VI) (both Guy’s Channel) produced large quantities of this material.

Cattle scapulae exhibit evidence of systematic butchery; four from [595] have holes punctured in their blades. This has been recorded from Roman York (O’Connor 1988, 82–3) and interpreted as the suspension of all or part of the forelimb for smoking or curing. The assemblage also produced a general mixture of rubbish, probably dumped here from the settlement. Comparison of the relative meat value of the cattle bones reveals a generally low level of lower-quality meat. This argues against the site being used as an area for primary butchery.

The equid bones from [382] (period III) represent a number of articulating partial-skeletons. The ‘donkey’ bones are an articulating left foreleg, including the complete metacarpal III, the only bone able to offer a full set of measurements; fortuitously it is this bone which offers the best criteria for identification (Eisenmann 1986; Eisenmann & Bekouche 1986). The metacarpal exhibits a number of transverse cut marks across the anterior of the shaft which is consistent with the animal having been skinned. The partial horse skeleton in [382] may also have been skinned, or merely dumped in a convenient place. The disarticulated horse bones, mostly from context [595], infer the subdivision and use of horse skeletons, although there was no direct evidence of butchery in the form of cut or chop marks.
All the deer elements represent extremities – the head and feet – possibly suggesting waste from primary butchery. There were no main meat-yielding bones present. Of the dog bones, 32 out of 35 derived from period V, 31 of which came from [595]. The presence of transverse cut marks on one distal tibia implies that at least one of these dogs had been skinned.

Evidence for bone and antlerworking comes from a number of species. A cattle metatarsal and radius, and a horse tibia, had been sown through by an epiphysis, presumably for the diaphyses to be used for bone working. Antlerworking is recorded on three fragments of red deer antler from [595]. A cattle horn core had also been sown through above the base, to use the horn for working.

Age

Ageing data, though limited, does show a number of trends. A general absence of neonatal and very young mandibles suggests that there was no involvement in animal husbandry. Cattle provided the most detailed ageing evidence and, according to the dental data, all were over at least 3 years of age (Grigson 1982, 13), with many being significantly older. The fusion data broadly agrees.

Pig ageing data shows a younger profile than the other domestic animals. The early fusion group implies that 50% of pigs were killed in their first year.

Epiphyseal fusion data (Silver 1969) and crown height measurements (Levine 1982) show that all the equid remains were from mature animals. The loose teeth from the assemblage give an age range between 5–11 years. The partial horse skeleton in [382] was about 3–3 1/2 years when it died. The donkey leg from the same deposit was older than 3 1/2 years at death as its distal radius and proximal humerus were fused (Silver 1969, 285–9).

Size

Cattle bones alone were in sufficient numbers to provide a detailed set of measurements (see the research archive for details). There is one small-horned specimen (less than 96mm long), two short-horned horn cores (96–150mm long), and one medium-horned example (150–200mm). There were no long-horned specimens. Reconstructed withers heights from the metatarsals, calculated using the factors of Matolesi (von den Driesch & Boessneck 1974), produced a mean of 1.19m, and a range of 1.11–1.28m. This is comparable to contemporary sites (eg Colchester produced a mean of 1.122m and a range of 1.025–1.281m; Luff 1993, 130).

Examination of the donkey’s metacarpal following Eisenmann and Bekouche (1986) rules out the possibility of the specimen being a pony (Equus cabsalus). Eisenmann and Bekouche state that hinnies (a hinny is the progeny of a male horse and female donkey; a mule is the progeny of a male donkey and female horse) have a broad distal articulation (ibid). The Hunt’s House specimen has a very broad distal articulation, especially in proportion to its length, but it is possible that this broadening could have occurred due to a work-related change. The specimen has been identified on balance as donkey, although there is insufficient evidence to properly differentiate between donkey and hinny. The metatarsal from the same context is clearly shown to be horse, and shows strong similarities to the wild horse, Equus przewalskii.

The dog remains exhibit some of the variability known from Romano-British material (Clark 1996; Harcourt 1974) when visual comparison is made. Only two bones provided reconstructed shoulder heights, both from [595]. These gave estimates of 50.7cm from a femur (Harcourt 1974) and 51.6cm from a metacarpal II (Clark 1996). These fall in the middle of Harcourt’s range of 27–72cm for Romano-British dogs (Harcourt 1974, 154). A complete dog skull also came from [595], which compares well with the dog specimen from Camulodunum (ibid, 165): it would have been a large hunting dog.

Discussion

The build-up of waste at Hunt’s House, a short distance from the settlement, may suggest organised rubbish disposal within Roman Southwark. The quantity and individual size of much of the fragmented long bones suggest that the processing of these bones took place on or near site. Large-scale processing of animal carcasses can cause obnoxious and unpleasant waste and smells (Rixson 1989, 58), so a site some distance from living areas, close to a convenient river, would be an ideal place for carcass processing and disposal. In contrast, the large quantity of butchered cattle limbs from York occurred in the centre of the civilian town (O’Connor 1988).

The assemblage from Hunt’s House was not derived from primary butchery, as shown by the low proportions of lower-quality bones. A number of bone assemblages from Roman Southwark have been interpreted as being the residue from domestic meat consumption, except for a quantity of lamb skulls from an early Roman ditch at 201–211 Borough High Street which could be from primary butchery (Rixson 1978, 603). In addition, it was concluded that there was no evidence for primary butchery from 199 Borough High Street (Locker 1988,
431), which also produced a large number of long bone fragments which Locker interprets as bone having been smashed up and boiled for marrow extraction (ibid, 430). The evidence from Hunt’s House suggests that the organised processing of cattle long bones was probably on a commercial scale. Sites with similar concentrations of heavily fragmented cattle limb bones have been recorded at other Roman sites in north-west Europe (King 1978, 225).

The quantities of cattle bones at Hunt’s House highlights the contribution made by beef to the diet. Cattle also dominated at other Roman sites in Southwark, including 199 Borough High Street (Locker 1988, 429), 15–23 Southwalk Street (Pipe & Rackham 1992, 172–3) and 51–53 Southwalk Street (Bendrey 1998). Luff suggests that ‘the dominance of cattle in the faunal record is related primarily to the intensity of the arable agriculture’ (1993, 129), in that oxen were required to supply the traction power for cultivation. The mature age-profile of the cattle from Hunt’s House would support this view of draught animals being used to supply urban populations.

Contemporary sites in Roman Southwark also produced mainly mature cattle, suggestive of these animals having been first kept for dairy products, draught or breeding (Locker 1988; Pipe & Rackham 1992; Rixson 1978).

Pig made a limited contribution to the diet. Many of the pigs were culled at about two years old, which agrees with other Romano-British data (Luff 1993, 133). Sheep remains were a minor element in the assemblage. King suggests that generally a trend away from making use of sheep through the Roman period is shown more markedly at ‘romanised’ sites (1978, 225). Goat, as on many Roman sites, has a negligible presence.

Wild species only played a very minor role. Red and roe deer bones were infrequent, including several offcuts of worked antler. The presence of a black rat Rattus rattus pelvis in period VI [377] is in agreement with finds from elsewhere in Roman London (eg Armitage et al 1984). The close association of this animal with human habitation (ibid) could imply the proximity of housing to the site at this time.

The presence of donkey at Hunt’s House is significant, as the species is recorded only very infrequently from Roman sites elsewhere in Britain. Clutton-Brock refers to ‘a few bones from archaeological sites of the 3rd century AD in southern England’ which have been identified to donkey (1992, 118). There was one possible specimen from the fort of Newsteads on Hadrian’s Wall (Baxter 1998, 5) and Maltby refers to two instances of donkey from the archaeological record (1981).

Extensive use of donkeys occurred throughout the Roman Empire (Baxter 1998; Clutton-Brock 1992; Toynbee 1973) and contemporary Roman authors paint a harsh existence for it as a much-abused work-animal (Toynbee 1973, 193–7). The domestic donkey was used as a pack animal, for ploughing, manure, mule-breeding and working mills (ibid). No equid bones have been positively identified to hinny, though a mule mandible was identified from Roman Billingsgate, from a rubbish deposit dated between AD 125–60 (Armitage & Chapman 1979).

It is possible that horse as well as donkey from period III was used for its skin. There is documentary evidence (Apuleius, Metamorphoses 7.22) that a dead ass was valued for its skin (Toynbee 1973, 196). Horses were valued as transport and pack animals (Maltby 1981) and were not butchered or used post-mortem in the same way as cattle (King 1978, 225), though some horse bones at Hunt’s House may have been used for marrow.

Conclusions

The range and proportions of species present are consistent with other sites from Roman Southwark and Roman Britain. The assemblage represents dumping of animal bone waste from a range of activities carried out at the settlement of Southwark. Mature cattle predominate in the assemblage; beef, therefore, was the main contributor to the diet. The high number of animals that reached adulthood does imply their extraction from herds that had first supplied secondary products, such as milk and traction.

The assemblage has a large component that represents the processing of cattle bones on an organised scale near to the site. There is evidence that cattle limb bones were processed for marrow in periods V and VI, possibly on a commercial scale, and the preparation of soups and stocks can also be implied. A number of largely intact cattle scapulae suggest that some meat was being cut straight from the bone and a few imply that the meat was first being smoked. Metrical data suggest that the cattle were generally of a small size with a few larger animals, and that many were female. There is a small quantity of evidence for some industrial use of cattle, for horn- and boneworking.

The presence of partial equid skeletons in period III implies that the area was a convenient wasteland for dumping whole or partial carcasses away from inhabited areas after their useful working lives were over. The donkey bones from this period are of particular interest, because they are so rarely identified from archaeological sites.
3.6 ROMAN PLANT REMAINS

WENDY J CARRUTHERS

Soil samples were taken for the recovery of environmental and economic information at Hunt's House and 23 of these were assessed for potential in November 1998 (Taylor-Wilson 1998). The assessment found that well-preserved charred and waterlogged plant remains were present in samples from the Guy's Channel area. This report presents a summary of results from the detailed analysis of nine samples showing the highest potential, all from Roman contexts. (The table showing results of the analysis is lodged with the research archive.)

Period II: alluvial deposit [676] {35} and the fills of possible drain [902]; [858] {43}, [909] {45}
Period III: alluvial deposits [670] {34} and [672] {31}
Period V: alluvial deposit/dump [595] {31} and the basal fill of ditch [506]; [482] {25}
Period VI: fill of pit [695]; [696] {39} and dump deposit [524] {29}

Charred plant remains

The good state of preservation of the charred remains was probably due to protection from the effects of weathering and disturbance in the waterlogged deposits. Because the charred assemblages were so well preserved they are less likely to have been affected by differential preservation than charred remains recovered from dryland sites, and so provide a more reliable picture of the type of waste that was being deposited.

Apart from the excellent state of preservation, one of the most notable factors concerning the charred assemblage was its purity. The principal component was spelt crop-processing waste, comprising glume bases, spikelet forks, rachis fragments and awn fragments. Although the rachis fragments, awn fragments and some of the glume bases could not be differentiated from those of emmer, only a few possible emmer glume bases were recovered so it is likely that most, if not all, was spelt waste. Very few other cereal remains were present. A few (five) barley rachis fragments were recovered and a few oats. Since the identification of wild oat was confirmed for some of the remains it is likely that the oats were a weed contaminant. There were also rotably few other charred arable or ruderal weed seeds present, indicating that the spelt crop had been remarkably weed-free. Chess ( Bromus sp) was the most frequent contaminant, with poppy (Papaver dubium, P cf argemone), dock (Rumex sp), charlock etc (Brassica/Sinapis sp), stinking mayweed (Anthemis cotula) and scentless mayweed (Tripleurospermum inodorum) being represented by single seeds in most cases. The charred waste was also relatively grain free, suggesting that the processing had been carried out efficiently. The type of waste represented – small weed seeds and small, heavy fragments of chaff – is likely to have been removed at a late stage in the cereal processing (eg Hillman 1981, stage 12) after the removal of the straw and large weed seed heads.

Although the processing had efficiently separated the waste from the crop, so that very few grains were present in the samples, detached sprouted embryos were recovered from seven of the nine samples examined for this report. Because grain was so sparse, the assemblages clearly did not represent spoilt grain that had sprouted during storage, although they could have been the waste from processing such a crop. An alternative explanation is that the remains consisted of burnt crop-processing waste from spelt which had been sprouted to produce malt.

Two large deposits of Roman charred grain (mainly spelt and emmer wheat) recovered from the City of London were found to contain 23% and 44% of sprouted grain, and this was thought to be due to poor storage conditions rather than malting (Straker 1983). However, some other large Roman deposits of sprouted spelt have been attributed to the production of malt for brewing. The large deposit of primarily spelt recovered from the legionary fortress of Isca at Caerleon, Wales, was said to have almost all been sprouted (Hilbaek 1964). Samples of charred grain from Roman corndriers at Catsgore, Somerset (Hillman 1982) contained assemblages that were in some cases very similar to those from Hunt's House, comprising mainly spelt chaff and sprouts. In both of these examples a similar small range of weed taxa was present, including wild oats, chess and darnel. At Catsgore it was suggested that the chaff-rich samples probably represented crop-processing waste being used to fuel the corndriers, combined with sprouts that had broken off from the malted spelt and become mixed with the fuel.

Although only small samples were examined so that the number of sprouts was not very large at Hunt's House, the fact that they were widespread suggests that the spelt had been deliberately sprouted. In addition, the burnt sprouts are more delicate than the glume bases and highly fragmented, so it is likely that the number recorded is a vast underestimation of the actual number present. Measurements of the few whole sprouts recovered showed that they had been left to grow until they were half, to the entire length, of the grain before being killed by oven roasting.

The main concentration of spelt chaff and sprouts was recovered from fill [858] of the period II drain [902]. A
period II alluvial deposit [670] and two period III alluvial deposits [672, 676], from the same area, also contained fairly high concentrations of charred spelt waste. Three period V samples yielded smaller amounts of charred waste and fill [482] of ditch [506] to the west of Guy’s Channel also produced some. All of the charred assemblages from the samples were equally well preserved and very similar in character, making it difficult to determine whether this represents large-scale deposition during period II that became redeposited in later deposits, or the deposition of very similar types of waste over a long period of occupation (possibly up to c. 250 years). The former suggestion seems the most likely; although the level of resiliability in the pottery from a securely dated period V deposit, [595], was found to be low. The quantity of charred waste in the period VI pit fill [696] was also high. It was not possible to calculate a figure for pottery resiliability for this context due to a lack of shreds, but it is notable that this was the closest feature to the period II drain.

Waterlogged plant remains

Out of the nine samples examined in detail, the alluvial deposits and the fill of pit [695] contained well-preserved uncharred fruits and seeds indicating that they had remained waterlogged since their deposition. These samples all fell within the projected edge of Guy’s Channel. The three samples from period II drain [902] and period V ditch [506] contained very few uncharred seeds, and those present were primarily tough-coated taxa such as elderberry seeds which can survive for long periods in semi-aerobic conditions.

Many of the waterlogged fruits and seeds were from emergents that would have been growing in the shallower water along the margins of the channel, such as marsh marigold (Caltha palustris), lesser spearwort (Ranunculus flammula), celery-leaved buttercup (R. sceleratus), watercress (Rorippa nasturtium-aquaticum), fool’s watercress (Apium nodiflorum) and water-plantain (Alisma plantago-aquatica). Most of these aquatics can tolerate still to moderately fast-flowing water, some indicate fairly high levels of nutrients (eutrophic), and some are more common in calcareous water (Haslam et al. 1975). Other semi-aquatic plants would have been growing in the damp soils along the banks, for example gypsywort (Lyopus europaeus), mint (Mentha sp.), hemlock (Conium maculatum) and bur-marigold (Bidens sp). It is probable that some of these plants were exploited either as foods (eg watercress) or for their medicinal properties (eg hemlock). A large deposit of charred hemlock seeds was recovered from Roman Alcester (Moffett 1986), providing evidence for the use of this native plant. If used cautiously, most parts of the plant have sedative and antispasmodic properties (Grieve 1992).

High levels of nutrients in the area were also reflected in the large numbers of stinging nettle (Urtica dioica) seeds found in most of the samples. Docks (Rumex sp) and chickweed (Stellaria media) were also common, and these are characteristic of wasteground with nutrient-rich soils. Many of the taxa in this group of wasteground/cultivated land plants can grow in a variety of habitats, from cultivated fields and gardens to rubbish dumps and waysides. A few, such as mallow (Malva sylvestris), could have been used as food plants, although there is no proof of this in the seed assemblages. Mallow leaves are similar to spinach when cooked (Mabey 1972).

Plant remains that almost certainly do represent food remains are fig (Ficus carica), strawberry (Fragaria vesca) and cf plum (Prunus sp stone fragment). These non-native fruit remains are usually frequent in cess deposits and are often common in waterlogged sediments due to the use of rivers for sewage disposal. The small number of seeds of this type in the alluvial deposits at Hunt’s House suggests that Guy’s Channel was not used for the disposal of cess to any great extent, at least in the areas sampled.

Elderberry (Sambucus nigra) seeds, blackberry (Rubus sect Glandulose) seeds and hazelnut (Corylus avellana) shell fragments were also recovered. It is most likely that these native hedgerow nuts and berries were gathered, although the remains could have fallen into the channel from overhanging vegetation. The possible beet (cf Beta vulgaris) fruit fragments from period III [672] are of interest (see 2.3 above). Charred beet seeds were recovered from Roman Alcester (Moffett 1986).

The final group of waterlogged plant taxa is found in more shady habitats in woods, scrub and hedgerows. The total number of seeds in this group was not great, but the presence of woodland herbs such as three-nerved sandwort (Maecobrigia trimervia) does suggest that some areas of woodland or scrub persisted in the area at least up to period III.

Conclusions

These few samples demonstrate the high potential of waterlogged sediments in the area. Well-preserved charred remains provided evidence for malting spelt during period II at least. The quality of the spelt crop was clean with very few weed contaminants, and the crop processing had been thorough. The waterlogged assemblages contained a wide range of aquatic and semi-aquatic plants, indicating that Guy’s Channel was well vegetated, with increased levels of nutrients and disturbance probably due to activities associated with the ‘jetty’. Sewage and general domestic waste, however, were not major pollutants in this area.
Abbreviations
BAR British Archaeological Reports
CBA Council for British Archaeology
LAMAS London & Middlesbrough Archaeological Society
MoL Museum of London
MoLAS Museum of London Archaeology Service
PCA Pre-Construct Archaeology
SLAEC Southwark and Lambeth Archaeological Excavation Centre

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Excavations undertaken during the redevelopment of Hunt’s House, part of Guy’s Hospital in Southwark, London, revealed sporadic periods of activity from the Late Mesolithic period until the present day. The site lies on what was low-lying marshland on the eastern margins of two islands which became the focus of Roman occupation in Southwark.

The earliest activities on the site indicated periodic exploitation of the marsh’s natural resources and Guy’s Channel, a natural watercourse, was certainly being used by river craft in the Roman period. Early 2nd century waterfront installations recorded along the channel were abandoned in c AD 170, possibly due to severe flooding. Dryer conditions followed during the 3rd and 4th centuries and a network of drainage ditches were dug. Enclosures, possibly for livestock, were also identified and a timber-walled structure may have been used for storing amphorae. Pottery from this period suggests a nearby shrine while other finds indicate leatherworking, leadworking and the processing of animal carcasses in the vicinity. Further embanking of Guy’s Channel in the mid/late 4th century suggests rising river levels at this time with industrial activities continuing nearby, possibly into the early 5th century.

Ditches found across the site may represent 5th-century fields which were covered by thick alluvial deposits resulting from sustained flooding until c 1300 when attempts to drain the area resumed. Eighteenth century soakaways, cesspits or wells were all that survived of the post-medieval houses which occupied the site before the construction of Hunt’s House.