

**TABARD SQUARE**

**34-70 LONG LANE & 31-47 TABARD**

**STREET**

**LONDON SE1**

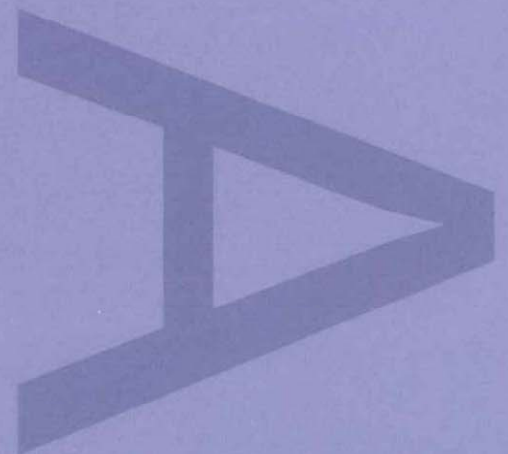
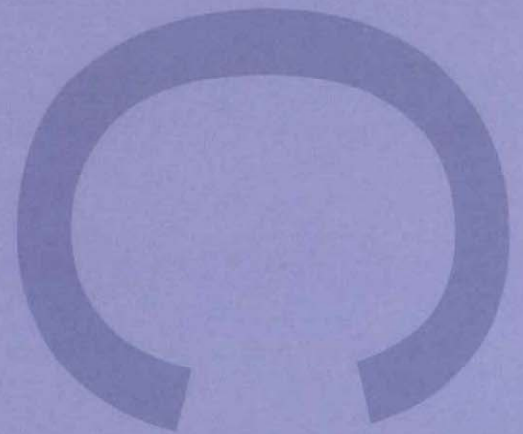
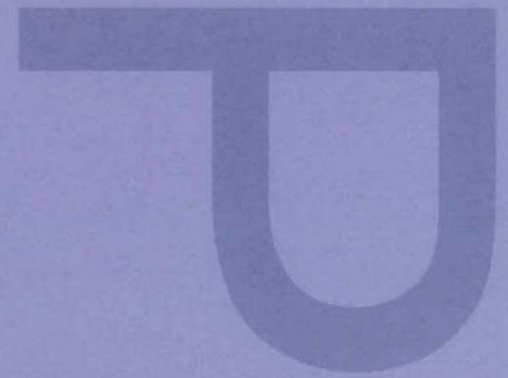
**LONDON BOROUGH OF**

**SOUTHWARK**

**ARCHAEOLOGICAL EXCAVATION**

**LLS 02**

**APRIL 2009**



**PRE-CONSTRUCT ARCHAEOLOGY**

DOCUMENT VERIFICATION

TABARD SQUARE  
34-70 LONG LANE & 31-47 TABARD STREET  
LONDON SE1  
LONDON BOROUGH OF SOUTHWARK  
  
EXCAVATION

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Pre-Construct Archaeology Limited			K398
	Name & Title	Signature	Date
Text Prepared by:	Dougie Killock		April 2008
Graphics Prepared by:	Josephine Brown		April 2008
Graphics Checked by:	Josephine Brown		April 2008
Project Manager Sign-off:	Jon Butler		April 2008

Revision No.	Date	Checked	Approved

Pre-Construct Archaeology Ltd  
Unit 54  
Brockley Cross Business Centre  
96 Endwell Road  
London  
SE4 2PD

**An Assessment of an Archaeological Excavation at Tabard Square, 34-70 Long Lane & 31-47 Tabard Street, London SE1, London Borough of Southwark**

**Site Code: LLS 02**

**Central National Grid Reference: TQ 3263 7966**

**Written and Researched by Dougie Killock  
Pre-Construct Archaeology Limited, April 2009**

**Project Managers: Gary Brown & Peter Moore**

**Commissioning Client: Berkeley Homes (City & East London) Limited**

**Contractor: Pre-Construct Archaeology Limited  
Unit 54 Brockley Cross Business Centre  
96 Endwell Road  
Brockley  
London  
SE4 2PD  
Tel: 020 7732 3925  
Fax: 020 7732 7896**

**E-mail: [gbrown@pre-construct.com](mailto:gbrown@pre-construct.com)  
[pmoore@pre-construct.com](mailto:pmoore@pre-construct.com)**

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# 1 ABSTRACT

- 1.1 An archaeological excavation was conducted by Pre-Construct Archaeology between July 2002 and July 2003 at Tabard Square, 34-70 Long Lane and 31-47 Tabard Street, London Borough of Southwark. The archaeological investigation consisted of three trenches targeting post-medieval features and an area excavation of the Roman and earlier deposits and features.
- 1.2 The natural deposits on site consisted of sands and gravels which were recorded at a highest level in the southwest corner of the site and sloped down to the north and east. The gravel was covered across the site, with the exception of the southwest corner, with clay which would appear to be formed by a period of inundation. Sealing the clay was a peat deposit that began to form in the Middle Bronze Age and was probably still present at the time of the Roman invasion.
- 1.3 Little prehistoric activity was revealed across the site and the phase preceding the Roman occupation of the site was largely made up of palaeochannels, tree throws and a few possible ard marks. A few sherds of late Iron Age pottery, most of which were forms which extended in use into the Roman period, were recovered largely residually from later deposits. Flints recovered both from palaeosols and residually from later deposits were dated to the Mesolithic or Early Neolithic with an indication of later Bronze Age activity as well. Some rare (for Southwark) large blades of possible late Glacial date were also discovered.
- 1.4 The earliest Roman activity (c. AD 43-70) was concentrated in the western part of the site. In the northwestern part of the site a dense cluster of postholes and stakeholes many of which seemed to radiate out in lines and were suggestive of structural remains. At least two six-post structures were apparent. To the south and east of these postholes the activity consisted of water management in the form of ditches.
- 1.5 The period AD 70-120 witnessed a transformation of the landscape. A network of ditches were dug across the site apparently dividing the central part of the site into strips of land aligned northeast-southwest. The most northerly ditch of the network was then filled in and consolidated with gravel to form a road. To the north and west of the ditches and road the remains of a number of clay and timber buildings were constructed.
- 1.6 Most of the buildings along the western part of the site had gone out of use by AD 120-160 and were not replaced. In the southwestern part of the site there was tentative evidence of further buildings provided by rows of postholes and gravel surfaces. Possible fence lines, a gravel path and pitting was also evidence of activity across the western part of the site. Across the eastern part of the site a large northeast-southwest aligned ditch which most likely started life as an earlier possible natural feature showed evidence of filling in this period including fragments of fencing.
- 1.7 In the late 2nd century the landscape was transformed with the removal of all the clay and timber buildings and the construction of a religious complex consisting of two Romano-Celtic temples with gravel surfaces between and a series of masonry bases for plinths or altars. To the east the complex was defined by the large northeast-southwest ditch.
- 1.8 During the 3rd century the religious precinct which had been established around the two Romano-Celtic temples was modified with new surfaces laid to the south of the north Temple with possible laying and removal of drainage/water pipes. To the northwest a new external floor was laid with a series of major architectural elements including up to three plinths and a column base. There was tentative evidence that during this period a major northwest-southeast aligned building was erected and later demolished.
- 1.9 The temple precinct underwent further changes during the 4th century when the southern temple was demolished or went out of use and a large building was constructed to the southeast of the northern temple. The precinct itself was reduced in size and its boundaries defined by at least two walls. A significant Roman inscription mentioning the people of London was recovered from a cut

feature within the precinct. Outside the temple precinct the area was enclosed by a series of ditches whilst to the south of the large northeast-southwest aligned ditch which had remained a major feature in the landscape since the first half of the 2nd century, a grave and patchy evidence of a possible clay and timber building were revealed.

- 1.10 There is some evidence of late Roman activity on the site perhaps continuing into the 5th century, whilst several features contained only abraded Roman pottery which might even suggest a post-Roman date. During this period the large building constructed in the 4th century was partially robbed and part of it was used as some form of makeshift shelter. Elsewhere on site the activity consisted of further robbing of earlier masonry structures, the excavation of a number of ditches and a timber lined cellar in the southeast corner of the site.
- 1.11 During the medieval period most of the site was apparently turned over to agricultural use. A network of ditches was excavated that divided the area into fields or parcels of land. The network consisted primarily of two large north-south ditches which may have acted also as sumps and three east-west ditches. To the south of the southernmost east-west ditch the area was subdivided into strips of land c. 5-6m wide, in one of which a possible agricultural structure may have been established. In the western part of the site, which would have lain alongside the medieval Kent Street, a concentration of pitting was observed which may hint at occupation along the road. Elsewhere a particularly large possible quarry pit may have been later used as a pond.
- 1.12 During the early post-medieval period (late 15th-late 17th century) structural remains were represented by a robbed out building in the northwest corner of the site. Along the western part of the site further evidence of occupation along Kent Street was represented by backyard activity such as pitting, wells, a timber lined pit and a cellar. Between the two large north-south ditches a concentration of quarry pits was revealed. The eastern ditch became the parish boundary ditch.
- 1.13 In the late 17th to mid 18th century the parish boundary ditch continued in use whilst along the Long Lane frontage a strip building and other structures were observed with associated pitting. In the southwest of the site a concentration of industrial and craft activity consisting of animal processing, tanning, cloth production and clay tobacco pipe manufacture was revealed.
- 1.14 During the mid 18th to 19th century rebuilding of structures to the north took place whilst the rest of the recorded activity consisted of wells and tanning pits.
- 1.15 20th century activity recorded on site was confined to the backfilling of a large cellar fronting Long Lane which contained a large assemblage of transfer-printed pattern and porcelain tea services and a cobbled road which ran south from Long Lane.
- 1.16 The large size of the site, c. 1.25 hectares, has contributed to the recovery of some of the largest finds assemblages from an individual site not only from Southwark but from the City of London. These are an important source of research and such assemblages as the Roman coin one have nearly doubled the previous number of recorded coins from Southwark. But as well as the sheer number of finds the quality is of great significance and this is of course led by at least three finds of national importance: the Mars Camulus inscription, the bronze foot and the face cream canister

## 2 INTRODUCTION

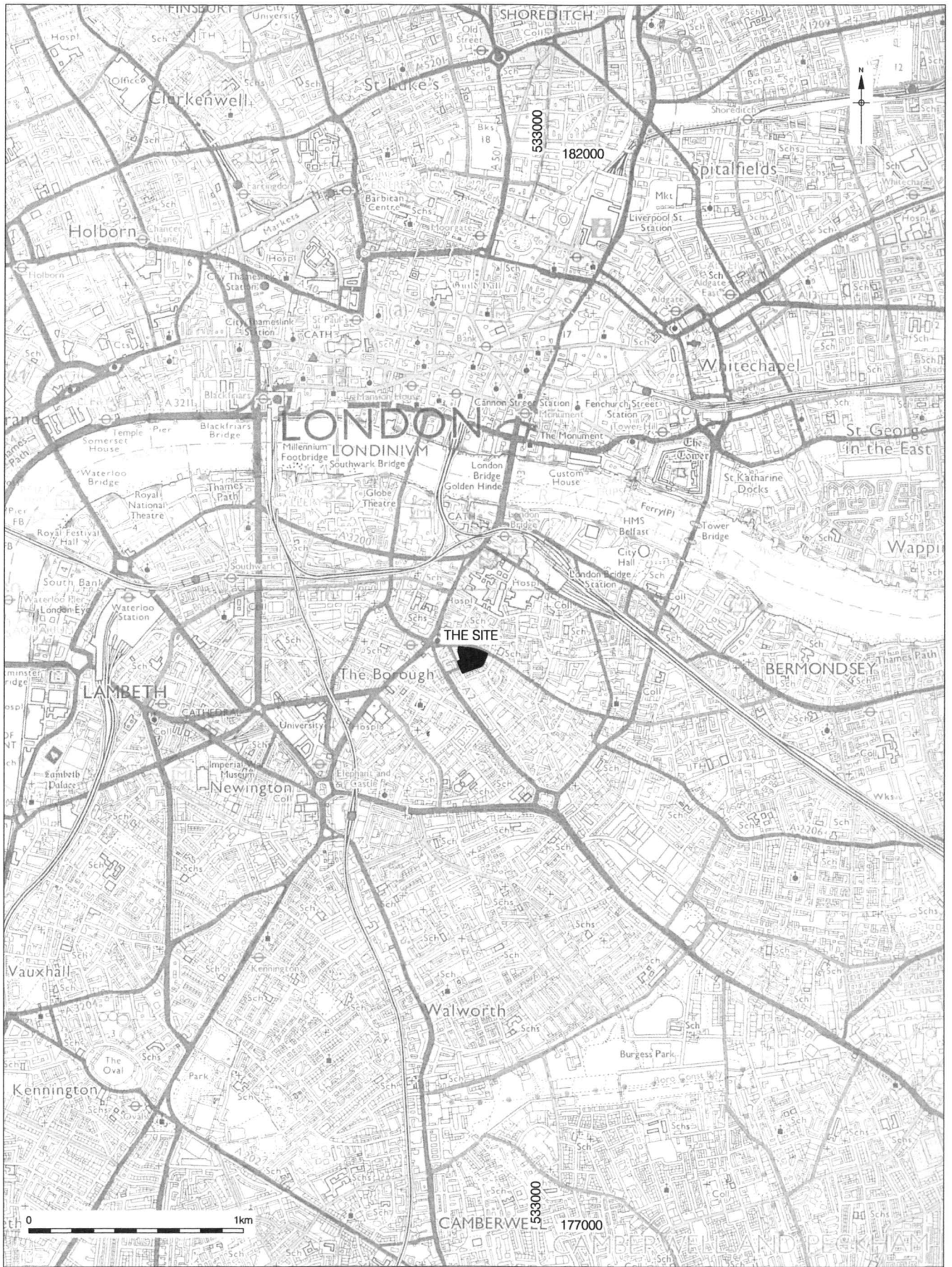
- 2.1 This assessment details the results of archaeological excavations at a large site in Southwark with the site address 34-70 Long Lane and 31-47 Tabard Street (Fig. 1). The project was known as Tabard Square; it was conducted and managed by Pre-Construct Archaeology Ltd (PCA).
- 2.2 The archaeological investigations, undertaken between 17th July 2002 and 25th July 2003 were initially funded by Berkeley Homes (City and East London) Limited, then the responsibility was transferred to Berkeley Homes (South East London) Limited, and finally Berkeley Homes (North East London) Limited saw the project to completion. Nansi Rosenberg represented the client's archaeological interests, initially for EC Harris, but latterly as Under Construction Archaeology Limited. All groundworks and logistical support were undertaken and provided by Coinford Construction Limited. The archaeological works conducted by PCA were project managed by Gary Brown and Peter Moore. The three post-medieval sample trenches which began the excavation were supervised by Chris Pickard. Dougie Killock fulfilled the role of site director for the main excavation; individual areas were supervised by Jo Taylor, Ireneo Grosso and Guy Seddon.
- 2.3 The site is bounded by Long Lane, Tabard Street, Sterry Street and Southall Place; it comprises 1.25 hectares and is centred at TQ 3261 8000. The site previously contained large warehouses of light construction. The ground level of the open spaces between the buildings lay between 3.40m OD and 5.0m OD. At the time of the excavation the site was clear of all standing buildings with the exception of one warehouse frontage located on Long Lane. Most of the buildings which had previously stood on the site did not have basements, the exception to this being some of the properties fronting onto Tabard Street.
- 2.4 Tabard Square is located within an Archaeological Priority Zones as defined by the Borough of Southwark's Unitary Development Plan. There were no Scheduled Ancient Monuments within or adjacent to the site. Prior to the involvement of PCA a desk-based assessment was prepared in 1998 and an evaluation was undertaken at the site in 2001 (AOC 1998; 2001). The desk based assessment identified the site as having a high archaeological potential. The evaluation recorded a fluvial channel of at least Late Bronze Age date, extensive Roman deposits of mid 1st to 4th century date and post-medieval buildings and backplot features.
- 2.5 The first phase of archaeological mitigation consisted of the excavation of three large trenches targeting areas of post-medieval archaeology (Fig. 2), and watching briefs monitoring the excavation of the guide trench for the construction of the Secant pile perimeter wall.
- 2.6 The second phase of investigation consisted of the general ground reduction through 1-4m of made ground, and the hand excavation of the Roman horizon across the site within the secant perimeter wall. The benefit of the Secant wall was that excavations were able to be undertaken up to the site boundaries without the need for additional supports or stepped sections, thus maximising the archaeological potential at the site.
- 2.7 This phase of the works required a choreographed sequence of groundworks and archaeological investigation to allow both the archaeological investigations and ground reduction works to be undertaken simultaneously without interruption. The site was divided into 7 main areas (Areas A to G), and subsequently further subdivided where necessary (see Fig. 2). In each area the made ground was reduced by Coinford, under an archaeological supervision and guidance, to the top of the Roman horizon. The archaeological excavation was then undertaken and once completed the area was handed back to Coinford who resumed their ground reduction to the site formation level. The continued presence of standing buildings when the evaluation was carried out had left some of the southern areas of the site as something of an unknown quantity regarding the level of archaeological survival. Two evaluation trenches were machine stripped to the top of the Roman horizon in Area F1 in order to inform the subsequent mitigation works. Some deep-cut post-

medieval features, such as wells, were excavated in the evaluation trenches in order to establish the depth of the archaeological sequence in these areas.

- 2.8 Excavation of the Tabard Square site demonstrated that a complex, multi-phased sequence of archaeological activity was present. The periods represented on site are listed below:

Phase 1:	Natural
Phase 2:	Prehistoric
Phase 3:	Early Roman c. 43-70 AD
Phase 4:	Late 1st Century to Early 2nd century c.70-120 AD
Phase 5:	Hadrianic and Antonine c. 120-160 AD
Phase 6:	Late Second Century c. 160-200 AD
Phase 7:	Third Century
Phase 8:	Fourth Century
Phase 9:	Very Late Roman to Early Medieval
Phase 10:	Medieval
Phase 11:	Late 15th to Late 17th Centuries
Phase 12:	Late 17th to Mid 18th Centuries
Phase 13:	Mid 18th to 19th Centuries
Phase 14:	Modern

- 2.9 The site was assigned the unique site code LSS 02 under which the completed archive comprising written, drawn and photographic records and artefactual material will be deposited at the London Archaeological Archive and Resource Centre (LAARC).



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Figure 1  
 Site Location  
 1:25,000 at A4



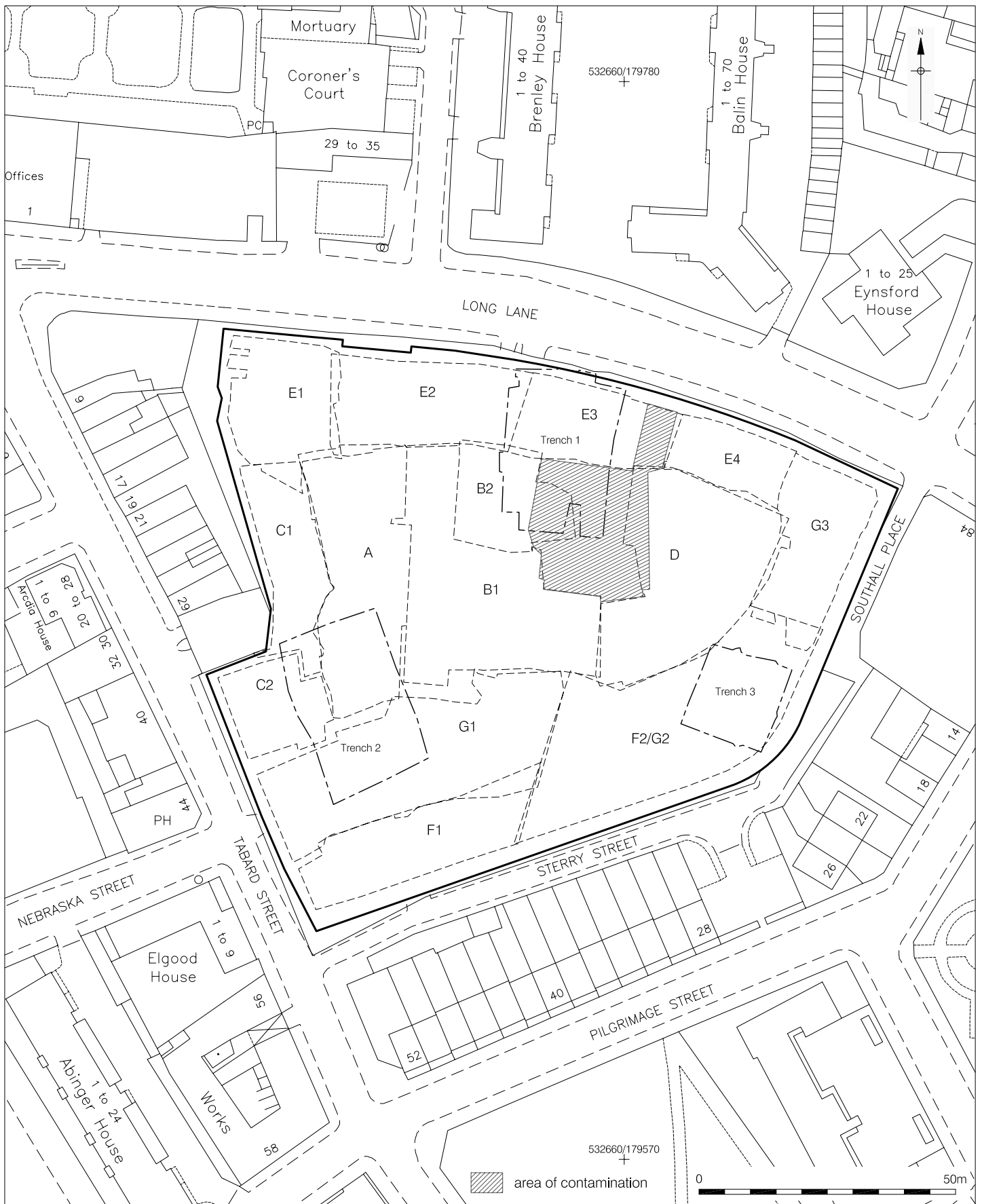


Figure 2  
Area and Trench Location  
1:1,000 at A4





### 3 PLANNING BACKGROUND

3.1 Archaeology is, as a result of the publication of Planning Policy Guidance 16 (Department of Environment 1990), a material consideration in the granting of planning consent. Planning Policy Guidance 16 (PPG 16) provides planning authorities with a staged approach to the consideration of archaeological remains that may survive on a proposed development site and states that where there are “*nationally important archaeological remains ... that are affected by a proposed development there should be a presumption in favour of their physical preservation*” (DoE 1990, A8).

3.2 PPG16 also states that;

*“There will no doubt be occasions, particularly where remains of lesser importance are involved, when planning authorities may decide that the significance of the archaeological remains is not sufficient when weighed against all other material considerations, including the need for development, to justify their physical preservation in situ, and that the proposed development should proceed. ... Planning authorities will, in such cases, need to satisfy themselves that the developer has made appropriate and satisfactory arrangements for the excavation and recording of the archaeological remains and the publication of the results. If this has not already been secured through some form of voluntary agreement, planning authorities can consider granting planning permission subject to conditions which provide for the excavation and recording of the remains before development takes place. Local planning authorities may, as a matter of last resort, need to consider refusing planning permission where developers do not seek to accommodate important remains (DoE 1990, B28).*

3.3 The site is located within the Archaeological Priority zone of Borough/Bermondsey/Riverside as defined in the then current (adopted July 1995) London Borough of Southwark’s Unitary Development Plan. At the time of the planning application and conditions the UDP stated:

#### **OBJECTIVE E.5 TO ENSURE THE PRESERVATION, PROTECTION, INVESTIGATION, RECORDING AND DISPLAY OF THE ARCHAEOLOGICAL HERITAGE.**

The archaeological heritage of the borough includes historic centres and ancient monuments, archaeological sites and areas of geology and topography especially attractive for early settlement and is of national and international significance. Many finds and sites in Southwark, particularly those from the Roman, Medieval and Elizabethan periods are very well known, and the Council will do all it can to assist in their preservation, protection and display for all to enjoy.

**POLICY E.5.1: The Council will seek to conserve and protect the Borough’s archaeological heritage and to enhance the knowledge of its historic development. The Policy will apply to sites of potential archaeological importance where ancient remains are threatened by development.**

The Council will expect the applicant to provide information to enable the assessment of the impact of a proposed development on the potential archaeology of the site. This would usually be desk-based information and would be expected prior to the determination of a planning application;

Where there is potential for important remains on a site, which may merit preservation *in situ*, then the results of an archaeological evaluation will, if feasible, be required prior to the determination of a planning application;

Where the evaluation reveals important remains their protection and preservation will be the primary objective. This can be achieved by re-designing the proposed development and by foundation modification;

Where important archaeological remains cannot be preserved, or where remains do not merit preservation, then the Council will use planning conditions to ensure excavation and recording of the remains prior to development i.e. preservation by record;

Archaeological investigations are to be undertaken by a recognised archaeological field unit to a written specification. These will need to be approved by the Council prior to the commencement of any work.

Reason: To protect Southwark's archaeological heritage, which includes remains of national importance. These remains are under constant threat from proposed developments and the policy will ensure their protection through the planning process. The Council considers that the archaeology of the borough is a community asset and that its preservation is a legitimate objective, against which the needs of development must be balanced and assessed.

Implementation: by application of the Council's statutory development control powers and by planning and other legal agreements. This policy applies to all sites defined Archaeological Priority Zones and, in addition, the Council will apply this policy as appropriate to sites of potential archaeological importance outside the zones. The Department of the Environment has also issued comprehensive guidance (Planning Policy Guidance 16, 'Archaeology and Planning', November 1990).

- 3.4 In December 2001 the Council's Archaeology Officer, Sarah Gibson prepared a Brief (Planning and Regeneration Division, Southwark Council, Brief for an Archaeological Excavation at Long Lane/Sterry Street/Tabard Street, London Borough of Southwark, December 2001) against which the archaeological fieldwork was to be undertaken. This document set out the Council's requirements for an archaeological excavation at the subject site based on the results of the evaluation and 'best practice' for fieldwork undertaken within the Borough. Section 5 of the Brief is set out below:

Requirement for work

Owing to the impact of the development, an archaeological mitigation strategy has been devised which will comprise the following:

An archaeological excavation in the area of the underground car park and beneath the new build (Buildings A, B, C, D, E, and F). The method and possible phasing of these works has yet to be discussed. Post-medieval deposits of low significance may be removed under controlled bulk excavation under archaeological supervision, with sufficient time allowed for the rapid recording of any significant features or deposits. However, in three locations, hand excavation of post-medieval deposits is to take place. These have been identified as follows:

In the area of Trench 2, an area of c. 30m x 20m will be fully excavated.  
In the area of Trench 4, an area of c. 30m x 20m will be fully excavated.  
In the area of Trench 5, an area of c. 20m x 20m will be fully excavated.

Hand excavation across the site will then proceed from the late medieval deposits downwards until the natural sub-soil is fully exposed.

Owing to the extensive nature of the archaeological excavation, at least weekly meetings will be held between the Senior Archaeology Officer of Southwark Council, the Archaeological Consultant, Client, main and/or groundworks contractor and the archaeological site directors to ensure that appropriate excavation and sampling strategies are maintained and research objectives reviewed. It is suggested that permanent on-site finds and environmental processing facilities are provided and that such specialists as required are on call for advice, spot dating etc.

A major excavation such as this will attract considerable interest from the public and other heritage bodies and further discussions must be held with the Council about dissemination of information during the excavation's progress. This could include the possibility of site visits from members of the public and schools, and exhibitions in local museums.

An archaeological watching brief during the enabling works around the perimeter: these works include the excavation of trial pits and underpinning; the excavation of a trench for the piled retaining wall; excavation for and installation of walings; excavation for the steel raker braces and any other groundworks.

A Specification of works shall be produced on the basis of the brief and should:

Be supported by a method statement that sets out the site-specific objectives of the archaeological works.

Detail the proposed works as precisely as is reasonably possible, indicating clearly on plan their location and extent. Where timetable constraints are likely to apply these should also be detailed.

Stipulate adherence to the methods and approaches set out in the Southwark Guidance Paper for Archaeological Fieldwork. Where alternative approaches are proposed these must be described in full, and an argument for their adoption detailed.

Be submitted to the Council's Senior Archaeology Officer for approval. No works should therefore take place until the local planning authority has seen and approved the specification of works.

The specification should describe and justify the field excavation strategies proposed.

Site constraints which may affect the execution of the excavation should be accounted for. These include services, contaminated land, structural integrity of nearby standing buildings etc.

The excavation should be conducted by an archaeologist or archaeological team of recognised competence, suitably experienced in work of this character. Details, including the name, qualifications and experience of key project personnel will be submitted to the CSAO for approval. Arrangements for specialist finds, environmental and conservation staff will be made and details given in the specification.

The archaeological organisation employed to conduct the excavation work must confirm, before site work begins, that an agreement which provides for the full implementation of the approved programme of excavation work has been signed by the relevant parties.

This agreement should address the need to secure a proper record of the archaeological remains which will be disturbed in the course of the excavation. It should therefore include: full provision for the cleaning, processing and conservation of finds; for specialist analysis; for the preparation of appropriate catalogues, reports and archives; for the long term storage and curation of the finds and archive; and for the publication of the results if appropriate. Further details are set out in the Southwark Guidance Paper for archaeological Fieldwork.

- 3.5 As part of the Client's planning application, an Archaeological Desk-Based Assessment was commissioned for the site to provide supporting information on the potential for archaeological remains to be encountered during development of the site (AOC 1998). Further to this and in compliance with the Southwark planning guidance a limited archaeological evaluation was undertaken at the site (AOC 2001). The following is from Section 6 'Statement of Significance' from that report:

Extensive and complex archaeological deposits of prehistoric, Roman and post-medieval date were recorded across the site. The importance of the archaeological deposits on the site is consistent and not unexpected with the location within the Borough/Bermondsey/Riverside Archaeological Priority Zone.

Although the only prehistoric deposits identified were in the alluvial channel to the east, potential for prehistoric activity still exists on the gravel island to the west.

Extensive Roman deposits of mid 1st–mid 2nd century date were identified across the western half of the site. The evidence for buildings is of great significance. There is potential for high status buildings with mosaics, hypocaust floors and plastered and painted walls surviving on the site. Roman timber buildings with mosaic floors have previously been found in Southwark. Furthermore, the remains of part of a Roman wooden structure, possibly a revetment or small jetty, are also of great significance. The site has the potential for a Roman landscape of extensive buildings, foreshore activity and the alluvial channel.

The potential for Saxon and early medieval stratified archaeology on this site does not appear to be great. In every evaluation trench the Roman archaeology was overlain and truncated by post-medieval agricultural soils and features. This suggests that any Saxon or medieval activity on the site has either left no archaeological record or has been truncated by later activity.

The significance of post-medieval archaeology should not be overlooked. The survival of a 17th century stave floor and timber lined pit was notable. Potential exists for the survival of timber buildings along the frontages of Tabard Street and Long Lane, and of timber out-buildings, wells and cess pits to the rear. The 15th to 17th century agricultural soils, which were found across the site and can be over 1.5m thick, are of lesser interest.

The level of organic preservation from prehistoric to post-medieval periods was good on the site enhancing the value of the archaeology. Although the diatom and pollen analysis was negative, the plant remains and particularly the wooden structures were significant. Furthermore, the prehistoric alluvial channel represents a valuable resource of environmental evidence. A full sampling strategy is recommended for any further archaeological work on the site

## 4 GEOLOGY AND EARLY TOPOGRAPHY

- 4.1 The site lies within London, on the south bank of the River Thames, approximately 750m south of the present London Bridge. London occupies part of the London Basin; a broad syncline, chalk filled in the centre with Tertiary sands and clays. Across most of London this Tertiary series consists of London Clay. Above the London Clay lie the Pleistocene (Quaternary) fluvial deposits of the River Thames arranged in terrace steps, which represent the remains of former flood plains (Maloney 1990, 1).
- 4.2 At least six major river terraces have been identified in the Thames Valley in the London area and within these broad divisions localised river terrace horizons have been and continue to be identified (Gibbard 1985, 28-32). In this arrangement of river deposits the higher of two terraces is the older, for the material was laid down before the river had cut down to the level of the lower one.
- 4.3 The most recent of these major terraces (and thus the lowest) is known as the 'Lower Flood Plain Terrace'. It formed during the final cold period between about 70,000 and 13,000 years ago and in the London area is composed of Shepperton Gravel. This forms the present bank of the Thames and the floor of its valley (Sumbler 1996).
- 4.4 The drift geology of north Southwark is formed by the Pleistocene gravels and in places by alluvial sand or clay, deposited as sea levels periodically rose ('marine transgression'). Sea level changes also account for the formation of organic peats, laid down during periods of falling sea level ('marine regression').
- 4.5 Since the last glaciation approximately 10,000 years ago, mean sea level has risen and fallen on a number of occasions. A study has been made of the cycles of marine transgression and regression in the lower Thames estuary at Tilbury, which has identified five regression phases (Tilbury I –V) and four or possibly five transgression phases (Thames I – V) the last of which is still taking place (Devoy 1979).
- 4.6 The basal peat at Tilbury has been dated by radiocarbon assay to 8,300 years BP (before present), while the uppermost peat formed during the third and fourth centuries AD (Sumbler 1996). Tilbury IV type peat horizons, dating to around 3,000 BP, have been found in the low-lying area south of the Thames and have been recorded on a number of sites in the north Southwark area (Stabler 2000, 11).
- 4.7 At the time of the Roman Conquest in AD 43 a broad 'main channel' existed between the north bank of the Thames, some 100m to the north of the modern waterfront and a south bank lying close to the present day riverfront of north Southwark. South of the main channel were a series of small sandy islands or eyots of land surrounded by tidal mud flats or marsh intersected by water channels. These eyots are supposed to be no higher than + 1.8m OD (Heard et al 1990, 609). Roman Southwark was subsequently to develop on two of the larger sand islands. At high tide the Thames was up to 1000m across and at low tide c. 300m across at the narrowest point, where the largest island projected into the deep water channel (Milne 1985, 40). The site is located on the northern edge of the channel that separates the southern sand island from the mainland flood plain gravels which formed a land surface at c. +1.7m OD some 1,000m south of the modern river bank (Sheldon 1978, 19). At 201 – 211 Borough High Street part of the northern edge of what was probably the main channel that separated the south eyot from the gravel ridge was revealed during excavations in 1972 and 1973 (Ferretti and Graham 1978).
- 4.8 Environmental samples taken from the 1st century foreshore deposits contain microscopic algae known as diatoms. Of the varieties present, one of the most significant is *Cyclotella striata* (commonly found in the brackish water of estuaries) for its presence suggests that the Thames must have been tidal as far as London (Milne 1985, 39). The tidal range at the time has been

estimated at between c. +1.50m OD (high tide) and c. -1.0m OD (low tide) (Milne 1985, 39). However, there is an increasing body of evidence from Roman Southwark of occupation of low-lying areas below a Mean High Water Mark of +1.50m OD (Killock 2005a). The occupation of areas below +1.50m OD either means that Roman Southwark was extensively defended (possibly by embankments) from riverine incursion or the MHW mark was at a lower level than previously supposed.

- 4.9 The early Roman period was marked by a marine regression and this coupled with extensive embanking and revetting of the edges of the marginal ground kept the higher areas permanently dry. From the late Roman period onwards, sea-level rose, and the vicinity of the site may have been prone to periodic flooding. Evidence for the Roman riverfront is limited because of later riverine erosion; however, survival did occur in the area of Winchester Palace at Pickford D Wharf 250m upstream from London Bridge. Here close-set timber piles were recorded and these may have formed part of the early Roman riverfront (Yule 2005). By the 14<sup>th</sup> century riverside embankments had been constructed to defend Southwark and north Lambeth, although the area was still subjected to occasional flooding (Taylor-Wilson 2002).
- 4.10 At Tabard Square, with the exception of the north-eastern corner, three consistent natural units were exposed over the whole excavated area. These consisted of a basal unit of sand and gravel, sealed by light yellow/brown clay, above the clay was a peat type formation which was formed from vegetation that had developed above the clay. The sand and gravel was generally composed of well-cemented orange gravel which was occasionally mixed with grey clays, probably indicating the existence of ancient watercourses that dissected it. No evidence of human activity was evident within the gravels. The highest level recorded on it was 1.22m OD, taken in the southwest corner of the site. The surface of the gravel sloped to the north and east. The top was recorded at -0.50m OD in the northwest corner of the site, further to the southeast it was found at c. -0.04m OD and at -0.52m OD in the northeast.
- 4.11 Although there were minor variations in the composition of the light yellow brown or orange clay, especially close to the base of this unit, it was remarkably consistent in colour and composition. This clay formation appeared to have been the result of an episode of inundation that covered all but the southwest corner of the site. The almost complete absence of organic matter contained within this deposit suggested that there was very little nearby vegetation at time the clay was being laid down (N. Branch pers. comm.). The deposition date of this clay is not known, but the peat formation which seals it dates to the Middle Bronze Age at the earliest. The top of the clay was recorded at 0.25m OD in the northwest corner of the site and varied considerably in height. It rose to 0.55m OD in the north-central area of the site and then fell away sharply to 0.04m OD further to the east. It is probable that the surface of the clay was once flat but had later been eroded in the central area of the site by a small natural watercourse. This watercourse was evident in the southern and central area of Section 64 where the top of the clay was recorded at 0.29m OD before falling away sharply to the south then rising again on the south side of the stream. The peaty fill of this stream was recorded as layer [8557]. The erosion of the surface of the clay in the centre of the site left what was effectively a high clay bank running roughly southeast-northwest through the northeast corner of the site. The thickness of the clay varied considerably, dependent principally on the height of the underlying gravel. Obviously the deposit was thinner to the south and west but a thickness of 0.50-0.75m was not uncommon on the north side of the site.
- 4.12 The peat type formation that sealed the clay varied considerably in composition and colour. In places it was quite fibrous, containing a high proportion of relatively well preserved plant remains, in other areas this horizon was composed principally of silt with very heavily decayed organic remains. Unsurprisingly the distribution of the peat horizon was very similar to that of the clay and did not extend into the southwest corner of the site. The surface obviously varied in height but was commonly found at c. 0.50m OD and rose to 0.70m OD in places. Radiocarbon dates for the peat would suggest that the formation of the peat began in the Middle Bronze Age (see Appendix 19). The upper levels of the peat contained finds dating to the early Roman period.

- 4.13 The level (OD) of the marshy ground surface formed by the peat horizon and underlying clay is of particular importance as it is directly related to the tidal regime in this area. Very few deposits interpreted as alluvial in origin were found above the level of the peat, and those that were evident rarely if ever exceeded a thickness of 0.10m. This suggests that the majority of the site in the early Roman period was at the extreme limits of, or above, the normal tidal range.





## **5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND**

**By Jo Taylor**

### **5.1 Introduction**

5.1.1 Prior to the archaeological investigations conducted at Tabard Square between 2002 and 2003, an archaeological impact assessment of the site was compiled in 1998 (AOC 1998). Whilst this document retains much relevance to a consideration of the archaeological results gathered during the investigations, a significant amount of archaeological excavation, research and publication has been undertaken during the intervening years. The following chapter seeks to summarise the wealth of archaeological and historical material that exists, including the results of archaeological work conducted before and after 1998, documentary and cartographic sources, and to highlight elements of particular relevance to the excavations undertaken at Tabard Square.

### **5.2 Prehistoric**

#### **5.2.1 Topography**

During the prehistoric periods the area of land now occupied by Southwark was typified as a series of variably sized, sandy islands separated by a network of channels, the extent and nature of which altered through time as a consequence of fluctuating sea levels. The fluctuation of sea levels, and the consequent implications for human land use throughout different archaeological periods, has been much debated, discussed and extrapolated and will continue to be so for the foreseeable future. Detailing the debate is unnecessary for this report and it is considered sufficient to state that regardless of differing sea levels through time the tidal nature of the River Thames and its associated channels would have ensured that at high tide the area of land remaining above sea level would have been significantly reduced. Whilst this would clearly have been a limiting factor with regards defined occupation and settlement, the marshland environment created within the tidal range would have provided significant economic attractions and it is probable that any prehistoric communities in the vicinity would have exploited the island landscape at low tide (AOC 1998; Sidell et al 2002, 7).

5.2.2 Proposed topographic models, compiled prior to the excavations at Tabard Square, have sought to depict the Southwark landscape during the prehistoric period, particularly the late Iron Age. These topographic models suggested that the north of Tabard Square was located within an east-west orientated channel known as Borough Channel. As a consequence it was extrapolated that the area to the south of the channel would have comprised mud flats and marshland, as evidenced by peat horizons at 5-27 and 32 Long Lane, covered by water during high tide. Furthermore the topographic model suggested the only land to remain above sea level during high tide would have been the south-west of the site (AOC 1998). Understandably predicted topographic models of natural, archaeological and historic landscapes should be treated with caution. More recent archaeological investigations in Southwark, including those at Tabard Square and others in the vicinity (Watson 2006; Douglas 2007), suggest that there is still some way to go before a full understanding can be reached of the topography and landscape of the area during the prehistoric, and later, periods.

#### **5.2.3 Mesolithic, Neolithic and Bronze Age**

With regards evidence of Mesolithic, Neolithic and Bronze Age activity in the vicinity of the site, residual Mesolithic material, exhibiting “only slight evidence of abrasion” and thus a limited range of redeposition, has been found during excavations at 5-27 Long Lane (Douglas 2007). The same site also produced evidence of Bronze Age activity in the form of a timber “platform [which] may have assisted fowling, fishing or formed part of a landing stage”. Adjacent to the platform was a north-south orientated ditch possibly indicating that land to the north of Borough Channel was, at least partially, cultivated (Douglas 2007).

5.2.4 With the exception of the *in situ* Bronze Age archaeology found at 5-27 Long Lane there is a general absence of *in situ* and thus datable prehistoric evidence in the vicinity. However, prehistoric ard marks, possibly of Bronze Age date, were recorded during excavations at Hunt's House to the north of the site (Taylor-Wilson 2002, 7) and large quantities of residual struck flint, collected around Borough High Street, Silvester Street and Swan Street, have been found during excavations over the years (AOC 1998; 14). Whilst little analysis of the struck flint has been undertaken it is probable that the assemblages contain material dating to throughout the Mesolithic, Neolithic and Bronze Age periods, potentially representing a far greater exploitation of the landscape than immediately apparent (Barry Bishop *pers. comm.*). In fact, the current dearth of Mesolithic, Neolithic and Bronze Age material in south Southwark may simply be a consequence of a lack of identification as opposed to an absence of landscape utilisation in the prehistoric past.

### 5.2.5 Iron Age

Iron Age material is also largely absent from the archaeological record in the vicinity of the site, however, unlike the earlier prehistoric periods this is unlikely to be a consequence of an absence of identification (Barry Bishop *pers. comm.*). Instead, it is probable that changing climatic conditions, which are considered to have been favourable to human exploitation prior to the Iron Age, had rendered the area less attractive (MoL 2000, 124). During the Iron Age it is probable that previously low-lying areas of land had become heavily waterlogged and usage of the area was largely abandoned (MoL 2000, 128).

5.2.6 Whilst no definitive evidence of occupation during the Iron Age has as yet been found in the vicinity, ditches and gullies, which had become obsolete by the second half of the 1<sup>st</sup> century, have been recorded at Silvester Street. It is possible that these features were established during the late Iron Age period as an attempt to manage the waterlogged landscape. Elsewhere in Southwark evidence for Iron Age activity does exist, however this is by no means extensive and it would appear that prior to the Roman Conquest in AD43 Southwark and the City of London were little utilised and lay on the periphery of the late Iron Age tribal areas.

## 5.3 Roman

### 5.3.1 Introduction

The Roman Conquest in AD 43 initiated a "fundamental transformation of the cultural landscape of the London area" and what was initially a "modest trading settlement" subsequently developed into the most important town in Roman Britain (MoL 2000, 120). Whilst many Roman towns were founded in centres of Iron Age power, e.g. Colchester, Chichester etc., London was not. The peripheral nature of the area in the late Iron Age period (see above) may have assisted, whether by chance or design, Roman London's establishment and subsequent development and importance within the province.

5.3.2 For many years studies of Roman London focused on the importance of the north bank settlement treating Southwark as simply a suburb located on the south bank. However, since the 1940s numerous excavations have contributed to a greater understanding of settlement on the south bank, necessitating that preconceptions and assumptions regarding its role, status and integration within *Londinium* be addressed (MoL 2000, 120, 128, 147; Yule 2005, 86).

5.3.3 Whilst the development of the Southwark area throughout time and space is hugely complex a very generalised summary of occupation development throughout the Roman period on the south bank is listed below (Cowan 2003, 82-83; Drummond-Murray et al 2002, 149):

- AD 50-AD 60/1: Military road construction. Clay and timber buildings established alongside street frontages to river crossing, early settlement possibly destroyed during Boudiccan revolt
- Late 1st- early 2nd century: Wide scale land reclamation and rapid construction of clay and timber buildings

- Mid 2nd century: Period of consolidation. Masonry structures built.
- 3rd and 4th centuries: Rate of construction declined, however most buildings larger and constructed of masonry. Large areas appear to be open ground as evidenced by “dark earth” deposits.

5.3.4 These points are discussed in more depth throughout this section, in addition to a separate sub-section entitled “Burial and Ritual” which summarises the wealth of data relating to practices found within the south Southwark area.

### 5.3.5 The post-conquest settlement

Roman occupation in Southwark is currently accepted as beginning around AD 50 and is initially thought to have developed as a consequence of the construction of military roads, including Watling Street (London-Canterbury-Dover) and Stane Street (London-Chichester), which fed in from the south before converging at the Thames crossing (MoL 2000, 125). This convergence of roads would have created an attractive location for trade and encouraged settlement.

5.3.6 Military involvement in constructing the road network is little doubted; beyond this the military’s role in Southwark is less clear and it is probable that a mixture of military and civilian endeavour characterised early development of the settlement (Yule 2005, 86; Cowan 2003, 81). That said it has been presumed that during the Claudian Invasion a major fort would have existed to the south of the Thames crossing. It was here troops would have concentrated before advancing on Colchester (Sheldon 1978, 28; 2000, 130-131; Merrifield 1965, 35) with the implication that settlement on the south bank was established before the north bank. However, whilst military equipment and unusually high quantities of Claudian coins have been found in early Roman deposits in Southwark, no evidence of marching camps or garrison forts have, as yet, been identified. In addition, evidence from excavations in the City of London strongly suggest that both the north and south banks were developed contemporaneously when the river crossing was established (MoL 2000, 125, 147; Yule 2005, 86; Cowan 2003, 81; Drummond-Murray et al 2002, 14).

5.3.7 The construction of Stane Street and Watling Street would have required large quantities of material, and widespread quarrying and tree clearance must have been undertaken in the vicinity of the roads during the mid 1st century. Evidence of mid 1st century quarrying has been found at a number of Southwark sites (Drummond-Murray et al 2002, 14) and the use of dumped sand and gravel, possibly representative of unsuitable or waste material left over from road construction, has been identified as “common practice” during early Roman land reclamation in Southwark (Killock 2005a, 31).

5.3.8 As has already been discussed (see above) Southwark’s natural topography comprised a number of islands and channels. Topographical models suggest that Tabard Square is located partially within and to the south of Borough Channel. However, the fast pace of modern redevelopment, and associated archaeological investigation means that the predicted topography of the landscape is constantly being readdressed and updated. As an example, recent investigations at St George’s Church demonstrated that contrary to topographic predictions, which suggested the site was located almost entirely within Borough Channel, there were Roman clay and timber buildings, built above early Roman dumping, sealing a prehistoric marsh horizon (Watson 2006, 1-2). However, despite the ever-changing understanding of the topography of mid 1<sup>st</sup> century Southwark, broadly speaking it would appear that initial Roman period development was focused around the approach roads to the river crossing with expansion limited by the presence of river channels, intertidal mudflats and the Thames foreshore (MoL 2000, 127, 147).

5.3.9 In AD 60 the north bank settlement was devastated in the Boudican revolt but it remains unclear to what extent, if any, this event impacted on the south bank settlement. It is thought probable that a bridge existed by this date which would have potentially given easy access to the southern settlement. Burnt horizons, found during excavations along Borough High Street and dated to the mid-late 1st century, would appear to substantiate the claim that the Boudican revolt impacted on

Southwark (Drummond-Murray et al 2002, 51). However, the extent of the alleged conflagration is unknown and may yet prove to represent an isolated area of burning and could be associated with early Roman industrial activity as opposed to the Boudican Revolt (Drummond-Murray et al 2002, 40, 46).

- 5.3.10 Regardless of the possible impact of the Boudican revolt in Southwark current archaeological evidence for early Roman occupation suggests that the settlement did not extend as far south as Tabard Square. Rather it focused around the Borough High Street area to the north (however see “Burial and Ritual” for discussion of land use in south Southwark in early Roman period).

#### **5.3.11 Late 1st century/2nd century development**

From the late 1st century, high-water levels appear to have receded, land between the islands was steadily reclaimed (MoL 2000, 127, 147), channels were revetted and settlement expanded onto the previously tidal mudflats (MoL 2000, 133; Drummond-Murray et al 2002, 54). The revetted channels would have provided additional trade routes into Southwark and the remains of a “river lighter” boat within Guys Channel, which feeds into Borough Channel, and channel frontage jetties at Hunt’s House attest to the usage of the waterways at this time (MoL 2000, 133; Taylor-Wilson 2002, 7). Given the convergence of road and river transport Tabard Square would clearly have been an area of some significance when approaching and leaving Roman London.

- 5.3.12 A wealth of evidence exists for different types and forms of buildings established in Southwark during the Roman Period, e.g. clay and timber, cellared, timber and masonry, and their uses, e.g. butchers, metal-workers, bakers, markets, warehouses and residential, throughout various different phases of the Roman period (Drummond-Murray et al 2002, 149; Hammer 2003, 13). In addition, evidence for large, high status masonry buildings, possibly connected with civic or military function, has been found in the Southwark area. At 15-23 Southwark Street a large courtyard building, dated to AD 74 is known, whilst at Winchester Palace, to the north-west of Borough High Street, archaeological evidence has been found for a large apsidal building dating to the early 2nd century (Yule 2005, 86). It is thought possible that the latter may represent the house of a high ranking imperial official or wealthy individual suggesting that administration of Roman London may have been “split between different branches, based on the north and south banks” (Yule 2005, 86).

- 5.3.13 Excavations at 5-27 Long Lane found evidence of dumping and ground reclamation dating to the later part of the 1st century, followed by a phase of clay and timber building construction in the late 1st/early 2nd century. A number of phases of subsequent clay and timber buildings were constructed following the deliberate dismantling of the earlier structure, which were subsequently modified during the 2nd and early 3rd centuries. To Date no definitive evidence of industry was found, indeed the buildings appear to have been domestic, the presence of hearths may yet indicate that industrial activities were being undertaken (Douglas 2007). With the exception of 5-27 Long Lane and the presence of 1st and 2nd century clay and timber buildings to the northwest of the site at Arcadia Buildings, minimal evidence of domestic occupation has been found on land to the south of St George’s Church (Killock 2005b, 2) and it would appear that Tabard Square, and its proximity, were sited on the southern limits of the south bank settlement (however see below “Burial and Ritual”).

#### **5.3.14 3rd and 4th century decline**

Archaeological evidence suggests that during the 4th century Southwark contracted with settlement confined to the core around the bridgehead and waterfront (MoL 2000, 147). It would appear that large parts of the settlement reverted to “open spaces” as evidenced by “dark earth” deposits sealing earlier occupation horizons on many sites (MoL 2000, 146). For example, buildings at 5-27 Long Lane were demolished during the mid 3rd century and subsequently sealed by a layer of dark earth (Douglas 2007; also see below “Burial and Ritual”).

- 5.3.15 With the exception of a “large linear feature” in Tooley Street, containing 4th century fills, that may represent a “ditch and bank” defensive feature on the eastern side of the settlement (MoL 2000,

131) it would appear that, unlike the settlement on the north bank which was encircled by a defensive wall and ditches, Southwark was not equipped with defences during the late Roman period.

### **5.3.16 Burial and Ritual**

Evidence of cemeteries have been found clustered around the junction of the major Roman roads feeding into Southwark, particularly south of the junction of Stane Street and Watling Street, near St George's Church. Excavations at Great Dover Street, to the southwest of the site, recorded inhumations and cremations, some of which contained elaborate grave good assemblages and unlike most of the cemeteries in London contained a significant percentage of females and children. The excavations further demonstrated that the cemetery was in use from AD 120 until the late 4th century. Evidence of "two walled enclosures containing groups of burials as well as a possible stone-built mausoleum and a temple structure" were recorded. In addition worked stone that may be part of funerary monuments including moulded cornices, a pine-cone finial and the head of a river (?) deity add detail to this site. It has been suggested that the archaeological evidence from the site implies that the burials may represent "important or wealthy families of Roman London" and "family members... clients or slaves" (Barber & Hall 2000, 105-106).

5.3.17 Excavations 180m to the west of the site at the Old Sorting Office, Swan Street found evidence that the area of land to the west of Stane Street, roughly parallel with Tabard Square, was subject to complex "systematic and prolonged ritual activity" consisting of shafts and wells containing deliberately placed items such as human remains and 'killed' pots from early in the Roman period (see Beasley 2006). Alignments on the site were heavily influenced by the proximity of Stane Street raising the possibility that it may have served a ritual purpose on the approach to London, an area of land that may have demarcated the boundary between settlement and hinterland (Beasley 2006, 64). Of particular note was a secondary alignment, in existence until the late 4th century and apparently unrelated to the known road system. This alignment may be associated with the alignments present on Tabard Square (Beasley 2006, 48).

5.3.18 Recent excavations at 52-56 Lant Street found early Roman ditches and pits containing assemblages, which included a tripod bowl, an unusual distribution of vessel forms and disarticulated human remains; this might indicate ritual usage of the southern Southwark area soon after its establishment. Following an apparent abandonment of the site during the late 1st/early 2nd century there is abundant evidence to indicate its usage for both human burial and ritualised activity during the 2nd and probably 3rd centuries. A possible period of disuse was followed by the establishment of an extensive cemetery during the 4th century, which may have remained in use into the early 5th century (Sayer et al in prep). The results obtained during the excavations at 52-56 Lant Street are currently at an early stage of analysis and interpretation, and the summary detailed above should be treated with caution. However, it is clear that the peripheral areas of south Southwark, in the vicinity of the roads, appear to have been associated with both human burial and ritualised practices throughout the Roman period.

5.3.19 Whilst it is only possible to summarise the complex results of the excavations at Great Dover Street, Swan Street and Lant Street, the burial and ritual practices recorded certainly indicate a defined ritualistic use of the south Southwark landscape. Detailed analysis and incorporation of the archaeological data collected from these excavations will be of importance to an understanding of the results from the Tabard Square excavation and a wider understanding of the usage and role of south Roman Southwark.

## **5.4 Saxon**

### **5.4.1 Post Roman**

Archaeological evidence for continuity of occupation between the late Roman and early and middle Saxon periods in Southwark is largely absent. However, a coin dating to the 6th century, found at King's Head Yard in 1881, and the possibility that elements of the buildings found at the

Winchester Palace site survived into the post-Roman period suggests some presence (Watson et al 2001, 56; Yule 2005, 78). It is suggested that the south bank settlement, as with the north bank settlement, was abandoned, with a new focus of occupation established around the Strand (MoL 2000, 191). Indeed excavations to the north of Tabard Square, at Hunts House, found that the upper Roman horizon was sealed by a widespread alluvium, suggesting that the entire site had been “submerged... probably sometime after the collapse of Roman administration in the early 5th century AD” when the drainage system had been abandoned (Taylor-Wilson 2002, 38).

#### 5.4.2 Late 9th – early 10th century

It is possible that during the late 9th or early 10th century a *burh* was established in Southwark. At this time the walled settlement on the north bank was reoccupied and, if a bridge existed to Southwark, its southern bridgehead would have required defence against attack. The Burghal Hidage, compiled c. 911-919, detailed a *burh* named *Suthringa geweorche*, (variously translated as ‘the southern work’ or ‘the work of the southern people’ or the [‘defence] of the men of Surrey’), which is proposed to refer to Southwark (Sheldon 1978, 48; Vince 1990, 86-87; MoL 2000, 191; Watson et al 2001, 53; Clark 2000, 218-219). However, the location of the *burh* is largely hypothetical and *Suthringa geweorche* may in fact refer to a late Saxon settlement in Kingston upon Thames (MoL 2000, 191). With the exception of a residual 9th century coin found at St Thomas Street, archaeological evidence does not exist to support Saxon occupation in Southwark during the 9th and early 10th centuries (Watson et al 2001, 53, 56).

#### 5.4.3 Late 10th – 11th century

It is thought possible that an attack on London in 994 may have initiated a rebuilding of the bridge and, in turn, the fortification of Southwark (Watson et al 2001, 53). The earliest reference to the existence of Southwark’s defences are detailed in the ‘Great saga of St Oluf’ which took place during 1014 and was documented by Snorri Sturluson two centuries later (c. 1220). A translation reads:

“On the other side of the river is a great trading place which is called ‘Suðviriki’ (Southwark). There the Danes had, with great care, dug large ditches [and made a wall and a road on the inside] of wood, stone and turf, and had a great army there.... There were bridges over the river between the city and ‘Suðviriki’, so wide that it was possible for [two] carriages to bypass [each other]. On the bridge[s] downstream were built fortifications, strongholds as well as parapets up to a level over a man’s waist.” (Hagland 2001, 232).

- 5.4.4 It is also postulated that an Æthelred II (978-1016) mint bearing the signature SUDByrig, previously attributed to Sudbury in Suffolk, may have been located in Southwark (Carlin 1998, 13).
- 5.4.5 Minimal archaeological evidence exists for this defensive settlement and what does exist is concentrated around the bridgehead itself and unlikely to have extended as far south as Tabard Square (Watson et al 2001, 56). Perhaps of more relevance is the documentation of a raid by King Cnut in 1016 whereby it was documented that the bridgehead was avoided by digging a channel for the ships through the low-lying marshes and creeks of southern Southwark (Anglo-Saxon Chronicles, 148-149). However, no archaeological evidence of this historical event exists and the location and course of the channel is unknown.
- 5.4.6 The Domesday Survey of 1086, which sheds light on the earlier 11th century, lists Southwark as an un-manorialised port settlement without a direct lord. The majority of the settlement appears to have been largely confined to the high ground around the bridgehead with rights to the local tolls held by Edward the Confessor and the Earl of Godwin (Watson et al 2001, 57).
- 5.4.7 There is an absence of archaeological evidence to indicate a Saxon presence within the vicinity of Tabard Square and whilst this may be a consequence of later truncation and ground disturbance the absence of residual material datable to the Saxon period strongly suggests that the south Southwark area was little utilised in the centuries between the Roman and medieval periods.

## 5.5 Medieval

### 5.5.1 The south bank settlement

During the medieval period, and in much the same way as witnessed during the Roman period, the development of Southwark was dictated by both topographical limitations and the existence of important trade routes into London from the south and southeast (Carlin 1998, 18). The population developed an eclectic demographic with residents from all over Europe listed in medieval records (Carlin 1998, 149). Numerous occupational groups are listed within medieval Southwark (bakers, millers, cooks, traders, barbers, timber mongers, metalworkers, tailors, carpenters, sawyers etc.) and Southwark was particularly famous, or infamous, for its inns, prisons and brothels, many of which were referenced by authors of the day including Chaucer in the Canterbury Tales (MoL 2000, 212; Carlin 1998, 169-171, 191, 209; Knight 2002, 12).

5.5.2 Martha Carlin's book on 'Medieval Southwark' (1996, xviii) describes Southwark in the medieval period thus:

*"Medieval Southwark was a chimera. It was a suburb of London, but outside the city's jurisdiction; a parliamentary borough without a charter of incorporation; a group of autonomous manors sharing a communal name (Southwark) and reputation (bad); a haven of criminals and forbidden practices within sight of the royal court and law courts of Westminster.*

*To modern scholars, medieval Southwark usually has been seen as a minor but colourful adjunct of London; the home of Tabard Inn, the Bankside brothels, and later of the Globe and other theatres. To the Londoners of its own day, medieval Southwark was a headache. It was an asylum of undesirable industries and residents, a commercial rival, an administrative anachronism and a perpetual jurisdictional affront."*

5.5.3 Southwark itself was something of an "administrative jungle" during the medieval period owing to its division between five manors, one of which was held by the crown whilst the other four, including the Archbishop of Canterbury's manor, later the Manor of Great Liberty which the site is located within, were in ecclesiastical hands (Carlin 1998, 102). Religious institutions played an important role in the development of Southwark throughout the medieval period being responsible for "religious activity, promoters of learning and culture, *foci* and administrators of local charity, purchasers and employers of local goods and services and landlords of hundreds of local residents" (Carlin 1998, 67).

5.5.4 By the 12th/13th century the settlement was one of growth and prosperity, a prosperity which was not unnoticed by the City of London and the following centuries, through to the 1800s, were characterised by a series of struggles to assert and retain control of the south bank settlement (Carlin 1998, 121).

### 5.5.5 Tabard Square and south Southwark

A distribution map of 'The Parishes of Southwark in 1539' shows Tabard Square located within the Parish of St George, an oddly shaped parish largely dictated by the roads leading out of London (Carlin 1998, 20). The parish church of St George was first mentioned in 1122 and it is assumed that the parish boundaries shown in 1539 are of the same antiquity. 'Kent Street', modern day Tabard Street, formed the southeastern boundary of the parish and is first mentioned during the 1270s (Carlin 1998, 24). Reference to Long Lane, connecting St George's Church and Bermondsey, first appears in the 1430s, however at least parts of its western end had been built up by the early 14th century (Carlin 1998, 31).

5.5.6 Excavations at the Old Sorting Office, Swan Street, 180m west of the site, found evidence of medieval activity (wells, ditches, pits) dated to the 12th to 14th centuries. Whilst later truncation may have created a distorted distribution pattern it appeared that occupation was concentrated to the north of the site, closer to Borough High Street and Great Dover Street, with rubbish disposal to the rear (Beasley 2006, 46). To the north, excavations at Hunts House found evidence that the



site remained a marshland from the immediate post-Roman period until the 13th-14th century before attempts at ground consolidation began in the mid 15th century (Taylor-Wilson 2002, 38).

- 5.5.7 The remains of a medieval building were recorded to the west of the site at Acadia Buildings, medieval pits at Silvester Buildings and medieval pottery around Silvester Street whilst to the north evidence of medieval activity has been found at 175-177 Long Lane and, unsurprisingly, along Borough High Street (AOC 1998, 19). Evidence from 5-27 Long Lane suggests that land on the opposite side of Long Lane remained agricultural during the medieval period (Douglas 2007) and it is probable that land to the south of the road was much the same, lying as it did at the southern limit of the medieval settlement.

## **5.6 Post-medieval**

### **5.6.1 The character of the settlement**

In much the same way as the medieval period, post-medieval Southwark had something of a reputation both with regards the diversity of its population and also the liveliness of its society. Crime in Southwark, facilitated by its numerous narrow streets and alleyways, is well documented and in 1723 an Act of Parliament was passed to clear the criminals from the area. Dickens described the residents of nearby Lant Street as “migratory, usually disappearing on the verge of quarter day (when the rent was due) and usually by night” (AOC 1998, 21-22). Indeed, activities not tolerated on the north bank flourished in Southwark, notably “pottery production and tanning”, with immigrant communities from the Low Countries contributing “to the development of the area by bringing with them new ideas and new skills” (Knight 2002, 21).

- 5.6.2 Assessment of structural and artefactual evidence from Southwark indicates that numerous industries were carried out including brushmaking, tenter-frame production, clay pipe, stoneware and delft ware manufacture, metalworking, glassmaking and tanning (MoL 2000, 275). In many ways the location of industries, particularly during the 17th and 18th centuries was influenced by the preponderance of available space with easy expansion facilitated by the proximity of open marshland and fields. As an example Britton’s (1986) study of London delftware describes 16 major potteries south of the river, all but two of which were in Southwark or Lambeth with only 2 potteries known on the north bank (MoL 2000, 275).

- 5.6.3 Despite the strength of industry throughout the post-medieval period the presence of traded items, which feature heavily in the assemblages of post-medieval Southwark sites, attest to the continued importance of Southwark’s location at the centre of trade routes in and out of London (Knight 2002, 17-19).

- 5.6.4 Detailed below are the main changes known to have occurred on site and its vicinity during the post-medieval through to the modern period. A wealth of cartographic, documentary and archaeological data exists and it is anticipated that future research should further elucidate on the development of the site.

### **5.6.5 Late 15th to 16th centuries**

By the late 15th/16th century, maps of south Southwark show it to have been relatively well developed around the main roads and William Neckton’s map of 1530 depicts a number of houses on the northern side of Long Lane. Scattered buildings are also shown on the western side of the site, fronting Kentish Street, present day Tabard Street. The palace of Charles Brandon, Duke of Suffolk was located c. 200m northwest of the site and two prisons of probable medieval origin, Marshalsea 150m to the northwest and King’s Bench 600m to the southwest, were also located in relatively close proximity (AOC 1998, 19-21).

- 5.6.6 Excavations at 5-27 Long Lane indicate that land to the north of the road remained open and probably agricultural until the 16th century at which time the area appeared to have been “increasingly encroached upon for the disposal of rubbish and for water supply” (Douglas 2007).

#### **5.6.7 17th to early 18th centuries**

Maps compiled during the 17th century show buildings fronting both sides of Kent Street (Tabard Street) whilst the remainder of Tabard Square was shown as occupied by meadow, pasture, fields and gardens. Buildings are also shown to front the southern edge of Long Lane (AOC 1998, 20).

5.6.8 Excavations at 5-27 Long Lane demonstrated little change during the 17th and early 18th centuries although evidence for 18th century tanning, in the form of a horn-lined pit, was found (Douglas 2007). In addition, excavations at the Old Sorting Office, Swan Street found evidence of a number of 17th century cess or tanning pits, one of which was lined with worked stone, possibly reused from Bermondsey Abbey (Beasley 2006, 46-47). The presence of tanning pits on nearby sites is testament to the industrial nature of the south Southwark area during the 17th and 18th centuries.

5.6.9 Whilst evidence for tanning was also found during the Hunt's House excavation it was also apparent that despite efforts at drainage and land reclamation during the medieval period by the early 17th century much of the marginal land had once again reverted to marshland (Taylor-Wilson 2002, 41)

#### **5.6.10 Mid 18th to late 19th century**

By the middle of the 18th century historical maps record that land use at Tabard Square had begun to alter. Rocque's map of 1747 shows that buildings had been constructed at 36-40 and 60 Long Lane and alleyways, named as Bedward's Close and Crown Close, were present within the site boundaries. At the same time land set back from the Long Lane and Tabard Street frontages remained open and in mixed use (AOC 1998, 21). Horwood's map of 1792-9 shows a certain amount of alteration to the site with extensions to some of the existing buildings and alterations to lane names, e.g. Bedward's Close changed to Bennet's Close and Crown Close changed to Falcon Close (AOC 1998, 22). Excavations at 5-27 Long Lane demonstrated a similar pattern of development, recording evidence of buildings constructed in the mid 18th century that subsequently remained standing until the end of the 19th century (Douglas 2007).

5.6.11 Development of the site and Southwark in general increased during the 19th century to the extent that by 1830s few open spaces remained. Borough High Street had been widened by 1831, sewerage was provided later in the 19th century, slums were removed and replaced with tenement blocks and the Metropolitan Board of Works undertook the clearance of Tabard Street. The 1872 Ordnance Survey testifies to widespread social change in the area during the 19th century with a significant number of the earlier post-medieval buildings no longer existing and large structures, including an Iron Works, standing on the site. In 1877 Kent Street was renamed as Tabard Street (AOC 1998, 23).

5.6.12 Kelly's Directory of 1888 lists that many of the Long Lane residencies also functioned as shops including bakers, greengrocers, butchers, grocers, fishmongers, a cheese monger, chandlers, china dealers, haberdashers, boot makers, a clog maker, a basket maker, a floor cloth dealer and hairdressers. Broadly speaking the buildings fronting Long Lane were those of the middle classes, those fronting Tabard Street were of mixed economic status whilst the east and south were generally poor. Other buildings on site included the White Boar public house, fronting Tabard Street, a Mission Hall at 38 Long Lane, a furniture manufacturer at 60 Long Lane and a builder at 68 Long Lane (AOC 1998, 23).

#### **5.6.13 Recent land use**

Bombing raids during WWII significantly impacted on the site with 51 Long Lane gutted on 29th December 1940 and 69-70 Long Lane damaged on the 8th March 1941. The latter property was also damaged during an air raid that affected the Pickfords Engineering Company (present on maps since the late 1800s), the White Boar public House and numbers 9-29 and 41-45 Tabard Street. Numbers 9-29 were also damaged by an air raid on 19th June 1944.

5.6.14 The Ordnance Survey of 1946 shows the site as it existed until the early 21st century when demolition and redevelopment, with which the archaeological investigations detailed in this report took place (AOC 1998, 24).

## **6 ARCHAEOLOGICAL METHODOLOGY**

### **6.1 General**

- 6.1.1 The archaeological evaluation demonstrated that the subject site was largely devoid of basements and that deep well stratified archaeological deposits survived *in situ*. These deposits dated from the early part of the Roman era to the 19th century.
- 6.1.2 The extent and quality of the surviving archaeological resource lead to the requirement by the London Borough of Southwark for a widespread programme of archaeological mitigation works. The extent and scope of the programme was set out in the site specific Brief (Planning and Regeneration Division, Southwark Council, Brief for an Archaeological Excavation at Long Lane/Sterry Street/Tabard Street, London Borough of Southwark, December 2001).
- 6.1.3 On being appointed PCA then produced two Written Schemes of Investigations. The first dealt with the post-medieval trenches and watching brief (Brown & Moore 2002a). The second concerned the main excavation of the Roman horizon (Brown & Moore 2002b).

### **6.2 Sequence of Works**

#### Three Post-Medieval Trenches

- 6.2.1 The Brief required the excavation of three large targeted trenches to investigate sample areas of the medieval and post-medieval strata. Two trenches measured 30m x 20m and the third trench measured 20m x 20m (see Fig. 2).
- 6.2.2 Trench 1, located in the centre of the northern frontage on Long Lane, found extensive structural remains. The earliest buildings had been constructed in the late 17th or early 18th century. A strip building representing a multiple occupancy tenement had been constructed to the rear of a property that would have fronted onto Long Lane. The longest axis of the strip building was orientated north-south which demonstrated that the system of land tenure was probably based on the property divisions used on the Long Lane frontage. Buildings were continued to be demolished and constructed in this area until the late 19th or early 20th century.
- 6.2.3 Trench 2, located in the western and central part of the site discovered remains of a very different character. This area would have been well to the rear of any street frontage and was given over to industrial/craft production and processing. The principal evidence for these activities came in several forms. A very large and deep timber-lined tank was probably used for tanning, very possibly for horse hides given the frequency of horse long bones found in this area. A demolished clay tobacco pipe kiln was dated to the late 17th or early 18th century and represented local production of these products. Extensive metallised surfaces covered in brushwood were also recorded in this area, given the absence of structural elements associated with these they probably represents external working areas. The most probable activities carried out here were either tanning or cloth working.
- 6.2.4 Trench 3, located to the east of the excavation, was located directly above a very large north-south aligned ditch. The ditch probably continued in use from the 17th to 19th century before it was finally backfilled and went out of use. A group of timber-lined tanning pits dated to the late 18th and 19th centuries formed a notable feature of the later part of the sequence in this area.

#### Watching Brief on Secant Pile Perimeter Wall

- 6.2.5 A watching brief was undertaken on the pile probing and guide trench preparation works undertaken prior to the construction of the secant pile perimeter wall. In all a perimeter length of c. 420m was observed. The deep un-shored pile proving trench could not be entered safely which dictated that archaeological interventions could not be undertaken. However, the works showed

that there was relatively little in the way of large below-ground foundations of a type which would have truncated the deeply buried Roman archaeological horizon.

#### Main Excavation Works

- 6.2.6 Close cooperation between PCA and Coinford led to the design of a choreographed sequence of works which allowed the archaeological investigation, the construction of the secant perimeter wall and ground reduction to be undertaken simultaneously. Initially this consisted of machine stripping the central areas of the site to levels from which hand archaeological excavation took over. This allowed the periphery of the site to be accessed by the very heavy machinery required to build the secant wall and form the concrete beam above it. Areas of the site were therefore designated as those in which archaeological excavation was current and those given over to construction of the perimeter wall. Areas around the periphery of the site, where the enabling works had been completed, could then be stripped to the relevant archaeological horizons whilst machine ground reduction could be completed in the central areas once they had been vacated by the archaeological team.

#### Main Excavation

- 6.2.7 The main excavation covered an area of c. 1.25 hectares. This was a truly colossal footprint for an urban site, similar or larger areas are often covered on rural sites but these are usually devoid of the complex sequences of deep stratigraphy found in towns and cities. The methodology described above called for the initial stripping of the central areas of the excavation down to the late Roman horizon before hand excavation began. It was almost immediately apparent that the predictions of the field evaluation would be exceeded by the remains present. A fragment of a stone wall foundation was one of the earliest discoveries made by the machine clearance; extensive metallised surfaces were also apparent as was an area with a concentration of demolition rubble which clearly derived from a large masonry structure. These features related to the later part of the Roman sequence but as excavation of the first few areas advanced it was clear that the earlier parts of the sequence were no less complex than the later ones. If anything the remains related to the first century and a half of the Roman occupation were more challenging for the archaeological team to deal with than the later monumental structures which had very obviously been part of a planned development.
- 6.2.8 It is almost impossible to summarise briefly the extent of the archaeological remains uncovered. However, a quick glance at the figures showing the remains recorded in Phases 3 and 4 is enough to demonstrate the frenzied activity evident particularly in the western half of the site. Very few of these developments appeared to form part of a larger plan, with the exception of the digging of ditches that marked land divisions. Most reflected the somewhat *ad hoc* development of early Roman London, clay and timber buildings were erected along the sides of a small road but most appeared to have been abandoned or demolished soon after their construction. The earlier Roman built landscape was replaced in the later 2nd century by an extensive planned religious complex centred around two Romano-Celtic temples. The religious complex continued in use until the end of the Roman period, however that might be defined. At least one of the stone-built temples continued in use and further masonry structures, including a building some 25m long, were added to the earlier core.
- 6.2.9 No evidence of medieval buildings was uncovered but extensive ditch systems were recorded, as were a range of pits. The frequency of medieval ceramics was notable; although many of the pottery groups were small a few very large concentrations were recovered some distance from the street frontages. Despite the absence of structural remains the pottery evidence suggested that the area was more heavily populated than might have been predicted. The development of the Tabard Street frontages may have been more extensive than previously thought but most of that area lay beyond the site boundary.

- 6.2.10 All of the remains described above were found in a band of stratigraphy little more than one metre thick. This presented particular problems, especially with regard to later pits and ditches which had been cut into the top of the later Roman levels. Disentangling the sequence of cut features that had impacted on the horizontal sequence was time-consuming and challenging, both during the excavation and in the subsequent working up of the paperwork to produce the phased structure. The frequency of these later intrusions can be judged simply by looking at the figures involved. Despite machine clearance of the post-medieval and medieval levels over 3300 features and deposits dating to these periods were recorded, the vast majority of them cut into the Roman remains.
- 6.2.11 A final word regarding the progress of the excavation concerns the weather. The winter of 2002 was one of the wettest recorded and the progress of the excavation inevitably suffered as a result. The early sequence of the excavation required the periphery of the site to be left untouched to facilitate the construction of the secant perimeter wall. This of course meant that the excavation initially took place in a large hole in the centre of the site. The methodology adopted, coupled with the clay subsoil which underlay the entire excavation area and incessant rain, could only have one result. The later months of 2002 became some of the grimmest encountered by the author over the course of a long career in archaeology. Particular thanks should be offered to all those who stuck with it through that period and continued to record the archaeology as well as anyone could expect in those circumstances.

### **6.3 Archaeological Methodologies**

- 6.3.1 The removal of all ground level hard standing and subsequent ground reduction was undertaken using 360° mechanical excavators. The machines were fitted with flat bladed ditching buckets whilst undertaking bulk ground reduction. All mechanical excavation was conducted under archaeological supervision.
- 6.3.2 Mechanical excavation continued through undifferentiated ploughsoil deposits in spits of no greater than 200mm until significant archaeological deposits were encountered. Sample trenches were machine excavated through some low-grade archaeological deposits, principally the fills of very large medieval and post-medieval ditches, in order to characterise them and determine how the continued excavation of these features was to be achieved. Machine sampling of these features was always undertaken with the prior approval of the London Borough of Southwark Archaeology Officer, Sarah Gibson.
- 6.3.3 Following machine clearance of the post-medieval and medieval ploughsoils the exposed surfaces of the excavation areas were cleaned using appropriate hand tools. Investigation of archaeological deposits was by hand, with recording in both plan and section.
- 6.3.4 Recording was undertaken using the single context recording system as specified in the Museum of London Site Manual. A site grid was established which was linked to the National Grid. Plans were drawn using this grid at a scale of 1:20, and full or representative sections at a scale of 1:10. Contexts were numbered sequentially and recorded on *pro-forma* context sheets.
- 6.3.5 During the early part of the main excavation an extensive buried soil horizon was found below the Bronze Age peat horizon which covered a large part of the site. This palaeosoil horizon showed signs of being turned with a simple plough and was sampled by grid square and subsequently sieved in order to retrieve dating evidence, principally flint tools or working waste. Although flints were recovered most of these related to earlier periods and their frequency was not proportionate to the resources expended in their recovery. The sampling and sieving strategy was therefore abandoned as it was felt the assets available were better utilised in recording the remains of later periods. All of the decisions taken regarding the strategies adopted to record the pre-Roman archaeological levels were taken in conjunction with the London Borough of Southwark Archaeology Officer, Sarah Gibson.

- 6.3.6 Temporary benchmarks were transferred to the site from the Ordnance Survey benchmark located opposite the Long Lane frontage of the site on Balin House, with a value of 4.10m OD.
- 6.3.7 A controlled metal detecting strategy was established during the mitigation phase of works. Although the size of the excavation team and methods of soil disposal precluded the metal detecting of spoil as individual deposits the area from which finds were retrieved could normally be established. Many of the metal objects recovered are of interest in themselves whilst others, such as the coins, provided useful background information regarding levels of activity for individual periods. This was especially true of the later Roman period as the size of the coins used was so small that recovery by hand excavation is extremely difficult.
- 6.3.8 As part of the mitigation of the site a full photographic record was maintained. This comprised both colour slide and black and white formats. In addition publication photography was undertaken by the PCA photographer Richard Young. Peter Jones deputised when the PCA photographer was not available due to illness or leave.
- 6.3.9 The post-excavation work was centred on the creation of an Access database which holds brief details of each context recorded. The database allows the location, level, type and dating evidence for each deposit to be summarised. As the post-excavation work progressed group and phase numbers were allocated to each deposit or feature, these are also held in the database. In this way phases of activity were established first for individual areas and subsequently site-wide.
- 6.3.10 The complexity of the remains recovered required the adoption of the Harris matrix system in order to establish an archaeological sequence. The site archive was organised by Area, that is each of the Areas into which the site was divided and excavated was initially dealt with as a separate site. A Harris matrix was constructed for each Area. This was done using an Excel spreadsheet, dating evidence and levels were entered with individual contexts in order to facilitate their grouping together and subsequent phasing.
- 6.3.11 Once a matrix consisting of individual contexts had been established for an Area groups of contexts of similar types, i.e. layers, pits or postholes, or representing structures formed of multiple elements, were grouped together and replaced on the matrix diagram by Group symbols which also showed the combined spot dating evidence for each element that formed the Group. Groups were then organised into phases for each Area, phases were then extended across the entire excavation. Group and phase numbers were recorded in the database in order to allow the generation of site-wide phase plans.
- 6.3.12 The excavation process is of course subjective and, being performed by humans, prone to errors. This applies to the numbers recorded on finds labels as well as the excavation process. These errors inevitably lead to some finds being assigned to deposits which could not possibly have contained them, for instance clay tobacco pipe being supposedly found in Bronze Age peat deposits. The example given would represent a very clear case in which the finds evidence could be dismissed as untenable and ignored, many other cases were less clear cut. In a similar way very strong dating evidence might have demonstrated that the archaeological sequence established on site was erroneous. Variations to the archaeological sequence generated on site and the presence of 'intrusive' finds in some deposits are all noted on the Group matrices produced for each Area. The process of arriving at a grouped and phased Area matrix is therefore totally transparent. The production of a phased sequence is interpretive and of course more than one interpretation is possible. Every attempt has been made to show the process through which phasing was achieved and to allow potential reinterpretation to take place without recourse to the primary archive.

## 7 ARCHAEOLOGICAL SEQUENCE

### 7.1 Phase 2: Prehistoric (Fig. 3)

- 7.1.1 Very little evidence of *in-situ* prehistoric activity was evident from any part of the site. During the initial phases of the excavation a localised concentration of linear cuts interpreted as ardmarks was recorded in the northern part of Area B1, a palaeosoil horizon sealed by peat formation was also found in this area. The palaeosoil in Areas A and B1 was sampled by metre squares and sieved but so few artefacts were recovered using this methodology that the sampling strategy was later abandoned. Virtually all of the features and deposits placed in this phase contained no dating evidence but are thought to be prehistoric due to their position in the sequence. In the areas representing the northern and central parts of the site, that is Areas A, B1, B2, C1, D, E1, E2 and E3, these features were sealed by the peat horizon which radiocarbon dating has shown began forming in the Middle Bronze Age. The peat horizon would have continued to develop throughout the later prehistoric period and still formed part of the natural landscape at the time of the Roman invasion. This phenomenon is discussed under Phase 3 (see below).
- 7.1.2 Some idea of the level of frequentation of the site in the immediate pre-Roman period might also be judged from the quantities of residual prehistoric ceramics recovered from later deposits. Residual prehistoric pottery, although generally rare, was recovered from locations scattered across the site. A notable concentration appeared in Area G1 where 13 deposits contained ceramics dating to the later Iron Age or forms that span the transition from the very Late Iron Age to early Roman period. In terms purely of frequency these wares were also well evidenced in Area A, with 7 occurrences. In the adjoining area B1 five contexts contained prehistoric wares, all of the other areas had three or fewer instances of pre-Roman pottery. The vast majority of the prehistoric pottery recovered occurred as single sherds or very small assemblages. The most notable exception to this consisted of a group of 43 sherds weighing 500g found in peat layer [4505] in Area A. Smaller but notable groups occurred in contexts [13568], [13154] and [12787] in Area G1, [11955] and [11311] in Area F1 and [9986] in Area E1. It would appear that although the landscape of the site was fundamentally altered during the centuries of the Roman occupation these developments did not mask any earlier prehistoric settlement.
- 7.1.3 A small amount of prehistoric activity was evident in Area A. The palaeosoil horizon was recorded as Groups 261 and 225, the surface of the horizon ranged from 0.77 to 0.46m OD in this area. The palaeosoil sealed a group of poorly defined and ephemeral cut features, Group 262, which may have represented very minor palaeochannels cutting the surface of the clay and some small treethrows. Another series of ephemeral cuts was recorded as Group 266, these features truncated the palaeosoil horizon and although some are recorded as ardmarks they did not form an extensive or convincing pattern showing undoubted agricultural activity in the area.
- 7.1.4 The most extensive evidence of early settlement, rather than frequentation, of the site came from Area B1 where ardmarks were evident both above, Group 730, and below, Group 720, the level of the palaeosoil horizon. These groups potentially represent different periods of ploughing but all of these events pre-date the formation of the peat horizon. Other features found in this area included treethrows, ephemeral shallow palaeochannels and groups of small postholes. None of the posthole groups appeared to form a coherent structure with the possible exception of Posthole Group 726 which might represent a small southwest-northeast aligned fence structure.
- 7.1.5 A small group of linear cuts interpreted as ardmarks and a treethrow were recorded as Group 162 in Area C1. Palaeosoil Group 158, also recorded in Area C1, was found between 0.54m and 0.60m. No palaeosoil horizon was evident in Area D, nor were there any signs of prehistoric occupation. The only features evident dating to this period were natural palaeochannels recorded in section which had truncated the surface of the natural clay.



- 7.1.6 In Area E1 Palaeosoil Group 1143 was found at 0.30m OD, which in part reflected the natural slope of the ground to the Borough channel located to the north of the excavated area. However, this area of the site was particularly low-lying, probably as the result of erosion caused by earlier palaeochannels crossing the site.
- 7.1.7 The palaeosoil was recorded on the northern periphery of the site, in Area E2, as Group 885 at a maximum height of 1.10m OD. Palaeosoil Group 1143 was located to southwest of this at a height of 0.42m OD. The surface of the palaeosoil sloped from east to west into an area where the clay had been eroded by the substantial palaeochannels recorded in S66. Group 1053 consisted of cut features truncating the palaeosoil, among these was a poorly defined pit or treethrow [8223] which contained a small fragment of flint tempered pottery. This was the only occasion in which a pre-Roman ceramic was recovered from a prehistoric feature.
- 7.1.8 In the adjoining area to the east, E3, the palaeosoil horizon, Group 855, was patchy and localised. The highest level taken on any of the deposits that formed the Group was 1.10m OD. A notable feature found in this area was a small circular pit [10855] in Group 884 which contained a high proportion of burnt flint. The palaeosoil horizon was not evident in the adjacent Areas E4 or D. The only pre-Roman features evident in Area D to the east of the site were peat-filled palaeochannels which were only recorded in section. The largest of these, [13916], was recorded in Section 64. The channel was poorly defined on its north side due to the complex development of the topography in this part of the site but it was at least 10m wide and associated with a ground surface found at c. 0.30m OD. A second peat-filled channel [13869] was recorded to the north of [13916]. The northern side of this channel was not evident and must have been located beyond the limit of the excavation in this area; the full width of the channel would have been c. 10m or more. This channel was associated with the same ground level as the channel found to the south.
- 7.1.9 A similar situation was evident in Area G3, which bounded Area D to the east. Numerous intercutting natural channels (Group 84) were evident, mostly in sections revealed by machine trenching. The palaeosoil horizon was absent in this area, as was the case in Area F1. Very patchy subsoils which were possibly equivalent to the widespread palaeosoil and peat horizons evident in the north and central areas of the site were found in Area G1 and recorded as Group 435. These layers occurred between 0.87m and 1.07m OD. Apart from these soil horizons few features of prehistoric date were evident in the south and east of the site. Small but insignificant groups of stakes were recorded in Areas F1 (Group 559) and F2/G2 (Groups 18, 41 & 100).
- 7.1.10 On the western periphery of the site thin subsoils sealing the natural sands and gravels extended across most of Area C2 to a maximum height of 1.04m OD. However, these deposits differed from those found further to the north and east as the orange clay unit that sealed the sand and gravel, and upon which the palaeosoil horizon had developed, was absent in this area. This was essentially due to the increased height of the gravel in the south and west of the site, the clay unit had been deposited below the height of the gravel found in these areas of the site. With the exception of the subsoils described above no significant groups of prehistoric features were found in Area C2.

## **7.2 Phase 3: Early Roman c. AD 43-70 (Figs. 4 & 5)**

- 7.2.1 During the early Roman period the site would have been a predominantly marginal area where an environment dominated by estuarine channels gave way to dry land. The lower-lying areas in the north and central parts of the site would still have been covered by the peat formation which had developed from the Middle Bronze Age onwards. Analysis of the sediments sealing the peat horizon sampled in Section 64, Area D, indicate that the site may have been flooded in the Late Bronze Age/Early Iron Age with some prolonged periods of inundation. However, pollen analysis indicates that the site was becoming dryer by the early Roman period and the extent of the peat horizon was probably declining. Seed remains show that plants frequently found in damp places and rough grassland were still evident throughout the Roman period (Appendix 19). The peat

horizon became thinner and more patchy to the south and especially the west. This reflected the natural topography of the site, the highest levels found on the gravel occurred in the southwest. The eastern third of the site would probably still have been dominated by a complex system of channels although a small area of higher ground, probably forming an island within these, would have been evident in the northeast corner.

- 7.2.2 The decision to place the peat horizon in Phase 3 might be seen as contentious. The initial formation of this group of deposits, the composition of the diverse layers varied from area to area and within areas, clearly began long before the Roman period but considerable quantities of Roman pottery were recovered from the peat layers. Internal stratification within the layers was not sufficiently well developed to allow them to be split into smaller units which might have represented a chronological progression. The volume of the dating evidence suggested that the surface of the peat represented the ground level as found in the early Roman period. Another approach would have been to classify the peat as prehistoric and the finds as intrusive but it was not felt that this would have accurately reflected the development of the site.
- 7.2.3 The peat formation was absent in the southern part of the site, it was not recorded in Areas F1 or G1 and in Areas F2/G2 and G3 to the east of the site a clear horizontal peat unit that could be distinguished from the organic fills of natural channels was not apparent. The peat formation was also absent in the eastern part of Area E3 and in Area E4 to the northeast of the site where the surface of the natural clay and alluvial sands rose to over 1m OD.
- 7.2.4 The peat generally sloped from south to north, following the underlying contours of the site. The highest level taken on its surface was 0.86m OD, the identical height was recorded for both Group 934, Area C2, and Group 263 in the southern part of Area A, located immediately to the east of Area C2. On the western periphery of the site the surface of the peat was recorded at 0.74m, Group 157, in Area C1. The same value was found in Area E1, Group 1142. Group 227, which covered the northern part of Area A was recorded at 0.58m OD and the lower level found in this part of the site was also reflected in the readings taken in Area E2, Group 1052, which was 0.49m OD and the adjoining Area B2, Group 991, which gave the same value. As mentioned above the underlying ground surface rose to the east in Area E3 until it reached a level above which the peat either did not survive or had never formed. The lower lying area found in the northern parts of Areas A, B1, B2 and E2 almost certainly reflect the erosion of the surface of the natural clay by the substantial if relatively shallow palaeochannel or channels evident in Sections 64 and 66 which crossed the site from the southeast to northwest. The levels taken in Area B1, on Groups 704, 706, 708, 711, 713, and 716, confirm the findings summarised above. All of these Groups occurred at c. 0.60m with one exception located in the northeast of the area which rose to 0.72m. The peat horizon had been almost completely destroyed by later quarrying in Area D, which adjoined Area B1 to the east, but where extant it did not rise above 0.74m. This height is consistent with the surface of the natural clay recorded in Section 64; the peat-filled palaeochannels discussed above were formed from this level.
- 7.2.5 The pottery assemblages recovered from the peat horizon were relatively small but some contexts such as [3123] in Area A produced groups of over 100 sherds which had consistent dates of around 50-70/80 AD. This date range was typical of the pottery recovered from the diverse peat groups, regardless of their locations. Some earlier pottery forms and fabrics were recovered from these deposits, both early Roman and later prehistoric wares, but these finds were all residual in later groups.
- 7.2.6 The earliest signs of widespread Roman activity were concentrated in the western half of the site and particularly in the northwest corner. These most commonly took the form of groups of postholes or posts. The waterlogged conditions produced at these levels by the thick clay unit underlying this part of the sequence were considered favourable to the preservation of organic material such as timber. But where substantial postholes were apparent no posts were discovered; it seemed clear that the structures that they represented must have been deliberately demolished and the posts pulled out. If this had not been the case the timbers themselves should

have been extant. Where timbers had survived it appeared that they had been chopped off close to ground level, the structures which they represented had not decayed but had been systematically and deliberately demolished. The creation of an early Roman ground horizon by the dumping of levelling material on the surface of the peat horizon would have been an obvious first step in the reclamation of the area but many of the post-built structures, whether represented by *in situ* timbers or postholes, were found below the levels of these dumps or indeed below the peat horizon. This created problems in terms of phasing and interpretation but the frequency of Roman materials in the fills of these cut features precluded the possibility that they pre-date the peat formation. It seems certain that these features represent early Roman structures and that the landscape into which they were inserted was almost unaltered from that current at the time of the Roman invasion 20 years before.

- 7.2.7 In Area E1 Post Group 1133 and Posthole Group 1135 represented a series of structures which had been demolished by cutting down or removing the posts. These structures have yet to be fully interpreted, the two groups mentioned above comprise over 300 timbers and postholes, but some alignments were obvious at the time of excavation and are clearer on overall plans. Two parallel lines of east-west aligned posts, covering a distance of c. 10m, are apparent in the north of the area. There is a suggestion of radiating lines of posts. A large north-south aligned medieval ditch had truncated the eastern part of the area (see Phase 10). It is unclear whether the structures represented were buildings. If so neither the floor layers nor the external surfaces which should be associated with them were recognised at the time of excavation. It is possible that the posts represent the foundations of a large semi-circular structure such as a theatre or a circus type building. Concentrations of 6 and 8 larger posts may represent the bases of staircases. It is also possible that the timbers may have formed structures such as boardwalks extending across the low-lying damp peat horizon that had yet to be drained, or the ground level above it raised. Boardwalks of this type would have formed their own 'floor' level which would have been lost when the structures were later demolished.
- 7.2.8 Where the timbers survived they were commonly around 15cm square and had been driven into the ground to a depth of 1m or more. Some of the timbers were reused, having originally been house timbers. Although these structures were among the earliest recorded on the site a period must have elapsed between the invasion, their original use as parts of above-ground structures and subsequent re-use as driven pile foundations.
- 7.2.9 One array of postholes, Group 1139, excavated in the extreme south of Area E1 was of particular note. These postholes were of considerable size, c. 0.70m in diameter and 0.85m deep. They appeared to form a six-post timber building similar to a structure found immediately to the east in Area A. The building formed by Group 1139 would have measured c. 4m north-south by 2m east-west. No floor levels associated with this structure were evident and a raised timber floor may have formed part of the original structure of this building. The ground plan of these buildings is not reminiscent of early Roman domestic structures and it is more probable that they were used as outbuildings or for storage rather than dwellings.
- 7.2.10 Most of the dating evidence recovered from the postholes in Area E1 would suggest that the timber structures do not pre-date AD 50-60, some later material may derive from cut features that were not recognised at a higher level. However, virtually all of the timbers and cut features which formed Phase 3 in Area E1 were sealed by Layer Group 1130 which produced a large 346 sherd assemblage, from layer [8379], dating to AD 60-80. The new ground surface formed by this layer lay at 0.67m OD, this level was mirrored by that recorded for Group 1132.
- 7.2.11 To the south of Area E1 dense concentrations of postholes were recorded in Areas A and C1. The former in particular was packed with hundreds of very small postholes the vast majority of which do not form easily identifiable patterns representing obvious structures or buildings. Many of these postholes or stakeholes were in fact too small to have sustained any kind of substantial above-ground structures. It is therefore very difficult to propose a meaningful interpretation for these Groups. One very obvious exception was a six post structure similar to that described above in

Area E. The building found in Area A, part of Group 479, was marked by the shallow pits [1777], [2005], [1622], [1588], [1689] and [1699]. Each of these pits surrounded the robbed postholes which represented the posts that had formed the building; the pits represented localised excavations which facilitated their robbing out. The postholes were substantial, up to 0.60m deep and 0.30m in diameter. The triangular shape in plan indicated that the posts were sharpened and driven through the peat and into the clay below. This building would have measured c. 3m north-south and 2m east-west. As with the building found in Area E1 no floor levels or external surfaces associated with this structure were evident.

- 7.2.12 Group 281 is typical of the plethora of small posts and postholes evident in this area. This group consisted of over eighty features, nearly all of which measured 0.15m or less in diameter. Posts of this size are unlikely to have formed buildings but even fence lines or enclosures are virtually impossible to distinguish within this group. More detailed analysis may clarify the situation but the exact nature of the frenzied activity apparent in this area is difficult to establish.
- 7.2.13 Dating evidence recovered from the cut features was sparse, as it was from the layers that sealed them and formed Group 250. However, some larger assemblages were recovered such as that from layer [4462], which produced 91 sherds dated AD 43-70. The majority of the pottery dates suggested that this Group was deposited around AD 50-80, a date consistent with the levelling layers found in Area E1 to the north. The surface formed by the deposition of Group 250 was recorded at 0.69m OD in the north, layers [1388] and [1888], and 0.75m OD in the centre and south of the area on layers [2045] and [4656].
- 7.2.14 In Area C1, immediately to the west of Area A, the frequency of cut features belonging to this period was much lower but three further Groups, 177, 178 and 179, totalling around seventy-five posts or postholes were recorded in this area. No buildings were evident but some of the alignments of small postholes, such as [7465] to [7471], part of Group 177, might represent light fences formed from wattle hurdles. These alignments run roughly east-west or northeast-southwest. Dating evidence from the postholes was sparse. Slightly more pottery was recovered from the fills of Pit Group 217 and although the dates were quite wide-ranging very few pre-dated AD 50. The best indication of the date of these features is perhaps provided by their position in the sequence. All of the groups of cut features which form part of Phase 3 are stratigraphically earlier than Layer Group 175. This group, which forms part of Phase 4, was probably deposited in the very late 1st or early 2nd century. A few of these layers did not produce any dating evidence and could be earlier but there is no doubt that some of the earliest deposits dated to after AD 100.
- 7.2.15 Dense clusters of small post and stakeholes (Groups 1040, 1046, 1047, 1048 & 1049) were evident in Area E2, to the east of E1. To some extent this reflected developments to the south and west described under Areas A and E1 in that the arrays of postholes did not form easily identifiable patterns, no buildings were evident. A further similarity with Area A was that the individual posts and postholes were of limited size and could not have supported substantial structures. With the exception of Post Group 1046 most of the cut features are located in the southwest of the Area and are noticeably absent further to the east. Dating evidence from these tiny cut features was very limited. Most of them were sealed by the layers that formed Group 1043 which produced five pottery spot-dates between AD 50-80 and AD 50-250. These dates themselves derive from small assemblages but Sand Group 1042, which sealed Group 1043, produced two pottery groups of around 100 sherds that both dated between AD 70 and 100.
- 7.2.16 Evidence of early Roman activity is very limited outside of the areas discussed above and it is particularly noteworthy that the southwestern periphery of the site is almost devoid of developments in this phase. The proximity of Watling Street might have been expected to act as a natural focus for development in this area. Although the road may not have been constructed until the mid AD 50s the height of the gravel ridge in this area would have facilitated movement even before it was built. A notable exception to the paucity of activity took the form of a ditch recorded as Group 432 in Area G1 and Group 545 in Area F1. This feature ran roughly parallel to the site boundary and possibly the line of Watling Street. It was evident over a distance of c. 30m and

measured 2m wide and up to 0.50m deep. Some of the pottery dating from this feature was mixed as it had been impacted by modern intrusions but fill [13181], excavated in Area G1 beyond the concrete footings, produced an assemblage of 137 sherds dating to AD 60-80. This suggests that the ditch was silting up or was backfilled toward the end of Phase 3. One of the few other substantial features located in this area, pit [12942], contained pottery dated AD 50-100.

- 7.2.17 The eastern periphery of the site, Areas F2/G2 and G3, continued to be dominated by abraded intercutting channels although these may have been largely silted up or clogged with vegetation by this period. Very few of these channels could be recorded in plan, most were evident in machine trenches, but a large north-south aligned ditch or channel [13626] was excavated in Area G3. This feature was notable for the clusters of driven posts, recorded as Post Groups 65 and 66, found within or adjacent to its course. The exact function of the posts is unclear. They might have served as fish-traps, Group 65 formed a line which passes diagonally across the channel, or they might have served to control the flow of water into and out of the feature. Whatever their purpose may have been it appeared that this feature silted up or was backfilled very early in the Roman era as one of its fills, [13356], contained pottery dated AD 43-70.

### **7.3 Phase 4: Late 1st century to early 2nd century: c. AD 70-120 (Fig. 6)**

- 7.3.1 The topography of the site was radically altered in the late 1st and early 2nd centuries AD. Widespread deposition raised ground levels and improved drainage over large parts of the site. Ditches and roads were laid out on alignments that were for the most part respected for the following four centuries. Timber buildings were erected and by the early 2nd century a small community had developed close to Watling Street. Developments beyond the site bounds would have strongly influenced the the area's potential, controlling the tidal channel to the north would have directly impacted on the conditions underfoot over most of the excavated area. How that change was effected is a discussion for another place. Whatever the combination of human intervention and natural phenomena might have been that wrought this change there is little doubt that by around AD 120 the low-lying estuarine margin had become a fully developed part of the Roman suburb.
- 7.3.2 The most influential feature allocated to this phase consisted of a northeast to southwest aligned ditch that traversed the site from its western limit in Area C2 to its northern boundary in Area E2. The multiple elements of this ditch formed parts of Groups 930, 232, 693 and 1037 in Areas C2, A, B1 and E2 respectively. The feature may have stood open for a period but it was very deliberately backfilled, the upper fills consisted of gravel layers that formed a solid surface. It is believed that the function of the ditch then altered to that of a small thoroughfare and for simplicity sake it will be referred to below as the road ditch. Virtually all of the subsequent developments on the site respect the line of this feature.
- 7.3.3 The alignment of the road ditch is informative as it would certainly not have formed a 90° angle with Watling Street and the laying out of this area of the Roman settlement on a classic grid pattern can therefore be excluded. The alignment of the road ditch is, however, parallel to that of another ditch, discussed below as Groups 789, 5 and 350, that formed the boundary of the religious precinct established in Phase 5. Obviously the alignment of the Phase 4 road ditch could not have respected that of a later Phase 5 feature but it is thought that the later ditch, as recorded, represented a managed natural stream. If this was the case the road ditch would have been laid out parallel to an existing topographical feature.
- 7.3.4 The road ditch appears to have been excavated no later than the end of the 1st century AD. It truncated deposits broadly dated from AD 70-120 in all of the Areas in which it was recorded, with the exception of Area E2 where it cut layer [10941], which was dated AD 70-100. However, the assemblage from that deposit was small when compared to that recovered from layer [4165], Group 254, in Area A. This pottery group consisted of 481 sherds, some of which date to the late 1st or early 2nd centuries but most of which fall into a wider bracket of AD 70-130. These dates are consistent with the rest of Group 254 which, with one exception, provided a further twelve spot

dates covering roughly the same period. This dating was broadly confirmed by the pottery recovered from layer [5932], Group 932, Area C2 which contained 149 sherds dated AD 70-120.

- 7.3.5 Some of the lower fills of the ditch contained a high organic element which suggested that vegetation had accumulated in the base of the ditch before it was backfilled. This would imply that the later use as a road was a secondary function which was not envisaged when the ditch was first excavated. Fill [10923], Area E2, was one of the organic lower ditch fills. It contained pottery dated 50-100 and an unusual fantail brooch manufactured between AD 50 and 70. The lower fills of the ditch in Areas A and B1 did not generally pre-date AD 70. In Area C2 distinctive lower and upper fills were not as readily evident as in other areas but dates of AD 70-120 were common for the fills excavated in this area and fill [7825] contained a whole vessel dated AD 70-100.
- 7.3.6 Later intrusions had severely truncated the upper levels of the road ditch in parts of Area A and particularly in Area B1. The best preservation was encountered in Area E2 where the ditch cut measured 3.80m wide and up to 0.95m deep. The gravel fills in this area were mixed with considerable quantities of domestic waste, particularly pottery. The best dated fills were [10606] which must be later than AD 85/90 and fills [10511] and [10558], both of which date to AD 100-120. A few sherds dating to the end of this period probably indicate the continued use of the road surface into subsequent periods. It is also quite probable that some of the excavated fills of the ditch were very similar to the later Phase 6 gravel surfaces, Group 1024, which sealed them. The highest level taken on the surfaces was 1.36m OD but a height of 1.25m OD might be seen as more representative.
- 7.3.7 The alignment of the road ditch profoundly influenced the zoning of the adjacent landscape and the subdivision of the site into plots was clearly based on the line of the ditch. This was particularly evident in the buildings which were erected in Areas C1 and C2. The best preserved clay and timber building was found in Area C1 and was recorded as Groups 153, 150, 149. The building consisted of brickearth floor slabs which had been truncated by substantial beamslots c. 0.30m wide. The overall size of the building would have been around 8m northwest-southeast and 6.5m southwest to northeast. The size of the beamslots indicated that the timber uprights could have carried an upper storey. The dimensions of the rooms appeared to correspond to Roman measurements, the rooms being laid out in Roman feet. The largest central room would have measured 10ft square whilst two smaller rooms evident on the northeast side each measured 10ft by 5ft. The floors of the building were recorded at c. 0.95m OD whilst the external surfaces associated with it lay at c. 0.85m OD. This may represent an attempt to keep the floor of the building dry. The building was located c. 6m to the west of the road ditch with the longest axis running at 90° to it.
- 7.3.8 A considerable quantity of dating evidence was recovered from the floors and levelling layers that directly related to the construction of the building. The pottery assemblages recovered were often limited in size but six of these post-dated AD 100 and one or two sherds suggest a date after AD 110-120. However it should be born in mind that an earth floor is not a sealed context and later material can be trodden in during the structure's use. The vast majority of the pottery suggests that the building was erected between AD 100 and 120. The dating of the ground surface onto which the building was constructed cannot be ignored either. Layer Group 174 yielded 17 spot dates nine of which post-dated AD 90. Only four of the sherds recovered from this Group dated after AD 110. The vast bulk of the evidence suggests that this building was erected just after the turn of the 1st century AD.
- 7.3.9 Group 153 (not illustrated) may represent the remnant of another building close to the one described above. Two very heavily truncated brickearth deposits with a sequence of tread layers sealing them were excavated to the northwest of Group 150 on the western periphery of the Area, the deposits extended beyond the limits of excavation. The extant area measured less than 1m wide by 2.5m; no substantial postholes or beamslots associated with the floors were evident. Very little dating evidence was recovered from these layers; they were recorded at c. 0.75m OD.

- 7.3.10 A possible six-post structure similar to those described above in Phase 3 was excavated adjacent to the northwest corner of the clay and timber building formed by Groups 149 and 150. The 'six-post' building measured c. 3m by 2m and formed part of Posthole Group 173. This structure was marked by the shallow pits [7229], [7231] and [7233], on the west side whilst [6885] and [7187] on the east side formed the corners. A central posthole or pit was not found on the east side, the shallow pits on the west side surrounded smaller postholes which presumably represented driven posts that had been robbed out. A dense concentration of roof tile, layer [6974], was situated within the southern half of the structure and was interpreted as a collapsed roof. The alignment of this building did not follow that of the adjacent clay and timber structure and there must be some doubt as to whether the two were contemporary. However, the dating evidence recovered from the layers into which the postholes were cut suggested that this building was not constructed before AD 90 and certainly did not pre-date AD 70.
- 7.3.11 A relatively well preserved clay and timber building was excavated in Area C2 approximately 40m to the south of the structure formed by Groups 149 and 150 in Area C1. The building was located in the southwest part of the area and extended beyond the limits of excavation, it was recorded as Groups 920 and 921. It appeared that the building found in Area C2 was of a somewhat slighter construction than that found in Area C1. The beamslots measured around 0.15-0.20m wide and 0.12m deep whilst the postholes were around 0.20m in diameter and 0.20m deep. This building could probably not have supported an upper storey. The only surviving complete room measured 1.80m, or c. 6ft, square. The floor was recorded at a height of 1.24m OD. Although the ground plan of this building was far from complete it appeared that a narrow frontage c. 4m wide gave onto the backfilled road ditch, which was found immediately to the east of the building, whilst the longest axis of the building extended further to the west beyond the limits of the excavation. Both the pottery and ceramic building materials recovered from brickearth floors Group 921 show that this building dates to AD 100-120. A very few sherds recovered from the fills of Group 120 post-dated AD 110/120 but these are likely to be associated with the disuse of the building.
- 7.3.12 An extremely ephemeral part of a possible clay and timber building was recorded to the north-east of the building above. It consisted of two highly truncated brickearth floor layers, Group 919, and a dense cluster of tiny postholes or stakeholes, Group 918. The latter were not large enough to have supported any type of structure heavier than an internal partition wall. The ground plan of this putative building cannot be speculated upon. Pottery recovered from a make-up layer below the floors was dated AD 90-120. The surface of the brickearth was recorded at or below 0.96m. If the features described above formed part of a building it would have stood immediately to the east of the backfilled road ditch.
- 7.3.13 Possible evidence of another building, Group 926, was recovered to the west of the road ditch opposite the area occupied by Groups 919 and 918. Very few structural elements such as postholes or beamslots were discovered, with the exception of gully [6458] which is probably a robber cut for a substantial beamslot. It would not be possible to recreate a ground plan of a building, largely because modern intrusions and the proximity of the edge of excavation had masked earlier developments. However, a series of superimposed external surfaces and brickearth floor layers suggested that a building had once stood in this area. This interpretation was supported by a group of layers, interpreted as hearths, that exhibited evidence of intense localised burning and re-use. Layer [6865] formed the base of one of these hearths. This scorched area was covered by a layer of fine sand which had almost certainly been used to douse the fire. The sand layer itself was sealed by a layer composed of scorched sand and charcoal which indicated a second burning episode. Two other hearths were found in this area. It is possible, given the absence of structural elements found in this area, that the contexts which formed the northern part of this Group represent a roughly floored external working area.
- 7.3.14 A very large pottery assemblage consisting of 1,342 sherds weighing 32,609g was recovered from Group 926. Four sherds from this group post-date 110 AD but with the exception of these elements the pottery suggested a construction date in the late 1st or early 2nd century.

- 7.3.15 Although found in a different area from the major clay and timber building described in Area C1 this possible external working zone extended south from a point almost adjacent to Floor and Sill Group 150 and External Surface Group 152. These groups, representing structures and floors/paving, were only separated by modern intrusions. The highest levels taken on the surfaces recorded as Building Group 926 were 1.18m and 1.11m OD. However, a level of c. 1m would be more representative of the prevailing ground level. This would be consistent with the ground surface associated with the building located to the north and slightly lower than that found to the south. The evidence from Areas C1 and C2 suggests that a developed frontage consisting of buildings and associated external metalling covered a distance of c. 40m on the west side of the road ditch extending from the southwestern limit of Area C2 into the southern part of Area C1. This development was not traced further north into Area A where it adjoined Area C1. However, it should be noted that this part of Area A contained many later intrusive features and a massive medieval ditch had obliterated all of the earlier stratigraphy adjacent to the road ditch within a few metres of the building recorded in Area C1.
- 7.3.16 Further evidence of buildings constructed in this period was both limited and fragmentary. Building Group 1120, Area E1, consisted of four beamslots and a possible brickearth floor which covered an area measuring c. 5m north-south by 3m east-west, although the structure was truncated and extended beyond the limit of excavation to the west. The floor of this structure was found at 0.94m OD. Dating evidence was limited but the latest of the small quantities of pottery and ceramic building materials recovered dated to AD 100-120. More plentiful dating evidence was recovered from Layer Group 1118 which sealed the building. Vast quantities of pottery were recovered from layer [8378] and there is no doubt that this Phase 5 Group dates to after AD 130. If Group 1120 did represent a building it must have gone out of use by the middle of the 2nd century.
- 7.3.17 An extensive linear cut, possibly a foundation for a brickearth sill, was recorded in Area E2 as Group 874. The feature was located immediately to the east of the road ditch but not aligned to it. No other structural elements or floors were found near this possible sill.
- 7.3.18 A small post-built structure might have existed in Area E3 where an alignment of three large distinctive square postholes was recorded as Group 869. Later intrusions had impacted on what would have been the southern part of this structure so no convincing ground plan could be recovered. A fragmentary mortar surface adjacent to this alignment of posts was recorded as Group 871. The mortar lay at a height of c. 1m. A small stretch of a curvilinear ditch [10330] (Group 876) was found to the northeast of Surface Group 871. It was thought that this might have formed part of a ring ditch of the type common around Iron Age roundhouses. The limits of excavation and total truncation from a nearby massive medieval ditch might have precluded the recognition of further elements of this structure. However, further examination of the features in this area suggests that ditch [10330] was more likely to continue as [10518] and was not of a sufficiently closed form to have been associated with a roundhouse.
- 7.3.19 More fragmentary evidence of possible timber structures was found on the western edge of Area G1 where it was recorded as Group 365. A linear cut, [13157], interpreted as a beamslot ran parallel to brickearth sill [13101], which was located c. 4m to the east of it. Four small postholes were spaced out along the length of the sill. Two very small fragments of possible brickearth floors were found adjacent to the beamslot but again no convincing ground plan could be produced for this possible building. Extensive gravel surfaces, Group 358, were found to the north of this structure although Ditch Group 359 would have separated them from it. The surfaces were recorded at a height of up to 1.19m OD and broadly dated from the pottery to AD 70-120 and AD 70-160. These surfaces apparently dated to the early part of this phase as they were sealed by Layer Group 362 which contained two late 1st century coins and some early 2nd century pottery.
- 7.3.20 In Area F1 activity dated to this period was largely limited to the excavation of substantial ditches. The most extensive of these was recorded as Ditch Groups 548 and 349, the northwest-southeast aligned ditch was evident over a distance of c. 36m and continued beyond the limits of excavation to the south. The ditch was backfilled with material dated to the later part of Phase 4 and some



elements of the pottery assemblage recovered from fill [11985] suggest that this feature continued in use into the middle of the 2nd century. A second large ditch [12008], Group 549, was laid out roughly at a right angle to Group 349 and extended across the entire width of Area F1. The ditch continued into Area G1 where it was recorded as Group 359. Extensive gravel surfaces were recorded adjacent to these ditches as Group 448. This area of metalling extended over c. 12m by 4m on the northern side of Ditch Group 548=349 and rose to a height of 1.33-1.43m OD. If these surfaces were associated with buildings they were not apparent within the limits of the excavation.

- 7.3.21 A shallow northeast-southwest aligned ditch [3920], Group 667, was documented to the east of the modern foundations which had truncated the southwest of Area B1. This ditch was also recorded as Group 715 within the area subdivided by modern intrusions. The alignment of this ditch is notable as it runs parallel to the 'road ditch' described above and to the '*temenos*' ditch. In fact the ditch recorded as Groups 667 and 715 is almost equidistant between the two, being roughly 25m from either feature. This provided further evidence that this system of land division was effective across the entire site. It is probable that Ditch Group 667 had originally extended further to the north but it had been truncated away by later ditches and would have then continued into an area that could not be excavated due to contamination. The dating of the two different ditch Groups marking this alignment is slightly different, as is their position in the stratigraphic sequence. It appeared that Group 715, representing the southern part of the feature, was slightly earlier and may have gone out of use before the larger northern portion (Group 667). The latter contained pottery dating to after AD 120/130 and appeared to continue in use well into the middle of the 2nd century whereas Group 715 was probably backfilled earlier. The backfilling of both may have extended into Phase 5.

#### **7.4 Phase 5: Hadrianic and Antonine c. AD 120-160 (Fig. 7)**

- 7.4.1 Many of the buildings constructed in the late 1st and early 2nd centuries went out of use by the mid 2nd century and were not replaced. This was particularly apparent in the northern half of the site. In Area C1 the Phase 4 building recorded as Groups 149 and 150 was demolished and the area levelled. Layer Groups 172, 185 and 214 all sealed parts of the building or the associated external surfaces. The widespread deposition apparent in this area produced a fairly level ground surface lying between 0.95m and 1.05m OD. Many of the pottery assemblages recovered from the layers were small as the area was riddled with later intrusions which had truncated the levelling deposits. However, when grouped together these assemblages provide a solid basis for dating and pottery ranging from AD 120/130 to AD 160/170 occurs throughout the Area. A very dense alignment of small post and stakeholes recorded as Group 156 passed from northwest to southeast through the south of the area above the levelled building. This Group was interpreted as a fence line. Very little activity datable to Phase 5 took place in this Area outside of the events described above. Some small pits were recorded as Groups 218, 219 and 221 which seemed to respect the alignment of the fence line.
- 7.4.2 A very similar story could be told for Area E1, located to the north of Area C1. The Phase 4 features recorded as Building Group 1120 and the associated Surface Group 1121 formed a small part of a complex sequence of activity documented as part of that earlier period. The Groups of pits, postholes and linear cuts indicated a period of rapid development and change with periodic levelling of areas as structures went out of use. This frantic activity was replaced by widespread deposition which covered the vast majority of the area, this levelling episode was recorded as Group 1118. The massive pottery assemblage recovered from layer [3769], already mentioned above, places this development very firmly into the AD 130-160 dating bracket. Ground level was raised to just below 1m OD. The excavation of a few pits and postholes, recorded as Group 1117, followed the levelling but as with Area C1 redevelopment of the levelled area is significantly absent.
- 7.4.3 A similar paucity of development can be noted for Area A although a few notable features were recorded. Widespread deposition was again a significant feature of the early part of Phase 5.

Layer Groups 284 and 249 covered most of the area; their deposition raised ground level to between 0.95m and 1.07m OD, values consistent with the ground surface developed to the west and north in Areas C1 and E1. Group 284 is very well dated by the pottery recovered from layers [1172] and [1299]. Both of these contexts produced assemblages consisting of over 300 sherds dated to AD 120-150 and AD 120-130+ respectively. Some of the pottery assigned to the layers which form Group 249 is clearly intrusive but layer [1386] contained an assemblage of 1,178 sherds dated AD 70-135. However, this broad-ranging spot date is totally unrepresentative as many of the fabrics date to after AD 120, very few of the forms of fabrics documented continued in use later than AD 160.

- 7.4.4 Wall [1034], Group 310, has the distinction of being the earliest, and possibly the most enigmatic, masonry feature recorded on the site. It consisted of little more than a single line of mortared stones 1.25m in length which ran east-west through the northeast of Area A. The 'wall' did not appear to have a construction cut or foundation and no further structural elements, whether in masonry or timber, were evident in this area. Nor were there any surfaces associated with this feature and its function, in such splendid isolation, remains unclear.
- 7.4.5 A timber box structure, Group 255, was located in the north of the Area on the west side of the massive medieval ditch that bisected the northern half of Area A. The feature consisted of a square pit c. 2.10m in width with planks supported in the corners by posts. The function of this timber box was unclear but it may have been associated with some sort of craft process as the fills were notable for containing patches of an almost pure clay waxy substance. No useful dating evidence was recovered from this feature.
- 7.4.6 A possible timber structure might be represented by elements of Posthole Group 318 which was located in the southeast corner of the area. An alignment of posts could be made from these elements but they were not uniform in size or spacing; the vagaries of survival may have produced a group more apparent than real in this area.
- 7.4.7 A very interesting group of small pits was located to the southwest of Posthole Group 318. These shallow features measured less than 0.70m across and were filled with extremely dark grey and black deposits that contained a very high proportion of charcoal and some burnt bone. It was initially thought that these features might be cremations but analysis of the bone fragments suggested burnt sheep bone with no indication of human remains. Cremation Group 304 was, however, notable for a complete Highgate Wood C 3E beaker recovered from context [4063], a fill of pit [4062]. The beaker dates from AD 70-160. The placing of complete vessels in cut features has often been connected with ritual deposition and it might be that although these features did not contain human remains they were not simply used for waste disposal. Another example of a pit of this sort, context [7110], was found to the northwest in Area C1, it formed part of Pit Group 221.
- 7.4.8 Widespread deposition for levelling was also a notable feature of the western half of Area B1. In the north of the Area the surface of Group 669 was recorded at c. 0.95m. Very little useful dating evidence was recovered from this Group but Pit Group 670 which truncated it contained pottery and ceramic building materials dating to the middle of the 2nd century. Better dating evidence was obtained from the deposits which were recorded as Group 671. These layers were dated to around AD 120-140 by the pottery recovered from them. They were located close to Group 669, the surface of the Group was recorded at 0.90-0.95m OD. In the southeast of Area B1 Groups 674, 675 and 678 all represented Phase 5 levelling. The highest levels recorded on these newly formed surfaces were between 0.90m and 0.96m OD. Very little useful dating evidence was recovered from these Groups but the latest pottery date was AD 120-130, suggesting that these layers were deposited during the first half of Phase 5.
- 7.4.9 Numerous postholes of diverse shapes and sizes were found in the central area of the site, these were recorded as Group 668. No obvious structural pattern could be detected in this Group. Area B1 appeared to be open ground for the majority of this period. Apart from episodes of widespread

deposition and levelling described above activity in this area was confined to the digging of a small number of pits, postholes and small linear cuts. The majority of this activity was confined to the west of this area.

- 7.4.10 A truncated fragment of masonry [2492], Group 981, was recorded in the northwest corner of Area B2. The stone foundation only measured 0.70m by 0.40m and the extreme level of truncation meant that even establishing the orientation of the wall was challenging. The longest axis of the extant foundation was in fact at 90° to the east-west orientation of the construction cut [2493]. Further structural elements were not apparent in the surrounding area of Area B2 or in the adjoining Areas B1 and particularly E2 which should have contained more walls or robber cuts had they survived. Whatever type of structure was represented by the fragmentary wall virtually all trace of it had been obliterated by later construction and robber trenches.
- 7.4.11 A particularly dense concentration of 124 small postholes was recorded as context [3523], part of Group 979. A north-south alignment of five or six larger elements was evident on the west side of this group but the vast majority of these tiny shallow cuts formed no pattern. The significance of this group is unclear.
- 7.4.12 A horizon of mid orange sandy silt was laid over most of Area B2; it was recorded as Group 980. The newly formed ground surface was recorded at a maximum height of 1.09m but a level of c. 0.90m to 1.00m was more representative. The sand was largely sterile and dating evidence was sparse. However, layer [3445] contained a small but very consistent pottery assemblage which dated to after AD 150 and might well date to after AD 170. This might suggest that the levelling and raising of ground level documented as Group 980 may have extended into Phase 6, the late 2nd century.
- 7.4.13 No evidence for buildings and very little for structures of any sort was recovered from the areas adjacent to the northern limit of the site. In Areas E2, E3 and E4 widespread deposition was again evident and recorded as layer Groups 865, 1029, 868 and 756. The new ground surface formed by these layers ranged from a maximum of 1.07m OD in Area E2 through 1.15m OD in Area E3 and 0.83m OD in Area E4. The topography of this area still reflected the contours of the natural deposits below with the highest ground found in Area E3, although levelling had drastically reduced the slope from E3 westward into Areas E2 and E1. Dating evidence for these Groups was generally sparse but Group 1029 sealed Posthole Group 1030 which contained four contexts that were dated to after AD 120.
- 7.4.14 Posthole Group 1030 provided an exception to the severely limited signs of structural activity in these areas. This Group was located in the western part of Area E2 and consisted of a variety of components including small driven posts, small postholes and larger post settings with evidence of tile packing. Some alignments are discernable within this group but the elements are not large enough to have supported a building. Fence lines or enclosures are the most obvious possible interpretations for this Group. These functions are also probable for the cluster of small postholes recorded as Group 115 in Area E4 in the northeastern corner of the site.
- 7.4.15 Larger cut features such as pits provided further evidence that this part of the site was open ground during Phase 5. Group 1025 comprised a variety of shapes and sizes of pits spread over Area E2. These features provided limited but consistent pottery spot dates indicating that they were excavated and backfilled in the middle of the 2nd century.
- 7.4.16 A very different sequence of events from that common to the north and western areas of the site was documented in Area C2. The clay and timber buildings that had been such a notable feature of Phase 4 were demolished and, for the most part, were not replaced. Evidence of new buildings was largely confined to the east side of the 'road ditch'. Unfortunately large modern foundations had heavily impacted this part of the area and the remains found were very fragmentary. Some structural evidence persisted in the form of Building Group 903 which consisted of a row of trench set postholes 0.15-0.20m in diameter which divided the brickearth floors recorded as Group 904.

The floor layers were quite extensive, measuring up to c. 3m by 4m but further wall lines that enclosed them were not discovered. In part this was due to the truncations that removed much of the stratigraphy to the south. Dating evidence was sparse in the fragmentary floor layers which constituted Group 904 but the pottery recovered suggested that these deposits dated to the mid 2nd century. A further concentration of fragmentary brickearth layers excavated among the modern foundations to the south of Building Group 903 was documented as Floors Group 902. It is unclear whether these floors formed part of the same building as Groups 903 and 904. The levels taken on the floors tended to suggest that they had once formed a single structure as they all fell between 1.40m and 1.47m OD. The pottery assemblages recovered from Group 902 were small but five of the ten spot-dates obtained dated these deposits to between AD 110 and 150 with the others slightly earlier in date.

- 7.4.17 A group of layers interpreted as external surfaces, or make-up layers for them, occupied most of the southern half of Area C2. Group 911 was deposited before the floor and building Groups described above, it was probably laid down after AD 130 and may represent general consolidation of the area prior to construction rather than gravel surfaces specifically connected with a single building. However, one of the features that forms part of this group was a north-south aligned gravel path c. 1.20m wide recorded as layers [7163] and [7164]. Both of these heavily rammed surfaces were laid in a shallow cut and this gravel path was clearly designed to connect specific zones of the built-up area. A much more substantial path located to the north of the truncated fragments mentioned above and following roughly the same alignment was recorded as Group 909. This feature extended over a much greater distance, 5m, before reaching the limit of the Area to the east. It is possible that a building occupied the southwest corner of Area C2 and that the path was associated with it.
- 7.4.18 A line of substantial postholes or more probably post pits was recorded in the eastern part of Area C2 as Group 910. These postholes were on average c. 0.60m in diameter and c. 0.25m deep. The line of postholes extended over a distance of 10.5m but no parallel line that might indicate the presence of a building was found. This might in part be due to the proximity of large modern intrusions to the east but it is more probable that the structure represented was never composed of more than one line of posts. An enclosure of some sort, possibly around a small garden, could be a distinct possibility given the probable presence of a building to the south and west of the fence line.
- 7.4.19 A noticeable concentration of activity dating to Phase 5, some of it structural, was apparent in the extreme western part of Area G1, immediately to the south of the buildings located in Area C2. Extensive deposition took place above the area previously occupied by clay and timber buildings in Phase 4. Many of the layers excavated as part of Group 369 were small due to later truncations and the pottery assemblages recovered from them were correspondingly limited in size. Despite this a very consistent dating bracket of AD 120-160 was established for this group. The newly formed surface lay at c. 1.50m OD, a level consistent with the adjoining Area C2. Ground level would have sloped down gently to the east. The surfaces recorded on Layer Group 367, located some 20m to the east, lay just above 1m OD.
- 7.4.20 Evidence of structures was extremely fragmentary due to the frequency of later intrusions in this area. Patches of brickearth floors, gravel and a surface formed by a tile spread [12803] were recorded as Group 370. Very little dating evidence was recovered from these layers but they sealed Layer Group 369, which was well dated to c. AD 120-160. Fragmentary evidence of above-ground structures was recorded as Group 375. A narrow beamslot [13058] was discovered with a series of postholes running alongside it, a second linear cut [13036] may have formed a return to this feature. These features were not well dated but are later in the stratigraphic sequence than both Layer Group 349 and the pits recorded as Group 372. The pottery recovered from the fills of these cut features was not abundant but the moderately sized assemblages present confirmed that the features under discussion were all excavated in the middle of the 2nd century.

- 7.4.21 The most influential feature recorded on the entire site was a southwest to northeast aligned ditch which extended over 80m from Area F1 (Group 350) through Areas G1, F2/G2 (Group 5) and finally through Area D (Group 789) before its course was lost at the junction of Areas D, E4 and G3. This ditch was thought to follow the course of a natural watercourse. This interpretation was based on the uneven course taken by the ditch and the proximity of the southern ditch terminus to higher ground. The ditch did not follow a straight line in the south; its course altered every few metres. This was very uncharacteristic of a linear Roman feature, a simple drainage ditch or boundary marker would surely have followed a straight course. This 'feat' of engineering can be achieved with three poles or a large ball of string and would hardly have taxed any Roman engineer or surveyor. The character of this watercourse appeared far more natural than imposed and the feature might well have originated as a small stream.
- 7.4.22 Only the extreme south end of the ditch lay in Area F1, where it was recorded as Group 350. The ditch was c. 1.80m wide in this area and up to 1.20m deep. A considerable quantity of timber was found in the backfilled or silted up ditch, although in some Areas this was only apparent in later fills which form part of later phases. The timbers represented at least two structures. One of these would have been a plank revetment to support the sides of the ditch whilst the other consisted of fragments of fence panel that had been thrown into it. The fence had obviously been partially dismantled before being disposed of, none of the elements of the timber drain appeared to be *in situ* and it seemed clear that the drain had also been deliberately dismantled rather than decaying and collapsing. The abundant pottery recovered from the fills found in Areas F1 and G1 indicate that the southern end of the ditch was probably silting up during the mid-late 2nd century AD.
- 7.4.23 A striking feature of this ditch was the frequency of finds of all categories which had been deposited in it. The wealth of objects such as pottery, including complete examples, glass and leather, contrasted sharply with the low levels of domestic objects occurring in cut features of this or earlier dates across the site as a whole. A general paucity of pits containing rubbish was a notable feature of the Roman landscape. In later periods this apparent cleanliness might have been associated with the religious usage and beliefs that came to dominate the Roman landscape, a subject that will be discussed in due course.
- 7.4.24 As stated above some of the pottery vessels found in the ditch were intact and there would be no reason to discard them simply because they were no longer functional. This, and the frequency and range of the finds, led to the interpretation of this group of finds as objects ritually deposited into a natural watercourse. This interpretation was reinforced by detailed examination of the pottery which showed re-firing of some vessels and possible ritual drilling before firing. This document is not an appropriate space for a full discussion of this activity. At present it is sufficient to remark that the pottery and other objects might be votive offerings. The deposition of these objects could be connected with a system of beliefs so divergent from our own that their significance is no longer apparent. However, it is possible that this group of finds could simply represent domestic rubbish disposal.
- 7.4.25 Further evidence dating the backfilling of the ditch to the second half of the 2nd century was recovered from Area G1. The pottery assemblage recovered from fill [12825] included two sherds that dated to after AD 180 but the vast majority of it once again belonged to the mid-late 2nd century. The very small pottery group found in the early fills excavated in Area F2/G2 did not alter the dating sequence. There is, however, no doubt that within Areas G1 and F2/G2 the ditch continued in use well into the third century and possibly beyond that. Later fills recorded as Groups 21 and 29, Phase 7, demonstrated unequivocally that the ditch continued in use further to the north and that objects continued to be cast into it. These deposits can be viewed in conjunction with the later establishment of a religious precinct on the site (see below, Phase 6).
- 7.4.26 The course of the ditch continued to the north of Area F2/G2 into Area D where it was recorded as Group 789. A small pottery assemblage recovered from the fills excavated here confirmed that the ditch was silting up in the mid-late 2nd century, although the frequency of finds in this area was greatly reduced when compared to the areas to the south. Due to the complex nature of the

channels in the north-eastern part of the site the ditch could not be traced beyond Area D with any certainty.

- 7.4.27 A significant group of posts related to the ditch was recorded in this area. Post Group 790 consisted of an alignment evident on the eastern side of the ditch covering a distance of c. 10m. The posts were not close enough to the edge of the ditch to act as supports to it but appeared to be the remnants of a free-standing structure which followed the alignment of the ditch. This Group could represent a fence line; elements of discarded fence panel were tossed into the ditch as it silted up and were recorded as parts of Group 787, which dates to the 4th century. The potential fence line is of great importance as it may have defined the eastern boundary of the religious complex described below.
- 7.4.28 The ditch is of fundamental significance to the understanding of how the landscape of the site developed and later uses were aligned to it. It is referred to as the '*temenos*' ditch in the lists and diagrams that demonstrate how the Groups are formed and relate to each other, and will be referred to as such in the remainder of this document. This designation is a simple way of referring to this feature and relating it, and its probable ritual function, to the later religious precinct or *temenos*. If this feature was originally a natural watercourse it may have determined the very establishment of the religious precinct in this area.
- 7.4.29 A small square masonry building was found on the boundary between Areas D and G3. In Area G3 it was recorded as Group 62; it consisted of two lengths of chalk foundations within a trench c. 0.50m wide. The foundations formed a right angle that had once been the southeast corner of the building. The walls extended beyond the limits of the area into what had previously been Area D. The latter was excavated under particularly adverse circumstances and the walls had not been picked up when the area was examined. However, a linear cut originally interpreted as a drain, Group 820 in Phase 8, may well represent a robbed out foundations that had formed the southwest side of the structure. If this interpretation is correct the building would have measure c. 4m square. No useful dating evidence was recovered from the foundation trenches themselves but the pottery from a gravel surface found adjacent to it, layer [13121], was dated to AD 120-150. This layer was a small fragment of extant metalling directly associated with the building. It formed part of Group 111 which included larger paved areas which survived to the northeast of the building. The gravel surfaces to the north survived to a height of 1.20-1.25m OD, the surface associated with the building and the floor of the building itself were found closer to 1.00m OD.
- 7.4.30 The interpretation of this structure was hampered by the lack of detail in the surviving remains. It seemed clear that this was not a domestic building; a single celled masonry structure 4m square does not correspond to known Roman dwellings of this date. Given the extensive development of a religious precinct very soon after this building was constructed interpreting it as a small shrine is not overly contentious. The building lies outside of the area thought to have been defined as the precinct, to the east of the '*temenos* ditch', but it could mark a crossing point over it. Whatever the interpretation this structure and the associated surfaces clearly shows that this area had been transformed from a marshy backwater, dominated by peat-filled channels, into dry land with buildings by the late 2nd century.
- 7.4.31 The relatively low level of the water table in this period compared to the earlier part of the Roman occupation was confirmed by the presence of a timber-lined well, Group 60, located to the northeast of the square building. This is an important feature, not least because Roman wells of any date were uncommon on the site. The base of the construction cut was recorded at 0.07m OD, which should indicate the rough level of the water table at the time (the base of the *temenos* ditch in contrast varied between -0.23 and -0.83m). This feature is also important because its presence presumably demonstrates that clean water could be extracted from an area which had previously been connected to tidal channels. Salt water would not have been an attractive prospect but developments beyond the bounds of the site had clearly and radically altered the topography of this part of Roman Southwark. The pottery recovered from the well dated its backfilling to AD 130-180. The ceramics were also interesting as two virtually complete bowls

were found in the base of the well. These could be interpreted as placed deposits of ritual significance rather than casual loss.

## **7.5 Phase 6: Late Second Century c. AD 160-200 (Fig. 8)**

- 7.5.1 The entire built landscape of the site was transformed in the late 2nd century. The rather ramshackle array of clay and timber buildings and open ground was replaced by a planned development focused in the northwest corner of the site. Two masonry buildings, interpreted as Romano-Celtic temples on the basis of their ground plan, were found along the west and north sides of the site separated by a distance of c. 40m. Extensive gravel surfaces were laid close to the southern temple, smaller structural elements might have served as external altars, small shrines or plinths for statuary. The development of the precinct was not achieved exclusively in the late 2nd century, it was developed and altered over the following centuries, and once established it continued in use throughout the late Roman period. Some details of the Phase 6 developments are given below.
- 7.5.2 The fragmentary remains of a building interpreted as a Romano-Celtic temple, the southern of the two, were found spanning the boundary of Areas C1 and C2. Modern foundations and intrusions had heavily impacted this part of the site and the structure extended beyond the limits of excavation to the west. Despite these difficulties part of its ground plan could be reconstructed in Area C1 as Group 147. The foundation trenches measured 0.70m wide and as found were c 0.60m deep. When pieced together the fragments of foundation cut formed two trenches. An inner northwest to southeast trench with a right angle on the western side (the continuation proceeding south into Area C2) was set within an outer trench running parallel to it with a gap of 2.40m between The lines of the foundation trenches continued further to the south within Area C2 but only as later robber cuts. Robber Group 562, a Phase 10 medieval feature, represented the inner wall whilst the outer wall was represented by the Phase 8 Group 892. Even when all of the elements marking the lines of the walls and subsequent robber cuts are plotted together only the southwest corner of this structure can be reconstructed with certainty and it is admitted that the ground plan could represent any form of building with an external colonnade. However, when placed in the context of other developments on the site the interpretation of these remains as a temple seems more than plausible.
- 7.5.3 If the original form of the building was indeed a classic square within a square the overall size of this structure would be the next step in its reconstruction. Unfortunately the fact that the building extended beyond the area of excavation meant that even the full length of a single wall was not extant. However, a second, northern, temple recorded in Area E2 can provide a guide to the likely size of the southern example. The inner walls of the northern temple would have measured c. 5m each in length and the outer colonnade wall would have measured c. 10.5m. The dimensions of the various elements representing the southern temple indicate that the building would have been of at least equal size. It was clear that both temples were laid out on the same alignment, respecting the earlier road ditch, and given that they appeared to be contemporary and of identical size and function this is unsurprising.
- 7.5.4 The masonry used in the foundations of the southern temple was puzzling. Virtually nothing of the original stonework survived within the construction cuts, with the exception of an area adjacent to the limit of excavation in Area C1. Where extant the stonework only occupied the upper part of the foundation trench, the lower part had been backfilled with earth. At first it appeared that these trenches were robber cuts but this would not have explained why some of the stone had not been transported for reuse and certainly would not have accounted for the fact that the extant stone was only found within the foundation cuts. It appeared that this was a case of deliberate subterfuge by the builders of the temple. Enough stone had been used to give the appearance of a foundation but considerable time, expense and raw materials had been recouped by backfilling most of the foundation trench with soil.

- 7.5.5 The puzzling arrangement of stonework, characterised by a lack of functionality, was repeated in the arrangement of timber piles found in the base of the foundation cuts. Supporting a masonry structure built over soft ground with closely spaced wooden piles was a common Roman construction technique (cf Salvation Army site, Bradley and Butler 2008; Roman Riverside Wall, Hill et al 1980). However, the piles were neither sufficiently robust, frequent or closely enough spaced to have offered any practical support to a masonry structure. The occurrence of the piles might have been purely incidental, and these timbers might actually have been remnants of earlier features truncated by the foundation cuts.
- 7.5.6 The dating of this structure is clearly of great importance. Sadly the pottery that relates to this Phase recovered from this area of the site, not just from the foundation trenches, was extremely infrequent. Most of the useful dating evidence falls into the period AD 120-160, some individual sherds date to after AD 150 or 180 but are insufficient to provide a secure construction date. One of the sand layers which formed Group 155, the levelling horizon for Gravel Surface Group 154, sealed a pit fill [6231] which contained four sherds dated AD 170-230. The gravel surfaces were clearly associated with the temple but it is admitted that the available dating evidence is sketchy. However, no finds were recovered that dated either the surfaces or the building to the 3rd century. A very considerable amount of activity was documented in this area during Phase 5 and the dating of those activities to the period AD 120-160 was well supported by the abundance of pottery recovered. The phase of development including the temple construction must be later than this date.
- 7.5.7 A second masonry structure was evident on the northern limit of Area C1 and extended into Area E1, this feature was recorded as Group 176. A shallow rectangular cut measuring 3.40m north-south by 3.20m east-west had been filled with lumps of unworked and unmortared ragstone. This rubble foundation clearly did not form part of a wall or building but almost certainly served as a base for some form of above-ground structure. The necessity of a masonry foundation would imply that the standing structure was itself formed from masonry. This feature was therefore interpreted as a plinth base. The plinth could have served many functions. It is quite possible that this solid base was used as a support for a statue, fragments of statuary in both bronze and stone were recovered from this and other areas of the site. The longest axis of this feature followed the alignment of the temples and the road ditch.
- 7.5.8 Virtually the entire area between the plinth and the southern temple was occupied by a sand horizon which had been dumped and levelled below a gravel surface which capped it. These deposits were recorded as Groups 154 and 155 respectively. Later cut features had criss-crossed these extensive and homogenous layers, the resulting remnants consisted of tiny upstanding "islands" of intact stratigraphy. Not surprisingly the pottery assemblages recovered from the individual layers were correspondingly small but the overall impression gained here was that the frequency of domestic waste had always been very low and clean, freshly quarried sand and gravel had been imported to the site during construction of the temple complex. The newly formed surface in this area lay at c. 1.15m OD. This gravel surface appeared to have continued in use for around a century, possibly a little longer. Although there were numerous cut features truncating the gravel surface none of them were dug before the middle of the third century and most of the 3rd century cuts probably date to the last quarter of that century.
- 7.5.9 To the north of the plinth in Area E1 a prepared surface, similar to the compacted gravel in Area C1, was not apparent. It is possible, given the paucity of dating evidence, that the extensive Phase 7 mortar preparation recorded as Group 1110 was contemporary with the gravel surface to the south but this relationship cannot be proven. This matter is discussed below in Phase 7. Extensive sand levelling layers recorded as Group 1116 covered virtually the entire Area. An elevated quantity of domestic waste was included in many of these deposits and, in sharp contrast to the very clean sand layers excavated in Area C1, some large pottery assemblages were recovered from them. Layer [8377] contained 513 sherds weighing 14,884g. A large proportion of this assemblage is residual early Roman material but a significant proportion dates to after AD 110/120 although even the latest dated wares were going out of use by AD 160. The sand layers



in Group 1116 do little to inform us of when the temple complex was constructed apart from indicating, once again, that it was later than the middle of the 2nd century. The surface of the dumped sand was recorded at c. 1.05m OD.

- 7.5.10 One very notable group of features, Group 1114, recorded on the newly established ground surface was a dense concentration of postholes located in the northern part of Area E1. These ranged in size from large potentially structural elements up to 0.60m in diameter to very small circular holes less than 0.10m wide. No easily discernable pattern could be seen in the plan of this group although further analysis might produce a clearer picture. At present it is difficult to envisage what kind of structure these postholes represent.
- 7.5.11 An intriguing enclosed space was apparent to the west of the postholes described above; this area was surrounded by a shallow sub-rectangular gully recorded as Group 1260. The full extent of the enclosed area was not apparent as it extended beyond the limits of excavation to the north but as seen it measured over 8m southwest to northeast and c. 5m wide. The flat-bottomed gully forming the enclosed area was 0.30m wide and 0.20m deep. The function of the gully is unknown, although limited in size it could potentially have contained a light sill beam but if this Group does represent a building there are no internal features such as postholes to indicate additional support for a roof.
- 7.5.12 The northern temple was located in Area E2, to the east of the massive medieval drainage ditch that divided Areas E1 and E2. It was recorded as Group 1021. The structure extended beyond the limits of excavation to the north but the overall dimensions could be established as the southern sides of both the inner and outer walls were extant. This area of the site had been particularly badly affected by later truncations. The foundations for a warehouse structure were located here and much of the 19th and 20th century drainage system within the site passed through this area. Only the very lowest course of the foundations survived over most of the area examined. Although the ground plan of the structure was clear the level from which the building had been constructed was lost and with it the dating evidence for when this event took place. Very little dating evidence was recovered from the foundation trenches themselves; the pottery recovered offered little beyond suggesting that the temple post-dated the mid 2nd century. Some of the ceramic building materials suggested slightly later dates, one spot date suggested that the building was constructed after AD 140. Another wall, [8266], contained tile fragments dated to after AD 190 but this was not an original part of the build and so it might be argued that this represented continued use of the structure rather than its initial construction. The assemblages of both pottery and ceramic buildings materials were small and the presence of tiny quantities of medieval pottery and early post-medieval building materials demonstrated that the modern intrusions had compromised the dating evidence.
- 7.5.13 Some indication of the construction date for the temple might be gained from examination of a set of gravel surfaces located to the east of the building, although it should be pointed out that these layers could not be stratigraphically linked to the temple as the modern intrusions separated the areas concerned. The gravel surfaces were recorded as Groups 856 and 1024. The evidence available suggests that one of these deposits post-dates AD 140 and another AD 170, but the frequency of pottery was extremely low. Group 856 can be related through the sequence to the Phase 7 Layer Group 1016, which undoubtedly dates to the 3rd century. The metallurgy was clearly present before the deposition of that group but a date early in the 3rd century rather than late 2nd for the creation of this surface would also be possible. The surfaces survived to a height of c. 1.30m OD.
- 7.5.14 A dense concentration of postholes was evident to the south of the temple, it was recorded as Group 1018. Some of these features were large enough to have taken sturdy posts measuring c. 0.30m in diameter but no clear pattern emerged in their distribution. A sub-circular pit [7206] (Group 1019) was found to the north of this group of postholes. This feature was of particular interest as the lower fill consisted of a dump of ragstone rubble [7292]. It appeared that a robbed out masonry feature had once stood in this area. The dump of stones could have consisted of

discarded material after a robbing event or have served as a foundation for a structural element above it.

- 7.5.15 The fragmentary gravel surfaces layers recorded as Group 856 continued into the western margin of Area E3 but could not be traced further to the east. If they were associated with the temple structure the paved area extended at least 20m to the east of the building. There is very little additional direct evidence concerning the dating of these surfaces but they did seal the Phase 5 Layer Group 865 which is solidly dated by the pottery to the middle of the 2nd century and was probably deposited after AD 140. To the east of the gravel surfaces deposition and levelling was apparent in the form of layers recorded as Group 858. The quantities of pottery retrieved from these layers were very limited but three of them produced ceramics dates to the later 2nd century. A collection of pits and a ditch recorded as Group 857 had truncated the layers in Group 858 and provided further evidence that the surface was formed in the later 2nd century AD. Larger assemblages of pottery were recovered from the fills of these cut features and four of them produced pottery spot dates later than AD 150. One fill, [9940], contained an assemblage of 168 sherds of pottery most of which date to the second half of the 2nd century and some of which is dated to after AD 170.
- 7.5.16 Although there is no direct stratigraphic link between the gravel surfaces recorded as Groups 856 and the layers that formed Group 858 the two Groups were located almost adjacent to each other and found at the same level of c. 1.30m OD. This would suggest, if not prove, that the two Groups were deposited and used as a surface in the same period. The evidence collated from Areas E2 and E3 demonstrates that the ground surface represented by the layers discussed above was in use in the late 2nd century AD.
- 7.5.17 The area occupied by these surfaces was delimited to the north by a substantial ditch [9999], which formed part of Group 857. This feature extended beyond the limits of excavation to the north and had been truncated to the east by a massive medieval ditch but the alignment was clear along the 10.30m length that was extant. The ditch followed the east-west axis of the temples, was perpendicular to the earlier road ditch and may have marked the northern limit of the religious precinct.
- 7.5.18 To the south of this area of the precinct Area B2 appears to have remained open ground into the late 2nd century with some relatively small cut features penetrating a newly levelled ground surface. The latter was formed by the deposition of the layers which formed Group 997, the highest level recorded on the top of them was 1.07m OD but a level of around 1.00m OD was more representative. Very little dating evidence was retrieved from these layers but the cut features which truncated the horizon clearly demonstrated that the surface was in use in the late 2nd century. Pit [3083], Group 978 and ditch [2934], Group 976, were particularly well dated. The pit contained pottery that dated after AD 170 and 55 fragments of a vessel which dated to AD 170-230.
- 7.5.19 Further to the north and east in Area E4 the southern terminus of a shallow ditch [9339] extended into the northern part of Area E4. The fill of this feature contained a very high quantity of domestic waste including oyster shell, charcoal and pottery. A very large ceramic assemblage consisting of over 500 sherds was recovered from this feature; the latest pottery fabrics and types date from AD 170-210/230. This was the largest assemblage of this period recovered from the entire excavation.
- 7.5.20 Still further to the east very few developments took place in Area G3 but the small square masonry structure probably continued in use. To the south of the building in Area F2/G2 the site was apparently open ground crossed by ditches. Ground level in this Area was still relatively low; the highest level recorded on the surface of Layer Group was 0.96m OD whilst that recorded for Layer Group 92 was 0.86m OD. Dating evidence provided by the pottery retrieved from these layers was sparse and those dates that are available cover a broad bracket from the mid 2nd to mid 3rd centuries.

- 7.5.21 A timber-lined well (Group 532) was one of the few notable features dating to the later 2nd century recorded in Area F1. A barrel had formed the main upper part of the lining but a square timber box supported the base of the well. A complete Highgate Wood 3F beaker dated AD 100-130 was recovered from one of the lower fills of the well. This vessel might have been a deliberately placed deposit as it was far too small to have been of practical use in drawing water. A later fill of the well gave a pottery spot date of AD 160-200 but this was derived from a single sherd and the well could belong to an earlier period.
- 7.5.22 A linear southwest-northeast aligned cut [10498], Group 517, was recorded in the central part of Area F1. The feature was truncated to both north and south by later intrusions but as found extended over a length of c. 9m, following a similar alignment to the *temenos* ditch which was located only a few metres to the west. In fact the southern terminus of the *temenos* ditch (Group 350 Phase 5) coincided with the northern limit of cut [10498] and although the latter was truncated there was no evidence that it had ever extended substantially further north than its recorded limit. Although recorded as a ditch this feature was relatively wide, c. 2m, shallow and flat bottomed and might have represented a robbed out masonry structure although there was no evidence such as building debris in the fills to support this hypothesis. An array of small postholes, Group 518, was recorded in the base of the ditch but these features were too small to have provided any support to a masonry or indeed timber structure within this trench and their presence is probably coincidental. A very large pottery assemblage weighing over 21kg was recovered from the fill. Some of the material within this was intrusive, consisting of small quantities of late Roman and medieval wares, but by far the largest consistent element dated to the mid-late 2nd century. Whether the original feature represented by this cut was an above-ground structure or a ditch it is probable that its function was to delimit the southern side of the religious precinct which had its focus in the northwest corner of the site and probably extended to the *temenos* ditch.
- 7.5.23 Very little activity dating to the late 2nd century was documented for Areas C2 and G1 with the exception of a northwest to southeast aligned ditch, Group 425, which passed through the centre of Area G1. This feature was well dated by the pottery recovered from its fills and was clearly backfilled in the second half of the 2nd century AD. The line of the ditch could not be traced further to the south as it would have crossed an extensive area where the earlier Roman stratigraphy had been destroyed by a sequence of medieval ditches and it was not apparent to the south of these in Area F1. There is little doubt, however, that this feature continued to the north into Area C2 where it was recorded as Group 886 in Phase 8 (see Fig. 11). The northern extension of the ditch apparently continued in use over a much greater time span and was still in use into the 4th century, or Phase 8. The portion of the ditch excavated in Area G1 was very much narrower than that located in C2 and it is possible that horizontal truncation had only left the lower part of the ditch, containing the earlier fills, intact.
- 7.5.24 The remains dated to this period recorded in Area A and B1 represented a wide range of activities. A small group of pits originally interpreted as cremations was excavated in the southern part of Area A; these were recorded as Group 302. As with the earlier pits recorded in Group 304 that had been interpreted in the same manner no trace of human bone was recovered from the fills of these small circular pits. An interesting feature included in this Group was a small circular limestone column fragment [1496], measuring 0.14m in diameter by 0.24m high, which was found standing upright without apparently having been set into a cut. This stone fragment was similar to a funerary marker but the lack of footings and absence of associated burial leaves this interpretation open to debate.
- 7.5.25 A fragment of a masonry foundation [2613], Group 293, was recorded in the central part of this Area. The base of the wall was only 0.28m deep and 0.80m wide, it was truncated to both north and south; as found the maximum length was 2m. Truncation meant that this feature could not be associated with other masonry features or robber cuts.

- 7.5.26 The southern part of Area A contained most of the layers that indicated deposition relating to the late 2nd century. These were recorded as Group 901, the surface of the Group was recorded between 1.02m and 1.09m OD. This was slightly lower than the level established on the newly laid gravel surfaces in Area C1 to the west but the maximum difference between the two was less than 0.10m. To the east in Area B1 ground level was recorded at comparable levels. Two particularly high values were recorded for Layer Group 660, 1.20m OD, and Layer Group 662, 1.27m OD, but values between 1.00m and 1.10m OD were much more common. Some intrusive material was recovered from the layers and Groups relating to this period but Groups 660, 662 and 653 were solidly dated to the second half of the 2nd century by both pottery and ceramic building materials.
- 7.5.27 Features interpreted as possible ovens were recorded in the central part of Area B1, immediately to the south of the modern foundations that separated the Area from Area B2 to the north. These features were characterised by shallow poorly defined circular cuts filled by deposits rich in fragments of burnt daub. Some of these features were adjoined by linear spreads of masonry fragments, such as [3318] consisting of ragstone, masonry and mortar which might once have functioned as fireboxes or flues for the oven. These features were confined to a very limited area and it is likely that although Groups 650 and 651 are separated stratigraphically by Layer Group 653 both ovens were built in the same area at a similar level and operated over a considerable period of time. Layer Group 653 separating the oven groups contained a relatively small pottery assemblage dated to after AD 150 and ceramic building materials dated to after AD 140.
- 7.5.28 A poorly understood series of linear features and deposits was recorded in the southwest of Area B1 as Group 664. This Group might represent the robbing of a masonry structure, some of the fills and 'layers' were composed of compacted fragments of stone or pebbles which were confined to the area of the underlying linear cuts. The cuts appear superimposed one on another and probably represent the same feature, or a succession of construction and robbing events. The northwest-southeast alignment followed by the robber cut is identical to that seen in later Phase 7 robber Groups such as 644, located a short distance to the north of Group 664. The significance of these robber cuts is discussed more extensively in the text relating to Phase 7.

## **7.6 Phase 7: Third Century Figs. 9 & 10)**

- 7.6.1 The focus of the religious precinct established in the late 2nd century was found in the northwest corner of the site between Areas C1 and E2 where the Romano-Celtic temples had been built. Virtually all of Area C1 had been laid with gravel surfaces extending north from the southern temple. This situation remained, not surprisingly, largely unaltered for much of the following century. There is no evidence of widespread deposition in this Area during this phase and when cut features began to be dug into the well maintained gravel surface the majority of the 3rd century had already passed.
- 7.6.2 Ditch Group 192 consisted of a narrow and shallow linear feature which was parallel to Group 197, a more extensive group of southwest to northeast aligned linear features that crossed most the area. These features were neither wide (0.50-1.30m) nor deep (0.20-0.28m) enough to have functioned as drainage ditches and there was no sign that they represented robbed out walls. They could easily have been connected with below-ground drainage features and might represent the lines of robbed out lead pipes or drains. The temple complex must have been served by a water source and it would be entirely in keeping with a public area of this sort to be served by piped water to feed fountains and other amenities. Alternatively the trenches might simply represent the renewal of a less expensive system, wooden pipes were also available and the collar from one of these was recovered from the fill of pit [5155], which had truncated one of the linear cuts. The dating evidence provided by the pottery recovered from these linear features was very limited, consisting of little more than single sherds dating to the second half of the 3rd century. However, further dating evidence was provided by the fills of Pit Group 190 which produced a little more pottery, mostly dated to after AD 270. The sizes of the pottery assemblages were still very small but the consistency of the dates suggested that the chronology was sound which is supported by the fact these features were sealed or truncated by features and deposits

that were almost certainly 4th century. It may be noted that although signs of activity and potential decline are evident from the truncating of a previously intact gravel surface none of the cut features directly impacts on the area of the southern temple. It can be fairly safely assumed that this building continued in use.

- 7.6.3 Indeed new surfaces were being laid to the south of the temple in the northern part of Area C2. These were recorded as Group 898, the gravel surfaces extended over a distance of c.14m north-south by 5m east-west and were found at a height of between 1.30m and 1.35m OD. The pottery recovered from the most extensive layer [5818] was largely residual and did not form a consistent group but the assemblage recovered from layer [6018], although not large, dated that deposit very firmly to the second half of the 3rd century.
- 7.6.4 Fragmentary evidence of a lightly built timber structure was recorded to the south of the surfaces as Group 896. The structural remains consisted of narrow beamslots that formed a right angle and postholes inside the area delimited by them; one of the postholes was located in the corner formed by the right angle of the beamslots. Very little dating evidence was recovered from this Group but it truncated one of the deposits that formed Group 895 which was also of 3<sup>rd</sup> century date. Further dating was provided by the pottery recovered from the fills of the cut features in Groups 893 and 894 which had truncated this ground surface. Six of these produced spot dates indicating 3rd century deposition. Ground level would have sloped up slightly from the area of the southern temple to the southwest where the surface was recorded at 1.49m OD.
- 7.6.5 In the northwest corner of the site, in Area E1, the landscape was dramatically altered by the laying of a very solid and extensive external floor and the addition of major architectural elements which would have created a public piazza immediately to the west of the northern temple. The surface was initially formed from an off-white mortar preparation recorded as Group 1110. The mortar was c. 0.25m thick and covered most of Area E1, the highest level recorded on the surface was 1.33m OD. In the centre of the Area the mortar had been laid around a massive circular column base formed from a single block of Hassock stone. This feature, Group 1111, measured 1.20m in diameter and weighed 300kg. This monumental base was not used in isolation however. A medieval pit, Group 1075, recorded adjacent to the column base to the west almost certainly represented the later robbing of a massive plinth base which would have measured up to 4m east-west by 3m north-south. A second plinth base consisting of an uncoursed rubble foundation, Group 1096, was also added to the north. Although this feature had been truncated by the massive medieval ditch which bisected the area sufficient survived to demonstrate that it measured at least 3m north-south. This would have meant that the northern plinth was at least as large as a third found to the south on the margins of Areas E1 and C1, recorded as Group 176 in Phase 6. Both the surviving column base and the large square robber cut to the west of it occupy a central position almost equidistant from the plinths. This remarkable array of public architecture would have rendered this area one of the most imposing features of the Roman city south of the Thames.
- 7.6.6 Some questions remain concerning the use of this area and the durability of the surface used. There was a notable array of postholes cut into the mortar preparation, recorded as Groups 1105 to 1109. It seems curious that such a well laid floor would be riddled with holes so soon after being laid, but these groups are sealed by gravel repairs to the earlier mortar floor that are solidly dated to the third century. The composition of the floor was also a little curious, as it might have seemed more appropriate for an internal surface. However, it seems inconceivable that the area of the floor was covered, it was simply too extensive and the plinth and column bases demonstrated that this was almost certainly an open public space. It is possible that the mortar preparation was not the surface in itself and could have been floored with tiles or stone. However, no evidence for this was found and even if these elements had been later robbed for building materials there can be little doubt that some impressions, made by tiles or flagstones laid onto wet mortar, would have survived.

- 7.6.7 Whatever the intention the mortar preparation was fairly quickly required replacement and gravel surfaces were used to repair and possibly level the area. The earliest gravel horizon was recorded as Groups 1102 and 1104. As found the mortar floor had become noticeably distressed and had buckled, possibly due to the drying out and continued decomposition of the earlier organic peat horizons below. Whether this had occurred previously and prompted the repairs cannot be proven. The gravel surfaces were found between 1.09m and 1.19m OD.
- 7.6.8 More cut features, mainly postholes, truncated the gravel surfaces before they too were repaired and renewed by the laying of gravel surface Groups 1094 and 1099. No useful dating evidence was recovered from the earlier gravel horizon and very limited pottery dating suggested that Group 1094 had been laid in the late 3rd century. All of these gravel surfaces do however pre-date the Phase 8 (4th century) external surface horizon formed by Groups 1090 and 1092.
- 7.6.9 In Area E2 the northern temple continued in use and the land to the east of it appeared to have remained an open paved area during this period. Gravel Surface Groups 846 and 1023 covered most of the eastern part of the Area. Neither Group was well dated but most of the layers which constituted them were either sealed by the Phase 8 Layer Group 842 or truncated by Ditch Group 1013. Layer Group 842 only contained a small quantity of 4th century ceramics but was truncated by the better dated cut features in Group 842. The ditch fills contained within Group 1013 contained an excellent 4th century pottery assemblage, some of which might indicate that the ditch continued in use throughout the Late Roman period. A timber lined well, Group 1022, was located on the eastern margin of this Area. It was not well dated and although one of the earlier fills produced a pot date of AD 170-270 this result was obtained from a single sherd.
- 7.6.10 A rectangular pit [9792], Group 1015, was a notable feature located on the western margin of the metalled area (Group 846) and possibly constitutes a fourth plinth foundation. The fills of this feature contained very high quantities of broken up brick, tile and stone rubble. It is possible that these building materials constituted the foundation for an architectural element, possibly a plinth similar to those found to the west of the northern temple. If this feature did represent a plinth base it was considerably smaller than the others. The pit only measured 1.80m by 1.60m although the east side had been truncated it may once have been square
- 7.6.11 The Gravel Surface, Group 846, continued across the eastern boundary of Area E2 into Area E3. The highest level recorded on the surface was 1.40m OD. Less of the metalling survived in this Area; it was confined to a strip bounded by later truncations and stopped abruptly some 25m to the east of the northern temple. Further to the east horizontal deposition was recorded as Layer Group 850 which contained pottery dated to the late 2nd or 3rd centuries. Much better evidence indicating that both Groups 846 and 850 constituted a 3rd century ground surface was provided by the pottery dating for Pit Group 847. The features that constituted this Group had truncated both Groups of horizontal deposits. The pits were very consistently dated to the late 2nd and 3rd centuries, a single late sherd dating to after AD 270 was recovered but is not diagnostic of the Group. The pottery spot dates were supported by a late 3rd century coin (SF1985 an Antoninianus of Claudius II dated AD 270) recovered from fill [9616].
- 7.6.12 A few intercutting pits recorded as Group 144 were excavated in Area E4. These contained virtually no dating evidence but the latest pit in this Group, [10286], did produce a small 3rd century pottery assemblage. The small square building located in Area G3 might have continued in use into the 3rd century but widespread deposition was recorded covering the area of Phase 6 Gravel Surface Group 111, which was in turn associated with the structure. Layer Groups 110 and 49 covered much of the former surface and the excavation of larger cut features such as the pits and ditches recorded as Groups 74 and 102 gave the impression that this area was now open ground. Dating evidence for these events was sparse and largely confined to small pottery assemblages of less than ten sherds. However, the Phase 7 features and deposits recorded in this Area are generally sealed by 4th century deposits which contained slightly larger groups of pottery.

- 7.6.13 The *temenos* ditch was still in use in Areas F2/G2 and G1 throughout the 3rd century. In Area G1 fill [12753] of the ditch, Group 29 (not illustrated) contained a large pottery assemblage which included a relatively high proportion of forms dated to after AD 270, which could easily be 4th century. However, an equal or greater proportion of the pottery was dated to earlier in the 3rd century and a deposition date in the later part of that century might be more likely.
- 7.6.14 The later fills of the *temenos* ditch were recorded in Area F2/G2 as Group 21 (not illustrated). Fill [13194] contained a notable pottery assemblage of 210 sherds. A considerable number of the forms present date to the late 3rd century at the earliest but many others are earlier. This situation is identical to that found in the smaller assemblages recovered from the other ditch fills. Continued deposition spanning the 3rd century and continuing into the 4th is probably a fair reflection of the dating evidence available.
- 7.6.15 A truly remarkable find was made during the excavation of the *temenos* ditch. A sealed canister with a tightly fitting lid still in place (SF 3014) was retrieved from fill [12855]. This was incredible in the true sense of the word as the container had not been opened for between 1,600 and 1,700 years. Speculation began very early as to the possible contents and use of this vessel but in keeping with good archaeological practice, rather than mindful of Pandora's sad story, the canister was dispatched immediately for specialist analysis. This revealed that the contents consisted of a white greasy preparation which still had the finger marks of the last user visible in the top of the vessel. The composition of the preparation was found to be fatty acids of animal origin, probably from sheep or cattle, starch and tin oxide. The preparation was very probably used as a cosmetic, although it contained no trace of perfume. No medicinal value could be deduced from the mixture of components present and it appeared that the most probable use was for lightening skin tone, possibly as a foundation layer. The use of fats and starch in such products is well attested and continues today. The addition of the tin oxide would have added to the white opaque tone. Tin oxide has been, and still is, used for the same qualities in glazes employed in the manufacture of ceramics, although it is currently being replaced by zircon (Evershed et al 2004).
- 7.6.16 The continued use of the ditch as a focus for ritual deposition, or alternatively rubbish disposal, during this period seems assured. However, in the later part of the 3rd century the functionality of the ditch must have been declining. The mass of discarded timber mentioned earlier in the text becomes a very noticeable feature in this phase and there can be little doubt that the presence of the timber has very little to do with religious observance and a great deal more to do with decline and decay. A line of timber uprights running across the ditch, aligned at 90° to its axis, was recorded as Bridge Group 6. These timbers would have supported a crossing passing over the ditch and it would appear that rather than being a revered part of religious complex the ditch was becoming a muddy obstacle which blocked people's desire lines. It is probable that the ditch was already badly silted up by the time the timbers were driven and that these silts held the uprights in place. The sizes of the timbers used (up to 180 x 190 x 1370mm) would almost certainly have precluded their being driven into the gravel that formed the base of the ditch.
- 7.6.17 To the south and west of the *temenos* ditch in Area G1 ditch [13022], Group 424, extended southeast to northwest through the centre of the Area and had once continued beyond the limits of the excavation to the northwest. This ditch ran parallel to an earlier Phase 6 ditch recorded as Group 425, which had gone out of use by this time, and 424 can be viewed as a direct replacement for it. One of the fills of the later ditch contained an assemblage of over 100 sherds which date the backfilling of this feature firmly to the 3rd century.
- 7.6.18 Evidence for buildings that may have stood in this Area during the 3rd century is sparse and confined to the south and centre of the Area. A series of truncated fragments of external surfaces was recorded as Gravel Surface Group 417. This Group was divided into two parts by truncations. The western part covered a limited area, only extending c. 6m by 4m. The eastern part was much more extensive, measuring c. 15m by 10m. No wall lines or substantial postholes, which might be interpreted as buildings, appeared to be associated with these surfaces. However, a drainage feature formed from ridge tiles, [12804], which was recorded below the surface indicated that this

area had once been of some importance as a courtyard or other open space. The underfloor drain had been formed by laying overlapping imbrices end to end. Gravel layer [12771] covered the drain; this layer contained a large pottery assemblage a fair percentage of which was residual but a significant 3rd century element was also present. The highest level recorded on the surfaces in the south was 1.47m OD, ground level rose slightly to the north and recorded at 1.53m OD. The maximum height of the ground surface formed by layer Group 420, located to the north of the surfaces, was 1.55m OD.

- 7.6.19 Three intercutting linear cuts were recorded in the south of the Area as Robber Group 376. The two larger features extended beyond the limits of excavation to the south, they were originally recorded as ditches but they could represent robbed out foundations.
- 7.6.20 The remainder of the features which form part of this phase in Area G1 consist principally of small pits which are widely spread over the southern part of the Area and fragments of linear cuts recorded in the north. Some of these features contained small but significant pottery assemblages which confirm that the surfaces they truncated were in use in the 3rd century.
- 7.6.21 In Area F1 a substantial ditch, recorded as Ditch Group 514, extended southwest to northeast through the southern part of the trench. The alignment of this ditch is extremely important as it follows that established by the *temenos* and road ditches. It is also worth noting that although the course of this ditch cannot be traced further to the north due to later truncations it could have continued into Area G1 along the line followed by the later Phase 9 Ditch (Group 322). The origins of the very late Roman and medieval ditch recorded as Groups 322 and 489 would appear to lie with the 3rd century ditch that formed Group 514. The pottery assemblages recovered from the fills of ditch group 514 were small but consistently dated to the 3rd century.
- 7.6.22 Widespread deposition was documented as Layer Group 524, although this had little depth and only raised the ground level to c. 1.10 to 1.15m OD. The pottery assemblages recovered from this Group were generally small and many of the forms were residual, however, 3rd century elements were present throughout. Very few significant features or deposits of note were recorded in this Area apart from those mentioned above. Ditch Group 526 as located in the north of this Area and although fragmentary is worth comment as the northeast to southeast alignment followed by this Group is later followed by a succession of medieval and later ditches which were in use for a very extended period.
- 7.6.23 One of the densest concentrations of 3rd century activity was documented in Area B1, in particular across the southern part of this trench. It appeared that a large masonry building had previously stood in the southwest corner of this area and that it was robbed out and the location and some of the building materials reused in this period, particularly the second half of the 3rd century. It must be admitted that these events are still not fully understood as the sequence recorded in this area was extremely complex, probably involving more than one phase of robbing. The archaeological remains were severely truncated by modern foundations and parts were excavated at different times making an overview of the area difficult. However, it was apparent that a stone building over 20m long had once stood in this location.
- 7.6.24 This structure consisted of a number of disparate elements. A probable buttress, measuring c. 3m by 1.60m, founded on posts had been robbed out to the north (Group 743, Phase 9). To the south and on the same northeast-southwest alignment an extant length of stone wall, Group 605, survived but was separated from it by modern foundations. This substantial block of masonry may have functioned as a buttress itself; it measured 1.80m by 1.40m by 0.50m thick. A series of northwest-southeast aligned cuts representing a mixture of robber and construction cuts (Groups 644, 645 and 646). The pottery assemblage recovered from the latter Group which represented a robber cut was small but consistent dating to after AD 270 and might represent a 4th century deposition date. To the east of a major truncation these linear cuts continued as [3469] and [3417] Group 616. A narrow linear cut [3472] ran parallel to the north of these features and was filled with a concentration of ceramic building materials. This feature was very shallow and could not have



represented a large structural element. A more substantial structural element was [3892] which although shallow was wide enough at 0.60m to have once housed a timber beam or masonry foundation. Adjacent structural elements consisted of substantial circular postholes or postpads packed with ceramic building materials and horizontal spreads of brick and tile. Dating evidence was sparse and, although Group 616 did produce three spot dates later than AD 250 and one later than AD 270, the quantities of pottery were very small. However, all of these events might have occurred in the late 3rd or 4th century. One of the deposits which had been cut by the features in Group 616, contained a large pottery assemblage that included a variety of wares produced after 270 AD many of which were abraded which might suggest that the robbing of the structure took place in the 4th century.

- 7.6.25 An alignment of substantial postholes and post pads, Group 615, was located to the north of and running parallel to the major ditch [3469] which formed the principal element of Group 616. These postholes measured up to 0.60m in diameter and were packed with building materials, particularly brick and tile. A second line of postholes forming the north side of a structure might have been anticipated but was not evident, the very clear line of postholes recorded as Group 615 stood alone. As the structural elements were much larger than required for a simple partition or fence it is likely that they functioned in conjunction with a surviving part of a stone wall located to the south to form an aisled structure. A roof could have been sprung from the posts via joists onto a remnant of a wall. This type of squatter occupation is unlikely to have been tolerated whilst the religious precinct was still being maintained. If the interpretation of these features is correct it is much more likely that they were used in a later period, possibly in the transitional post-Roman Phase 9 when the religious complex, even in its later reduced form, was finally abandoned.
- 7.6.26 Further structural evidence was apparent to the northwest of the structures described above; these features were recorded as Group 625 (Fig. 10). A robber or foundation trench [4582] followed roughly the same alignment as the linear cuts associated with the building in the south of this area. However, this trench, which measured c. 0.50 wide and less than 0.15m deep, was too narrow and shallow to have supported a heavy masonry structure. The fill of this feature was described as a wall but resembled loose building materials discarded into a fill. This trench might have contained a relatively small masonry foundation supporting a timber beam. An alignment of around 20 small postholes, Group 745, was recorded to the north of this trench. The postholes and may have formed a structure associated with the foundation cut.
- 7.6.27 To the west of Area B1, in Area A, 3rd century activity can be divided into distinct units located in the north and south of the Area. Heavily truncated fragments of gravel surfaces located in the north of the Area were recorded as Group 228. These surfaces occupied an area adjoining the paved Areas C1 and E1 and could be seen as a continuation of the ceremonial area associated with the temple complex. The ground level recorded on these surfaces lay between 1.10m and 1.15m, a figure consistent with Gravel Surface Group 154 which occupied the adjacent open space to the west in Area C1.
- 7.6.28 An array of numerous postholes of differing sizes (Group 238) was located in the south of the Area. Some alignments are apparent, especially in the elements that form the southern part of the Group. Two parallel lines of posts c. 1.80 apart run roughly north-south through this area. The individual postholes were only 0.10m in diameter and it is unlikely that a building stood in this location. The eastern of the two parallel lines appeared to dog-leg to the northeast before petering out but the situation on the west side is much more confused where a random distribution of diversely sized elements was evident to the north of the alignment described above.
- 7.6.29 Widespread deposition was evident in the south of Area A, the layers comprising Group 237 covered an area that measured c. 18m east to west by 14m north to south. Very little dating evidence was recovered from these deposits but they sealed the Phase 6 Cuts Group 317 which was well dated to the late 2nd century.

## 7.7 Phase 8: Fourth Century (Figs. 11 & 12)

- 7.7.1 Dramatic changes were brought about in the 4th century as new masonry structures replaced older buildings and the religious complex became a much smaller and formally enclosed space. The southern temple was demolished, or possibly fell down given the shoddiness of the original construction, and was not replaced. A massive masonry building was constructed in Area B2, the southern part of the building extended into Area B1. The construction techniques used and ground plan adopted for this building were so similar to those used for the large Phase 7 building in the southern part of Area B1 that the new structure could be viewed as a direct replacement. However, the Phase 9 building's axis was rotated through 90 degrees. This structure would have been the largest architectural element of the late Roman complex and marked the eastern limit, and very probably an entrance, to the precinct. The northern temple would have continued in use for much if not all of this period and the southern limit of the complex was now formed by a new northwest to southeast boundary that respected the new masonry building to its east. To the south of this newly created quadrangle a wide variety of ditches, comprising many shapes and sizes, seemed to define and enclose areas of open ground. Very few structures of any sort were recognised or documented outside of the enclosed temple area.
- 7.7.2 The building erected in Areas B2 and B1 was large, measuring c. 22m north-south (24m with buttresses), and had a very distinctive 'half H' ground plan. In effect it consisted of a wing, measuring c. 9m long and 5m wide, at either end projecting westward from a long narrow central corridor type room c. 4m wide and 12m long. The building would undoubtedly have had an upper storey, large buttresses supported the western corners of the wings and a very substantial set of posts, Group 960, represented an external staircase to the first floor. The posthole Group extended over a distance of 4m and consisted of lines of postholes c. 0.20m in diameter arranged in rows of three.
- 7.7.3 The description given above is an outline of the overall ground plan and principal features of the building that would have dominated the newly restyled religious precinct. Evidence for the building was represented by a series of trenches associated with both the construction and robbing of the walls. In Area B2 remnants of the lower courses of rubble foundations and fragments of the original construction trenches were collected together as Building Group 964, the postholes associated with the staircase formed Group 960. Later robbing was recorded as Robber Group 954 in Area B2 and Robber Group 584 in Area B1, both of these Groups form parts of Phase 9. Group 953 Area B2, also represented demolition debris associated with this building (see Fig. 13).
- 7.7.4 Before summarising the dating evidence available for the construction of this building it is worth noting some of the elements which were no longer extant, sometimes negative evidence is just as important as the positive. No floor layers were apparent despite a very controlled approach being taken to the excavation of this area. This might suggest that the floors of the building had been formed from materials worth re-using in later buildings, such as tile or stone. Solid floors made from preparations such as *opus signinum* would be less likely to be re-used, even as rubble for foundations, but might still have been deliberately broken up and removed to another location.
- 7.7.5 The absence of a hypocaust heating system is of great importance when considering the function of this building. Most imposing late Roman masonry buildings that have been interpreted as private houses were served, at least in part, by a heating system of this sort and the absence of any sign of a hypocaust is significant in its own right.
- 7.7.6 Another notable absence was that of buttresses on the eastern side of the building. Large buttress cuts with dense clusters of closely driven wooden piles were a distinctive feature of the building but only recorded on the corners of the west side. The buttresses would have measured c. 1.80m north-south by 1.60m east-west and were supported by groups of 25 to 30 squared driven timber uprights (Groups 962 & 965) that each measured around 15-20cm across. It seemed clear that a heavy masonry structure would have been supported on these foundations, the gap between the two buttresses recorded on the northwest corner of the building was only 3m and the very short

stretch of wall between the two could easily have been projected up to an upper floor and very possibly a second floor above that. It is therefore extremely curious that no traces of buttresses were found on the corners on the east side of the building. It is true that a medieval ditch and modern foundations had impacted on these locations on the east side. However, the ditch had also impacted on one of the buttress locations on the west side of the building and the timber piles found in the base of the construction cut were still extant. The impact of modern foundations should not be overestimated either, a modern stanchion base that coincided with the junction of the medieval ditch and the northeast corner of the building was drilled out by hand but no trace of a buttress was evident in this area. This presents the question of how an upper storey was supported on the eastern side of the building when the heavy foundation pattern deemed necessary for the west side was so clearly lacking.

- 7.7.7 The dating evidence available for defining the construction of this building is sparse. One reason for this is that the building materials, including the foundations, were robbed out in a later period. The robbing of the building materials added to the complexity of the problem, as only fragments of the original construction trenches were extant and no clear floor level associated with the building could be established.
- 7.7.8 The pottery assemblages which have been used to date this building to the 4th century are all small, consisting of less than 20 sherds each. The construction trenches had been cut from a ground level recorded as Layer Groups 966 and 968. The earlier layer Group 968 contained pottery dated to AD 250-300, although the latest fabrics fall into the AD 270-400 bracket. Layer Group 968 sealed the Phase 7 Pit Group 975, which also contained pottery produced in the later period. It was truncated by the features that formed Pit Group 967, which contained another small assemblage of the same date. Layer Group 966 sealed Pit Group 967 and appeared to represent the level from which the construction trenches were excavated. This Group contained very little pottery but two sherds dating to after AD 330 were recovered. This indicates there was a very high probability that the building was erected in the 4th century. The medieval ditch, Group 949, which passed directly through the northern wing of the building was backfilled in this area between 1400-1500. However, in elements of the same ditch excavated to the west, in Area B1, the pottery recovered dated to the eleventh century. This presents a very firm *terminus post quem* for any potential use of this building.
- 7.7.9 The alignment followed by the large building is curious as the longest, northwest-southeast, axis is slightly different to that established by the Phase 4 road ditch and followed by the temples and the boundary wall which defined the late Roman religious complex (see below). All the other major masonry structures followed the road ditch alignment.
- 7.7.10 Further evidence of building activity was apparent to the east of the new masonry building in the form of heavily packed postholes and layers with high percentages of mortar and fragmented ceramic building materials. The features were recorded as Building Group 971. The postholes, or more accurately post pits, were up to 0.70m in diameter indicating that each one could have supported a large structural element. Three of these formed an alignment to the east of the main building. A possible fourth element found on the same alignment, a tile postpad [2498], was recorded to the south although that feature might be associated with the underlying hearth or furnace recorded as Group 969. If a timber building had stood in this location it cannot be contemporary with the masonry building to the west. The high incidence of mortar and other building materials found in this area was a very strong indication of a working surface and the ground level from which building work was taking place. The timber structure may have represented nothing more than a temporary accommodation or dry storage area associated with the construction project. The highest level recorded on any of the mortar surfaces was 1.11m OD.
- 7.7.11 The Furnace Group 969 mentioned above was also an intriguing element of the 4th century remains recorded in this Area. A very distinctive 'banjo' shaped cut [2485] was very clearly defined by a distinctive fill characterised by a high proportion of charcoal. The fill also contained a notable quantity of iron nails, possibly an indication that the material being burnt was from broken

up wooden objects. Virtually any bonfire involving a small amount of house clearance can leave remains of this sort, metal hinges, screws and brackets used in shelving and furniture could all be seen as modern equivalents of the material evident in the fill. However, the distinctive shape of the cut may have indicated that a slightly more permanent structure had stood here. The circular southern end of the feature gave way to a narrow pointed northern part reminiscent of a flue. This type of arrangement was common to furnaces and ovens, a main firebox being served by a restricted and controllable air source. No evidence of metal working was recovered. It is worth noting that this feature was located only slightly to the north of earlier groups interpreted as ovens which were located in the north of Area B1. It is most unlikely that a hearth, furnace or oven would have been in use in this area once the winged building came into existence.

- 7.7.12 The second major element of the new religious precinct was a substantial wall measuring c. 32m east-west that passed from a point in Area B1 adjacent to the southwest corner of the winged building then traversed Area A before terminating in the vicinity of the plinth located on the margins of Areas E1 and C1 (Groups 148 and 229). The wall measured c. 0.90m wide and had been supported throughout its length by closely spaced timber piles that had been driven into the underlying clay. Most of the foundation had been robbed away but small lengths of stonework comprising uncoursed chalk and ragstone rubble were extant in Area A.
- 7.7.13 In Area B1 the line of neither a robber nor construction cut defining the course of the wall could be convincingly demonstrated. However, some of the postholes formed by the decayed timber piles which had once supported the wall almost certainly formed an element of Posthole Group 602, although other postholes found in this area have not aided a clear interpretation. The wall might have formed a right angle at this point and continued to the north toward the buttress on the southeast corner of the winged building. Postholes were evident in this area but they may not have been associated with the wall (Group 601, unfortunately the archaeological record produced has not allowed this problem to be resolved. Although the situation was far from lucid there is no doubt that the highly distinctive line of the robber cut with postholes in its base did not continue further to the east. Although Posthole Group 602 may contain elements that were not part of the boundary wall foundation it is certain that the boundary wall terminated less than 4m from the southeast corner of the winged building.
- 7.7.14 From Area B1 the wall passed on a southeast to northwest alignment through Area A where it was recorded as Group 229. The wall was traced as a very shallow robber cut in the eastern part of this area. A large north-south aligned medieval drainage ditch, which passed through the north of Area A, had truncated the boundary wall in the central part of the area. However, it was extant to the west of the later feature and some of the stone foundation also survived here.
- 7.7.15 Very little pottery was recovered from the fills of the construction or robber cuts that marked the line of the boundary wall and none of it helped to date the construction of the feature. The pottery retrieved was either residual or in the case of two medieval sherds intrusive and likely connected with the robbing of the building materials that made up the wall.
- 7.7.16 The crucial evidence for the dating of this wall came from Area A, in particular the relationship between the wall and a north-south aligned ditch recorded as Group 307. As originally excavated it was not clear which of these linear features was the later. However, the surviving fragment of foundation found in this area, although truncated stood to a height of 1.11m OD which was some 0.30m higher than the base of the ditch. The ditch could not have functioned properly if its base was below the level of the wall. If the ditch had been excavated later there would have been very little extra effort involved in removing the remaining section of wall.
- 7.7.17 This relationship is the basis of the dating for the boundary wall, the construction cut of the wall did not truncate any of the late Roman layers found in Area A. The fills of the ditch (Group 307) contained a pottery assemblage of 136 sherds many of which dated to AD 270-400. Two forms dated to the 4th century are also evident, one of which post-dates AD 330, as were two 4th

century coins. There can be little doubt that this is a 4th century assemblage and that a high proportion of the pottery was abraded which suggests a later rather than early 4th century date.

- 7.7.18 The wall terminated to the west in Area C1, where it was recorded as Group 148. Due to the particularities of the archaeological sequence recorded in this area ditch Group 307 did not truncate features dating to the 4th century. Therefore, no useful information concerning the dating of the wall could be retrieved from the excavation of this area. The rather abrupt end to the wall was curious but not in doubt, the archaeological resource was very clear in this respect. The boundary wall might have been expected to turn to the north in order to form a north-south aligned return that would have formed the west side of an enclosure. No evidence of a return could be found and although later ditches, or robber trenches, are interpreted in this way none of these features had the distinctive close packed timber piles in the base that characterised the boundary wall's footings. The possibility of a different arrangement of walls and ditches forming a western side to the enclosure is a complex one and discussed below as an interpretation of Ditch Groups 1083, 194 and 275 which were found in Areas E1, C1 and A respectively.
- 7.7.19 The abrupt end to the boundary wall might have be explained by other possibilities such as this point being an entrance into the temple enclosure. This would of course be quite natural, the boundary wall passed directly through the north of the area previously noted for the extensive gravel surfaces and it must be assumed that the area to the south of the wall no longer formed part of the religious precinct. However the paved public space to the north continued in use and access and egress to this area might still have been required for visitors arriving from the south. If a gateway or access point was denoted by this sudden termination of the wall it should clearly have continued further to the west. The wall was not evident further to the west and although a massive modern intrusion had impacted on the area concerned this was some 4m distant from the west end of the boundary wall. It is most unlikely that a gate of that size would be associated with a wall of the dimensions found. Some questions remain unanswered concerning the function of the wall and how the enclosure was defined to the west. It seemed very curious that an area well enough defined to the east that it almost resembled a military installation should apparently have no clear boundaries to the west.
- 7.7.20 As stated above no useful dating evidence relating to the boundary wall was retrieved from the excavation of Area C1. However, Ditch Group 193 ran parallel to the wall, some 4m to the south of it, and appeared to respect its alignment. This might have indicated that the features were contemporary. In contrast to the boundary wall Ditch Group 193 was well dated, four of the ditch fills contained pottery assemblages dated to after AD 250 and of those two dated to later than AD 270.
- 7.7.21 Further to the south in Area C1 the area formerly occupied by the gravel surfaces associated with the southern temple was traversed by a substantial ditch [5246], Group 198, which also followed a similar alignment to the boundary wall. This wide but shallow feature formed part of a complex system of enclosures recorded in the north of Area C2 as Group 891, the south of Area C1 as Ditch Group 198 and the central to southern part of Area A as Ditch Group 285. These features will be discussed below but for the moment their importance lies simply in their location as they pass directly through the area previously occupied by the southern temple. This building can be seen to have been demolished and the area reverted to open ground. Whatever the importance of the newly defined temple precinct to the north the system of land division to its south was taking new directions.
- 7.7.22 On the northern margin of Area C2 Ditch Group 891 consisted of a single feature, ditch [5515], which passed roughly north to south directly through the area of the southern temple before continuing beyond the limits of excavation to the south and west. This feature contained seven different late Roman pottery forms two of which date to the 4th century. A gully which ran parallel to this ditch, [5572], Group 890, contained a very small pottery assemblage but 4th century wares were again represented. The ditch had truncated the robber trench [5775] which marked the line

of the outer temple wall, which clearly shows that the building was not only demolished to ground level but the foundations partially removed too.

- 7.7.23 Ditch [5515] had been truncated to the north by modern foundations that divided Areas C1 and C2. The ditch continued to the north of the foundations as ditch [5095], Group 198. The fill of this feature also contained pottery dated to the 4th century and was one of the earliest elements in this Group which consistently produced small late Roman pottery assemblages. The ditch was recorded as several different features that when combined enclosed an area to the north with a curvilinear ditch which continued beyond the limits of Area C1 into Area A. Although a seamless match between the two Areas does not exist there is every chance that the curvilinear ditch recorded in Areas C1 continued as ditch [1293] in Area A. This short stretch of ditch produced a pottery assemblage of over 200 sherds. Some of this material is residual but a high proportion of wares produced in the period AD 270-400 were recovered and one 4th century fabric was also present.
- 7.7.24 The various elements of the curvilinear ditch described above formed a western extension to a larger curvilinear formation which occupied the central southern part of Area A. The ditches that defined this enclosure were recorded as Group 285. Together they enclosed an area 14m east-west by 10m north-south. The western arm of the enclosure stopped abruptly at a point where a later pit had truncated it but it was not apparent to the south of that feature. To the east the ditch that defined the enclosure would have passed into Area B; it has not been possible to identify a feature which followed this alignment and dated to the 4th century in Area B. The fills of these ditches contained relatively large pottery assemblages which were consistently dated to after AD 270 with specifically 4th century forms also being represented.
- 7.7.25 These ditched enclosures might be seen as more characteristic of early post-Roman or sub-Roman settlements rather than the type of developments likely to have been seen in the immediate environs of a walled late Roman religious precinct which was still in use. Further analysis of the ceramics recovered might lead to the conclusion that they were, in all probability, residual fragments of late Roman pottery found in largely aceramic features of later period. Certain aspects of the archaeological sequence recorded in Area A militate against this. The layout of these ditches is so strikingly different from the system of land division that dominated the landscape in the previous three centuries that the phasing of these features may have to be reconsidered.
- 7.7.26 Before moving on to discuss developments in the southern and eastern areas of the site the continued functionality of the buildings that formed the newly walled religious complex in the north of the site should be discussed. A demolition date for the northern temple cannot be established as this location had been too heavily impacted by modern intrusions to allow a sequence to be established. However, a remarkable find made in the northern part of Area A offers some possible clues concerning the continued use of the northern temple. An inscription was recovered from a pit or ritual shaft recorded as Group 258. There is every chance that the inscription, dedicated to a Romano-Celtic God, had once stood in the northern temple before it was deposited with some reverence in the pit, inside the walled temple enclosure. The inscription was found with the writing facing upward but covered by a large tile fragment that may have been deliberately placed over it as a protection. The composition and significance of the inscription are described in due course but for the moment the deposition date will be examined as that might indicate a point at which the temple went out of use. The fills of the shaft contained a small pottery assemblage dated AD 350-400 or later (fragments of an Oxfordshire Red Colour-coat flagon and an Alice Holt/Farnham C1-5B bowl). Some very late Roman gravel surfaces and their make-up layers recorded as Group 289, Phase 9, sealed the pit. The surfaces were dated to after AD 370 by a fragment of a Mayen cooking pot recovered from one of these layers. It seemed that the inscription was removed from the temple in the very last decades of the Western Empire in Britain. The northern temple would in all probability have continued in use up to this time and possibly later (the removal of a piece of monumental stonework which had probably stood inside the building for over two centuries by that time may not indicate that the building went out of use). Tombstones of generous church

benefactors, for example, do not always maintain their positions of prominence once the importance of a local family declines although the church continues in use. The same might have been true for a Roman benefactor and an inscription dedicated to a Romano–Celtic god whose following might have been in serious decline by this time. Rather than being taken as indicators of the abandonment of the northern temple the deposition dates given above should be taken as evidence that the temple continued in use at least up to this time and possibly later.

7.7.27 The reading of the inscription is of course of great interest in its own right. The text as found was:

NUM AUGG  
DEO MARTI CA  
MVLO TIBERINI  
VS CELERIANS  
C BELL  
MORITEX  
LONDINIENSI  
VM  
IMUS  
VA

7.7.28 This has been translated as:

To the Divinities of the Emperors (and) to the god Mars Camulus. Tiberinius Celerianus, a citizen of the Bellovaci, moritix, of Londoners the first [...] (Tomlin & Hassall 2003, 364). The last word is a little tentative but probably correct, corresponding to the incomplete line 'IMUS'. The first thing of note was the use of the word meaning people of London, this was the first stone inscription found with the name of the city carved into it. A great deal more information is available from this piece however. The first fact concerning the date of the artefact comes from the first line where the two 'G's refer to more than one Emperor. This dates the inscription to after AD 161 when Marcus Aurelius adopted Lucius Verus as co-emperor. There were numerous occasions on which this arrangement was adopted during the later Empire and the style of lettering is regarded as diagnostic of the later second century (See Gerrard and Major Appendix 9). If this interpretation is correct the commissioning of this inscription dated to the period of the establishment of the religious complex on the site.

7.7.29 The inscription also informs us of the name of the benefactor, Tiberianus Celerianus, and that he defined himself as a citizen of the Bellovaci, a Gaulish tribe whose territory was centred on modern Beauvais. His Gaulish connections are further evinced by the use of the word moritix, this is a Gaulish word meaning sea-farer or sea traveller but where found in other inscriptions seemingly connected to trade. From these details we might begin to gain some measure of this man who hailed from northern France and probably traded or travelled regularly with that region but whose home seems to have become London. He may have formed part of a wider community from Gallia Belgica that had developed in the city. His choice of god, Mars Camulus, was entirely in keeping with the dual tradition of a Romano-Celtic temple. The Celtic god Camulus, twinned with the Roman god Mars, was a popular deity in the homeland of the Bellovaci but only one other inscription from Britain is dedicated to Mars-Camulus. The main use of Camulus in Roman Britain comes almost exclusively from the place-name Camuladunum, the fortress of Camulus, or Colchester as we know it today.

7.7.30 The discovery of the inscription adds a personality to the temple complex and allows us greater confidence in discussing the nature of the site's use and abandonment. Without it, the temples would simply have remained simple foundations. A dedication to a god and the cultural background of a benefactor make this a far more human find. It also helps inform us of why the inscription was taken down. The tablet may have been placed in the ground with some reverence but its day had passed, the belief system which had once made this dedication so important in the late 2nd century had almost certainly been supplanted by another relevant to the late 4th century.

- 7.7.31 Further evidence of continued 4th century activity within the walled area was recorded in Area E1. Extensive gravel surfaces were laid in this period, they were evident over an area measuring c. 25m north-south by 18m east-west. The newly formed ground surface was recorded as Gravel Surface Groups 1090 and 1092 and lay between 1.20m and 1.30m OD. Very little pottery was recovered from Group 1090 but it did contain a finger from a broken-up bronze statue. The finger was larger than life size and if it had formed part of a whole body depiction the statue would have been a very large piece of public art. Group 1092 was much more precisely dated, it contained at least three 4th century coins one of which was dated AD 335-341. This provided firm evidence that the surfaces within the walled area were being renewed into the mid 4th century and possibly later.
- 7.7.32 Very few other signs of 4th century activity were evident in this Area with the exception of a narrow gully, Group 1089, which passed around the west side of the very large robber cut which represented the plinth located in the centre of this area (Group 1075, Phase 7). The narrow gully might well have represented another example of a robbed out pipe or drainage feature.
- 7.7.33 To the south and east of the northern temple in Area E2 there was clear evidence of occupation continuing into the 4th century although some of this is difficult to collate into a coherent pattern. Robber Group 1011 attests to the continued use of old alignments as the longer (east-west) axis of this feature lines up perfectly with the southern outer wall of the northern temple. As recorded the shallow linear cut [8815] could not have carried a substantial foundation but there is a strong possibility that the top of this feature had been destroyed by later ploughing. It must be admitted that this cut may seem rather ephemeral when discussing the possibility of masonry structures in this area. However, the alignment of this feature, which was filled with discarded building materials was considered too much of a coincidence to have been merely happenstance. A particularly substantial foundation would not have been as necessary in this area, as the series of gravel surfaces that had capped the road ditch and later metalling connected with the temple would have formed a very firm base from which to build a wall. The eastern extent of this feature also seemed more than coincidental in that it terminated less than 3m to the north of the northwest corner of the winged building. If the interpretation of this feature as a robber cut is correct the eastern end the religious precinct would have been defined to both north and south by boundary walls. The dating evidence connected with this robber cut is sparse. No datable artefacts were recovered from the fill and although the layer through which the trench was cut, [9038] is part of the 4th century Layer Group 842 no late Roman pottery was recovered from that particular deposit.
- 7.7.34 To the north of Robber Group 1011 a substantial ditch that followed a very similar alignment was recorded as Group 1013. The east end of this feature was truncated and its full extent cannot be demonstrated but as it measured c.3.00m wide and 0.80m deep some trace of it would probably have survived had it continued further to the east. Three pottery spot dates place this feature firmly in the 4th century and the assemblage recovered from fill [8393] was particularly useful. This group consisted of 321 sherds which contained thirteen forms dated to AD 270 or later of which four date to after AD 350. None of the sherds documented in the catalogue is described as abraded so the evidence available from the ceramics suggests continued occupation into the second half of the 4th century and probably later.
- 7.7.35 Ditch Group 1010 was located to the south of the temple, it consisted of a series of east-west aligned lengths of ditch separated by modern foundations. The presence of this feature in a 4th century phase is slightly problematic because the line of the ditch would have crossed the proposed wall line represented by Robber Group 1011. Modern foundations had truncated the location at which any putative intersection of these features would have occurred but the potential problem of these two features being in existence at the same time is clear. Very little dating evidence was recovered from the fills of the ditch and only seven sherds date this feature to the 4th century. A single sherd of medieval pottery was also recovered although that was thought to be intrusive. The ditch might be a later feature and if it had continued to the east through the robbed out wall it could easily be equated with the Phase 9 Ditch Group 832.



- 7.7.36 Very few signs of Roman activity were evident in Area E3. A small amount of horizontal deposition was recorded as Layer Group 842. The principal feature was an east-west aligned ditch [9680] that formed Ditch Group 844. This feature followed the same east-west alignment as the boundary walls (Groups 1011 and 148 / 229) on the axis of the temples. The fill, [9679], contained a pottery assemblage consisting of 214 sherds. A large proportion of these probably date to the 3rd century but several forms dating to after AD 270 are present and one 4th century ware was also represented. The balance of the evidence suggested that this feature was silting up or being backfilled in the later 3rd or early 4th century.
- 7.7.37 Deposition was evident in the centre of Area E4 as Layer Group 753. The pottery recovered from the layers that constituted the Group contained small quantities of pottery dated to later than AD 270, although a 3rd or 4th century coin was also retrieved from the latest layer [9632]. These layers were recorded below 1.10m OD. A substantial north-south aligned ditch, Group 272, passed through the centre of Layer Group 753. Considerable quantities of pottery were recovered from the fills of this ditch, originally recorded as two separate features, but very few later sherds were present. This might indicate that the ditch was in use over an extended period but finally silted up in the 4th century. Fragments of a second north-south aligned ditch, recorded as Group 761, were found to the west of Group 272. A small late Roman pottery assemblage dating to after AD 270 was retrieved from one of the ditch fills.
- 7.7.38 In Area G3 a small but very notable series of developments took place in the 4th century. Layer [13197], originally interpreted as a ditch or channel fill but only recorded in section, contained no pottery but three 4th century coins were retrieved. This deposit was recorded at 0.89m OD. Further deposition was recorded as Layer Groups 81 and 43. No 4th century fabrics were recovered from Group 81, although some late 3rd century pottery was found. Pottery dated to AD 330 or later did form part of the assemblage recovered from layer [13216], which formed part of Group 43. The surface of this Group was recorded at levels between 0.91m and 1.15m OD. A poorly defined northeast to southwest ditch, Group 104, passed from the southern part of the trench toward the eastern margin of the site. Within Area G3 this ditch was only dated to the 4th century by a few sherds of pottery but it continued to the south into Area F2/G2 as Ditch Group 16 where its relationship with another ditch gives credence to a 4th century or later date.
- 7.7.39 A very interesting find was recorded in the north of Area G3 where a northeast to southwest aligned inhumation was documented as Group 61. The feet and lower legs of the skeleton were missing as a modern stanchion base had truncated the southern part of the grave. No head was apparent either and the rather sinister nature of this finding was reinforced by the fact that there were no signs of later disturbance or truncation around the northern end of the grave. The skeleton was that of an adult male who had suffered with severe arthritis which had affected the left hip particularly badly (see Appendix 18). There were no signs of further burials in the surrounding area and this appeared to be an isolated grave.
- 7.7.40 The only datable artefacts recovered from the grave fill consisted of a very small assemblage of residual pottery dated between AD 70 and 140. The dating of the burial is actually highly debatable. Layer [13127], part of Layer Group 101, sealed the grave. This Group is dated to the medieval period but only by its relationship to the cut features which it sealed and not by medieval material contained within the deposits themselves. A similar situation existed for the dating of the sequence below the burial where the horizontal deposits through which the grave had been cut did not contain any useful dating material but sealed a pit that contained pottery dated AD 200-270; this supplies a *terminus anti quem*. The burial was therefore apparently earlier than the twelfth century and later than the 3rd century, it may be 4th century but it could easily be later.
- 7.7.41 As stated above Ditch Group 104 passed beyond the southern limit of Area G3 into Area F2/G2 where it was recorded as Group 16. This ditch is of some importance as it was a major feature in the landscape of the eastern part of the site, traversing the area from the eastern limit of excavation on a slightly curving northeast-southwest alignment that passed into the southwest

corner of Area F2/G2 before entering an area crossed by a series of east-west aligned medieval ditches (Group 353, Fig. 14). The area truncated by the later ditches was over 6m wide, and evidently an important boundary had been defined here on many occasions, the line followed by Ditch Group 16 could not be traced to the south. It is possible that the Group 16 ditch had once curved a little more at this point and then straightened onto a more east-west alignment. If this was the case any trace of it would have been obliterated by the succession of shifting ditch lines that passed through this area.

- 7.7.42 The alignment of this feature (Groups 16 and 104) was of great importance as it did not follow the system of land division based on the alignment of the *temenos* and road ditches which had held sway for several centuries. The course of the ditch was traced over a distance of some 60m and the feature was up to 3m wide. It was found in the later stages of the excavation and not fully excavated but sectioned in selected locations. Very little useful dating evidence was recovered from the fills and some of that is ambiguous. Very small pottery assemblages were recovered and two medieval sherds formed part of these, the Roman pottery was clearly residual. However, there is every possibility that the final infilling of this ditch took place in the medieval period or that horizontal deposits that had once sealed the ditch had later slumped into the top of the feature as the fills became more compact and settled within it. The position of this feature in the sequence was more important than the miserable array of artefacts recovered from the fills of Ditch Group 16 indicate. The ditch had been impacted by Pond Group 321, which represented a very large medieval cut feature containing pottery dated to the later 12th century and later. This feature is very well dated and there can be no doubt the ditch had gone out of use before its inception. Ditch Group 16 had truncated an earlier ditch recorded as Group 751. The pottery assemblages recovered from Group 751 were tiny but did consistently date to after AD 270 and into the 4th century.
- 7.7.43 Along the eastern extent of Group 751 the ditch followed a similar alignment to Group 16 but it did not swing to the northeast as it terminated to the east before Ditch Group 16. The feature recorded as Ditch Group 751 was considerably smaller than that represented by Group 16, measuring 1.60m in width but only 0.30m deep. The western part of the ditch followed much the same alignment as the later medieval ditches which passed through the southern part of Area F2/G2 into Areas F1 and G1.
- 7.7.44 Late deposition was recorded as Layer Group 130, which was located in the southwest corner of Area F2/G2. Layer [11672] formed part of the Group and contained three 4th century coins indicating without doubt that activity continued in this area. Group 130 (not illustrated) extended westward beyond the limits of Area F2/G2 into Area F1. It was truncated in that Area by a beamslot that constituted Group 520. Further evidence of possible structural activity was evident to the east of this in Area F2/G2 where it was recorded as Group 31. The latter comprised a single substantial beamslot c. 5m long and an array of large postholes up to 0.40m in diameter.
- 7.7.45 The remainder of the 4th century activity in Area F1 fell into two categories. To the west deposition was evident in the form of Layer Group 512 whilst to the east pits and ditches of various sizes were common. Within the eclectic collection of cut features those that contained discarded building materials were of particular interest. Fill [12018], part of Group 525, contained a noticeable concentration of discarded building stone, some of it clearly worked. Although much of the stone was broken up analysis of a large 80kg fragment of Purbeck Marble has demonstrated that it almost certainly derived from a funerary monument, probably a mausoleum that formed part of the nearby Great Dover Street cemetery (see Appendix 5). A pine cone finial was also recovered from a pit located very close to this large dump of building material. This piece has a direct parallel with a similar example found in the Dover Street excavations, and although petrological analysis has demonstrated that they are not from the same source, it is very probable that the example found at Tabard Square was originally part of a monument in the nearby cemetery.

- 7.7.46 Small but consistently dated pottery assemblages were retrieved from the pits that contained this stonework. This was true of most of the cut features allocated to Phase 8 in this area, with the notable exception of pit [12204] (Group 506) which contained an assemblage of 187 sherds dated AD 270-400. Very little of this material was residual and two 4th century forms were present.
- 7.7.47 The dating evidence for Layer Group 512, which covered the western part of Area F1, was not as strong. The assemblages recovered from this Group were small compared to the extensive area covered by the horizontal deposits. The later date bracket of AD 270-400 was not as prominent a feature of the assemblage as that characterising the cut features in this area and their dating to the 4th century is largely based on the abraded state of the pottery. Given that this is the case these ground surfaces could have been formed or continued in use later than the 4th century. The levels taken on the Group show that ground level lay at 1.35-1.45m OD.
- 7.7.48 In Area G1 localised deposition was evident as Layer Groups 361 and 422. Small pottery assemblages dating to the 4th century were retrieved from both the horizontal deposits and the fills of the cut features evident in this area. Layer Group 361 consisted of fragments of horizontal deposits that had survived between the plethora of east-west aligned ditches that had truncated the southern periphery of the area. The pottery recovered amounted to little more than a handful of sherds but the presence of more than one 4th century form is significant. This discourse could be repeated for the pottery recovered from the fills of Ditch Group 328 which was located in the northeast corner of the area. These finds indicate that although sporadic and of low intensity 4th century activity can be seen across the whole of Area G1.
- 7.7.49 A series of narrow parallel linear cuts was recorded in the north of the Area as Ditch Group 421, these features should have continued to the north toward Area B1 but an unexcavated location separated the two Areas and they were not traced to the north of this lacuna.
- 7.7.50 A notable concentration of 4th century activity was evident in the south and west of Area B1, to the north of Area G1. The large rectangular piece of masonry [4349] (Group 605), possibly a buttress, was apparently built in this period although it could not be directly associated with the other structural elements, represented by robber trenches here. The development of a large masonry structure was been described in detail above in the discussion of Phase 7 and it is not proposed to re-examine this subject here but the highly complex sequence of construction and robbing trenches found here requires further examination. However, as recorded this large masonry element was built in a trench that truncated deposits dated to after AD 280. These pottery dates were generated from tiny assemblages but the ceramics recovered from the backfill of the construction cut are more numerous and confirm this date, although the construction date might be pushed back to the late 3rd or early 4th century.
- 7.7.51 An east-west aligned ditch, recorded as Groups 607 and 612, passed through the south and west of Area B1. As recorded Group 607 was earlier in the sequence than the 4th century Layer Group 606. However, a medieval ditch documented as Group 577 (Phase 10), followed exactly the same alignment to the east of the modern foundations in this area and it is probably part of the same feature with the Roman finds being residual in Groups 607 and 612.
- 7.7.52 Although the sequence is complicated there is no doubt that 4th century occupation was evident in this area. Layer Group 606 may require revisiting but the deposits which constituted it contained both a small late 3rd century assemblage, from layer [4068], and a larger 28 sherds assemblage dating to the late 3rd or 4th century, from layer [2694]. The larger assemblage contained five different fabrics that date to AD 250 or later. The highest level recorded on these layers was 1.11m OD. Layer Group 610, located to the north of buttress Group 606 and separated from it by Ditch Groups 607 and 612, also demonstrated that deposition continued into the 4th century. The best dating evidence was recovered from layer [2063] which contained a small but consistent pottery assemblages dated AD 300-400 and three coins that date to the 3rd or 4th century, one of which definitely is 4th century. The ground surface formed by this group was recorded between 1.08m and 1.21m OD.

7.7.53 Cut features form the remaining Groups dated to the 4th century in this Area. The concentration of postholes recorded as Group 602 and 601 have already been commented on in connection with the construction of the boundary wall. Ditch Group 598 may date to the second half of the 4th century. Many of the other fragmentary pits and ditches that truncated the Layer Groups described above could be later than the 4th century; they may contain no datable artefacts, earlier Roman pottery forms that are clearly residual or abraded late Roman ceramics that might indicate secondary deposition.

7.7.54 In Area D very little activity is documented to this period. However, one very important event was recorded as Fill Group 787 demonstrated that the *temenos* ditch was still silting up in this location into the 4th century. A mass of timber was discarded in the ditch during this period.

## **7.8 Phase 9: Very Late Roman to Early Medieval (Fig. 13)**

7.8.1 This Phase covers the period in which the Western Roman Empire collapsed and over the course of the succeeding centuries was replaced by new political groupings and systems of government. The use of the term 'early medieval' was deliberately chosen for its neutrality as it avoids loaded terms such as sub-Roman or Saxon which attempt to define ethnicity and champion continuity or radical change. The definition of Phase 9 for the purpose of the excavation is simply the period which encompasses the end of what could be termed a Romanised way of life through to the period in the late 10th century when 'medieval' pottery becomes identifiable and datable.

7.8.2 The Tabard Square excavations demonstrated that a strong Roman presence continued well into the 4th century and that considerable resources were expended in the construction of large masonry structures. The newly defined religious precinct, if we assume that the principal function of the complex remained unchanged, was not something that would have been abandoned lightly. The renewal of the precinct in the 4th century, whatever its function, showed that it undoubtedly had meaning and relevance to the local population and was not simply a relic of a forgotten religion that had been erected two centuries previously and dedicated to a belief system which was no longer current. Although it is of course possible that the dedication of the temple had changed over time. The walled enclosure at Tabard Square provided a strong focus for late Roman occupation in the area and this apparently continued through the early the decades of the 5th century.

7.8.3 Diagnostic artefacts dating to this period are very rare and many of the features and deposits placed in this Phase are 'dated' by the abraded nature of the late Roman pottery recovered from them, their position in the archaeological sequence or by the lack of medieval artefacts contained in them. Some Roman pottery forms that are indicative of 5th century production have been identified but these are sparse. However, identifiable 5th century forms are so rare that the smallest quantities are of great importance. Some deposits, particularly layers, contained small quantities of later medieval or even post-medieval artefacts. In many cases these are clearly intrusive and the result of poor excavation or a failure to distinguish between deposits that had a very similar composition and colour. In other cases it was difficult to make a judgement when faced with conflicting data. It is also probable that medieval ploughing impacted on the latest Roman horizons and even manuring of fields would have introduced some medieval material into deposits that had originated in the late Roman period. These problems are intractable, very small mixed pottery assemblages of a few sherds cannot be used as a basis for a strong dating framework. However, as is the case with all archaeological sequences the evidence was weighed and an interpretation presented. Other interpretations of the same data could easily be formulated, many of the features placed in Phase 9 could be medieval but in most cases there is no evidence to prove that they belong in this later period.

7.8.4 One of the most obvious questions regarding developments in this period concerned the continued use of the winged building found in Area B2. There is no doubt that the demolition of this structure took place before the excavation of the medieval ditch recorded as Group 949,

dated by the pottery recovered from the fills to 1400-1500. The trenches which formed Robber Group 954 represented the below-ground demolition of the winged building. These cut features had truncated Layer Group 959, which contained four sherds of medieval pottery and two post-medieval sherds; the latter were clearly intrusive. The medieval sherds were probably intrusive too as the layer contained 193 sherds of Roman pottery. Of these a high proportion was clearly residual but the assemblage included a large element of late Roman form, particularly Alice Holt/Farnham wares. A single sherd of Mayen ware dated this deposit to after AD 350. The fills of the robber trenches contained earlier residual Roman pottery and two small assemblages dated AD 300-400. A small group of as yet unidentified medieval pottery, provisionally dated AD 900-1900, was also recovered from one of the trenches. This may eventually provide a more accurate date for the final robbing out of the foundation trenches although this material could derive from the medieval ditch; the upstanding part of the structure could have decayed and been removed before the foundations were grubbed out.

- 7.8.5 The building was almost certainly used as a shelter even when it was partially ruined. A pit defined by large ragstone fragments and reused building material was found in the northern part of the central corridor type room, this was recorded as Hearth Group 957. The fill of the pit contained a very high proportion of charcoal and ash and clearly represented waste from a fire. A group of small postholes forming a linear pattern to the north of the hearth was interpreted as a windbreak although it could equally have represented an improvised spit. No useful dating evidence was collected from the fills, the only pottery found consisted of abraded residual Roman wares.
- 7.8.6 A group of postholes and postpads formed with reused building material was located to the south of the hearth. These features, recorded as Group 956, cannot be said to form a coherent structure but may have been associated with the hearth. An improvised wooden structure partially supported by the ruined walls of the central corridor might be envisaged for this area.
- 7.8.7 All of the features discussed above were sealed by a series of layers that in large part consisted of materials derived from the demolition of the building. These consisted of small fragments of ragstone, probably the result of cleaning mortar from the robbed stone, the mortar itself and crushed fragments of chalk. The layers consisting of these materials were recorded as Demolition Debris Group 953. They extended over a considerable area and though concentrated on the western side of the building sealed the hearth and associated features found in the central corridor. No medieval artefacts were recovered from these layers.
- 7.8.8 The winged building in Area B2 also extended south into Area B1. Elements of the southern part of the robbed building were recorded as Groups 584, 594, 589 and 587. Some extremely important relationships with other Groups provide important dating information concerning the robbing and, possibly, the construction of the winged building. Robber Group 584, which represented part of the southeast corner of the building, truncated a shallow northwest-southeast aligned ditch that formed part of Group 585. A very small pottery assemblage dated to the late 4th or 5th century was recovered from fill [4410]. This material may itself be residual; the course of the ditch was not reminiscent of the Roman alignments in this area and it is probable that the building was still standing in the early 5th century as the ditch could not have passed through the standing building. The relationship between the robber cut and ditch does however bracket the destruction of the building; the robbing of the foundation trenches must have occurred after the excavation of the ditch.
- 7.8.9 Another important part of the sequence consisted of the relationship between Robber Group 594 and Layer Group 610. The original ground surface from which the building was constructed is likely to have been represented by Group 610 and this layer, directly truncated by the robber trench, contained both ceramics and two coins dated to the late 4th century ([2063] SF273 AD 387-8 & SF291 AD 364-78).

- 7.8.10 Group 589 represented the robbed remains of the buttress which had once supported the southeast corner of the winged building. The fills of this feature contained no datable artefacts with the exception of residual Roman building material.
- 7.8.11 Posthole Group 587, located to the north of Group 589, consisted of a much smaller Group of postholes. The Group was found in a location which the buttress supporting the northwest corner of the southern wing would have occupied. This area had been heavily impacted by later intrusions that had removed much of the earlier stratigraphy, which accounts for the reduced size of this Group compared to the other buttresses.
- 7.8.12 A further robber event, recorded as Group 588, was evident to the south of the buttress that had supported the southwest corner of the winged building. A concentration of building material was evident in this area, the mixture of crushed chalk, mortar and tile was recorded as context [2801]. This was initially thought to be a wall but was later seen to be a fill within a shallow robber cut [3021]. A robbing event of some kind had clearly occurred here; the abraded late Roman pottery recovered from the fills of this feature suggested it had taken place some time after the 4th century. This location between the southwest corner of the building and the boundary wall might have been blocked in with a wall or could easily have housed a gate.
- 7.8.13 Further south in Area B1 the buttress (Group 744) which had once formed part of the earlier masonry building, recorded as Group 743, was possibly robbed out in this period. No definitive dating evidence was recovered from the robber cuts. A small heavily abraded assemblage dated to AD 200-225 was recovered from one fill whilst another contained an abraded pot group dated AD 270-400.
- 7.8.14 A noticeable concentration of very late Roman activity was evident on the northern periphery of the site in Areas E2 and E3. To the south of the northern temple an intercutting pit and a ditch, Group 1003, contained both 4th century pottery and a coin of the same date. These features had truncated a layer which was dated to after AD 350. The layer itself, Trample Group 1004, represented the continued use of a 4th century gravel surface recorded as Group 1009.
- 7.8.15 To the east of the temple, and north of the winged building, a pit (Group 1005) associated with the demolition of an earlier well ( Group 1022 Phase 7, Fig. 9), was probably excavated or backfilled in this period. Two different forms of pottery dating to the 5th century were recovered from one of the fills that formed Group 1005. These fabrics were represented by more than individual sherds and show continuity in the Roman presence beyond the end of the 4th century.
- 7.8.16 Another pottery assemblage that might date to the early 5th century was recovered from fill [9638] which formed part of Ditch Group 1006. This group also contained an assemblage of 59 sherds dated AD 300-370, but this sealed the later pottery group and may be residual. A coin dated AD 335-341 was also recovered from the upper fill [9631]. This small north-south aligned ditch was the earliest Group recorded in this area and forms the beginning of the archaeological sequence with regards to this Phase. However, the potential dating of the Groups which constitute Phase 9 in Area E2 to the 5th century or later was not entirely based on the pottery recovered from Ditch Group 1006. Layer [9291], part of Destruction Horizon Group 837, also contained a pottery assemblage which contained very late Roman pottery forms. Three of these fabrics have been dated to after AD 350 and one to later than AD 370. Fragments of plaster, stone and ceramic building materials characterised these deposits. They might mark the demise of the winged building to the south or the northern temple.
- 7.8.17 A shallow and narrow ditch recorded as Group 832 truncated the layers that formed the destruction horizon and must therefore be later than it. This Group has already been mentioned as it is probably the eastern extension of Ditch Group 1010, which at present forms part of Phase 8 but could easily be later. The ditch continued to the west in Area E3 as Group 851. The alignment of this feature was followed by Ditch Group 1007 which extended across the northern part of Area E3, some 6m to the north of Group 832. The pottery recovered from the fills of this

feature probably dated to the 4th century but was consistently abraded and in all probability was recorded in a later period.

- 7.8.18 To the east, in Area E3, a large east-west aligned ditch recorded as Group 838 passed along the northern periphery of the Area. The dating of this feature is important as it affects most of the Groups that constitute this Phase in Areas E3 and E2. Three of the ditch fills contained ceramics dated to AD 350 or later; the assemblages were large for deposits of this date and a high proportion of the sherds collected were abraded. Coins dating to the 4th century were also present in the ditch fills. There can be no doubt that this feature forms part of a very late Roman sequence. The destruction horizon recorded as Group 837 sealed this ditch; demolition of the nearby buildings would have taken place after the ditch had been backfilled or silted up. These findings confirmed the sequence established further to the east where the destruction horizon sealed the very late Roman Ditch Group 838.
- 7.8.19 Ditch Group 834 ran southeast to northwest through Areas E2 and E3. This narrow shallow ditch was of very similar dimensions to those which formed Ditch Groups 832, 851 and 1007. Group 834 appeared to truncate Ditch Group 1007 but was sealed by the destruction horizon Group 837. The alignment of this feature followed the major east-west axis of temples and the boundary wall. All of these narrow ditches might represent robbed out structural elements, none are substantial enough to have aided drainage or form a definitive boundary marking a land division.
- 7.8.20 The concentration of activity seen on this northern margin of the site was also evident as cut features which were recorded as the fragmentary Ditch Groups 840 and 841, Pit Groups 829 and 839 and Posthole Groups 836 and 835 and Cuts Group 831. These Groups are not discussed in detail but indicate that activity continued in this area even after the demolition or collapse represented by the destruction horizon.
- 7.8.21 To the east of this area of concentrated late Roman activity localised deposition was evident on the eastern side of the later massive medieval ditch. Layer Group 760 formed part of the sequence in both Areas E3 and E4. Layer [10501] formed part of this Group and contained a pottery assemblage that included some handmade vessels that might have been produced in the 5th century. This Group was sealed by Layer Group 765 which also contained a moderately sized late Roman pottery assemblage and a 4th century coin. Very late 4th or 5th century activity was therefore documented across an area spanning roughly 60m along the northern periphery of the site.
- 7.8.22 In Area A new gravel surfaces were being laid very late in the 4th century, or possibly the early 5th century. The layers which formed Group 289 were dated to after AD 370 by a fragment of a Mayen cooking pot recovered from layer [1159]. Small quantities of late Roman pottery were also recovered from layer [1033]. A well which formed Group 248, located in the northwest of Area A, was possibly backfilled in the early 5th century. More Mayen ware recovered from the upper fill [1123] dated this feature to the late 4th century at the earliest but the abraded nature of the assemblages suggested that it could have been deposited in the early 5th century.
- 7.8.23 A substantial ditch recorded as Group 275 ran roughly east-west through the northwest corner of the Area A. The ditch was up to 0.60m deep and the flat base was 0.60m wide. The 'ditch' had been truncated to the east by the massive medieval drainage ditch located in the north of Area A, but continued to the west in Area C1 as Group 194. These groups represent a linear feature, probably a robber cut, which is aligned perfectly with the south wall of the winged building located in Area B1. There is a strong possibility that this feature represents a robbed boundary wall which formed a later southern boundary to the religious complex some c. 3m to the north of the Phase 8 boundary wall. This boundary might continue to the north in Area E1 as Ditch Group 1083, which could represent the northern return of an east-west aligned southern boundary wall. Group 1083 contained medieval pottery and forms part of Phase 10 (see Fig. 14). This would obviously suggest that if Group 1083 represented a robber cut rather than a ditch the appropriation of the building materials took place in a later period than that currently proposed for Groups 194 and

275. There is no reason why either of these Groups could not have formed part of a later Phase; they simply did not contain any finds that date them to that period.
- 7.8.24 Ditch Group 275 had been truncated by some of the pits that formed Group 509. These features did not contain any finds that were diagnostically 5th century in date but did contain pottery assemblages composed of fabrics that were probably produced in the 4th century. However, many of these sherds were abraded and are likely to have been in circulation for some time before they were finally deposited in the pits.
- 7.8.25 An extremely large deep pit [5028] was recorded on the eastern margin of Area C1 as Robber Group 169. This feature measured c. 3m in diameter and was nearly 1.30m deep. The primary fill in particular contained large quantities of discarded ragstone fragments which may have indicated that an architectural element had been robbed out in this location. Two of this pit's fills contained small pottery assemblages dated to the second half of the 4th century. One of these groups was abraded which again presented the possibility that this is a later assemblage. A linear cut that formed part of Group 204 proceeded south and east from the location of the pit, this might represent a robbed out wall line but the juxtaposition of these features could just be a coincidence.
- 7.8.26 Widespread deposition dating to this period was evident throughout Area C1 although the layers recorded as Group 170 were fragmentary due to later truncation. The layers were well dispersed across the Area and separated the relatively well dated 4th century horizon below from the virtually aceramic cut features that form Phase 9. The horizontal deposits were apparently devoid of pottery themselves, 11 layers were recorded as parts of Group 170 but of these only one produced a pottery spot date. A similar situation was very noticeable in the sequence of cut features that truncated the horizon represented by Group 170. Many of these features were fragmentary but only four of the cut features that constituted the pits and ditches recorded as Groups, 194, 195, and 208, 215 produced pot dates and none of these were of any relevance to dating them. This was also true of the seven pits that were recorded as Pit Group 210, with the exception of fill [4935] which contained a single sherd of abraded 4th century pottery. Pit Group 207 constituted another small array of fragmentary intercutting pits none of which contained any artefacts relevant to their dating.
- 7.8.27 No developments relating to this period were recorded for Area E1 and none worthy of detailed discussion were documented in Area C2. The southern part of the site appeared to be a focus for very late Roman developments which were noticeable in Areas G1, F1 and F2/G2.
- 7.8.28 Horizontal deposits were recorded in the north and west of Area G1 as Layer Group 331. One of the layers that formed this Group, [13563] contained a very small pottery assemblage dated to the second half of the 4th century. It also held a remarkable find in the form of a bronze foot from a statue (SF3147, [13563] see Appendix 9). This might have been part of a statue that stood on one of the plinths located in the northwest corner of the site. The foot was a larger than life depiction and featured both a sandal and probably a sock as the toes were not modelled. The entire Group might date to the 4th century, one of the layers did seal a late pit, Group 327, but that too only contained a single sherd that dated to later than AD 350. Neither of these Groups sealed or truncated earlier 4th century deposits.
- 7.8.29 A northeast to southwest aligned ditch, recorded as Group 322, traversed the eastern part of the Area before being truncated in the south by the series of east to west aligned medieval ditches that passed through the area. This important feature followed the same alignment as the road and *temenos* ditches, the latter was located c. 10m to the east of the ditch that formed Group 322. The feature could be traced further to the south in Area F1 where it was recorded as Group 489. In all the course of the ditch was traced over a distance of c. 50m. In Area G1 only selected areas were sampled; dating evidence was therefore limited. Where individual fills could be discerned the individual medieval sherds that formed parts of the finds assemblage could be shown to come from the upper fills. These might represent contamination or prolonged silting up of the ditch. Apart from the two medieval sherds the pottery recovered from the ditch fills generally consisted



of late Roman wares dating to after AD 270. Fourth century wares were also present, as were two sherds tentatively dated to AD 450-650. The dating evidence collected for the ditch in Area F1 was mixed but this was principally due to contamination by intrusive finds. However, fabrics dated to the second half of the 4th century were well represented in the assemblage and one of the earliest elements of this Group, ditch [11937], contained an assemblage that might be 5th century in date. No extraneous later material was included in this pottery group. The origins of this ditch are almost certainly much earlier than the late 4th or 5th century and have already been discussed above. A third century ditch that clearly follows the same alignment was recorded as Group 514, was recorded in Area F1. The dating evidence for this ditch is mixed but the alignment must be a crucial factor in discussing its inception. A completely new set of alignments was used to define the division of land in the medieval period and the alignment of this ditch emphatically does not form part of that system.

- 7.8.30 Elsewhere in Area G1 ditch Group 412 contained a concentration of late Roman pottery and a group of 4th century coins. A shallow rectangular timber-lined pit formed Group 345. The function of this feature was unclear. The pottery assemblage recovered from it did not suggest a particularly late 4th century date but the pit had truncated Layer Group 331 which was dated to the late 4th century at the earliest.
- 7.8.31 Rather more concrete evidence of late occupation in the southern half of the site came from the western part of Area F1 where a small timber-lined cellar was recorded as Group 500. This feature measured c. 2.5m by 1.2m by 0.90m deep. The base of the feature was floored with timber planks and a series of small postholes was recorded around the periphery of its cut, although few of these appeared large enough to contain a post capable of supporting the sides of the feature. A very rough and rather formless rubble foundation located immediately to the south of the cellar was recorded as Group 502. No ground plan showing a more extended structure was recognised nor could one be reconstructed, in part because a massive modern foundation had truncated the structure to the west which was the most likely location for the building's frontage. The cellar itself did not contain any useful dating material. The backfill of the construction cut for the foundation produced a pottery assemblage consisting of 57 sherds most of which are consistently late Roman. Three 4th century fabrics were present and abraded sherds represent two of these. A 4th century coin was also recovered from the same fill. Apart from the dating evidence recovered from their fills the position of these features in the archaeological sequence suggested a late date as they had truncated the southern part of ditch Group 489, the dating evidence for which has been discussed above. The cellar and foundations truncated deposits that exhibited no signs of intrusive finds and should be probably be dated to the very late 4th or early 5th centuries.
- 7.8.32 Most of the eleven features that formed Pit Group 487 were relatively small or only survived as fragments. Pit [10297] was an exception and it measured nearly 4m square, although the top was irregular in shape, and was c. 0.70m deep. This feature contained an interesting pottery assemblage which consisted of 93 sherds, a very large group for such a late feature. Six 4th century forms were identified and a further unsourced oxidized ware that may be a 5th century product was also recovered. Another substantial assemblage dating to the 4th century or later was recovered from fill [11336] and layer [11496] provided further evidence of very late Roman deposition.
- 7.8.33 An inhumation burial located on the southern limit of the Area was recorded as Grave Group 485. The burial was of a female aged between 20 and 30. She had suffered from disease in her right hand that would have led to a loss of movement. The skull from this skeleton was found in a later medieval pit which had partially truncated the grave. Extensive evidence of dental decay was evident, a condition apparently consistent with a late Roman context (see Appendix 18). Very little dating evidence was collected from the grave fill and the small quantity of late Roman pottery analysed was thought to be residual. No further graves were apparent in the vicinity and this burial appeared to be isolated.

7.8.34 Very late Roman deposition was attested by Layer Group 487, which was located on the eastern limit of Area F1. Both pottery and coins dated to the 4th century were recovered from the layers in this Group. A linear cut had separated this Group the deposits that formed Layer Group 90 which extended from Area F1 into Area F2/G2. Some of the layers which formed Group 90 contained examples of later pottery which are probably intrusive. Layer [11523], however, produced an uncontaminated assemblage of 113 sherds which are undoubtedly very late Roman. Among this pottery group were examples of a hand-made sand tempered vessel that probably dates to the 5th century and a very late grog-tempered ware which might also have been made in that period. Cut features recorded as Groups 136, 36 and 334 truncated the horizon formed by Layer Group 90.

## 7.9 Phase 10: Medieval (Fig. 14)

7.9.1 The vast majority of the site reverted to open ground in the early medieval period. It is probable that most of it was already open by the middle of the 5th century and the only area which might have retained any form of built landscape was likely to have been the walled complex in the northwest corner of the site. However, as the centuries passed the importance of that area is likely to have declined and probably by the eleventh century a drainage ditch had been cut through the north of the winged building and a massive ditch passed north to south through the walled complex a little to the west of the northern temple.

7.9.2 As the landuse in this area of Southwark declined it is probable that most of the site was turned over to agricultural or horticultural usage. The development of ploughsoil horizons is a very complex subject, even without considering what are frequently termed 'dark earth' deposits. Whatever the processes might have been that led to the formation of these soil horizons there was an undoubted accumulation of material that gradually raised the ground level from the late Roman period onwards. For example, the destruction horizon recorded as Group 837 in Area E3 dated to the 5th century was recorded at c. 1.35m OD. A metallated surface dating to the 17th century, recorded as Group 1176 in Trench 1 and located in the same area, was recorded at 2.33m OD. Thus a metre or more of soil had accumulated over the late Roman horizon. Most of this material was removed using a mechanical excavator but some was dug by hand as the latest element of the archaeological sequence covered by area excavation. These undifferentiated ploughsoils are not mentioned in the discussion below unless there is a very specific reason to do so. Similar deposits would have once covered the entire excavated area and discussions of the extent and dating of the remnants that were hand excavated is considered meaningless.

7.9.3 As mentioned above a massive drainage ditch ran roughly north-south through the northern part of Area A and continued into Area E2 before exiting the area of excavation to the north. This feature measured c. 6m wide and was at least 2.80m deep, the course of the ditch was traced over a distance of c. 40m. It should not be forgotten that the accumulation of medieval and post-medieval ploughsoils through which this ditch had been cut had been mechanically stripped before this feature was recorded and it would have been considerably wider and deeper than the truncated remnant evident at the late Roman level. This feature was one of the very few to have been excavated through the clay which sealed the gravel. The best possible drainage was obtained in this way but the depth and consequent width necessary precluded all of the other ditches on site being cut to this level. The majority of the ditch was excavated using a mechanical excavator and selected areas sampled by hand excavation. In Area A the ditch was recorded as Group 230 and contained pottery dated to AD 1350-1400. To the north in Area E2 the ditch was recorded as Group 1000. The pottery recovered in the lower fill was dated 1270-1500 but this consisted of no more than a single sherd. However, the upper fill of the ditch contained a large pottery assemblage which, although spot-dated to the late 16th century, had a very large medieval component within it. This pottery group would suggest that the initial excavation of the ditch could date back to the late 11th century as pottery of that, and all of the subsequent medieval period, was well represented.

- 7.9.4 It appeared that one of the reasons for the size and depth of this ditch was that it acted as a sump for a series of east-west aligned ditches that traversed the northern part of the excavation. The system of land division had altered from that established in the first century and appeared far more dependant on the medieval alignment of Long Lane. The most northerly east-west ditch was located some 30m to the north of a second medieval ditch that followed the same alignment; the two converged slightly to the east. Between the two was a third substantial ditch which may have been medieval in origin but contained early post-medieval pottery and has been placed in Phase 11. This feature was recorded as Group 268 in Area A and Group 571 in Area B1 (both Phase 11 see Fig.15). The western end of this feature, which had been recut on many occasions, curved to the north and fed into the south end of the larger north-south aligned ditch. It was clear from this arrangement that the sump continued in use into the early post-medieval period. A second group of shallower north-south aligned ditches recorded as Group 271 may also have drained into the north-south aligned ditch.
- 7.9.5 A curious aspect of the overall plan of Area A produced by mapping the medieval features concerned two linear cuts that ran parallel to the massive ditch recorded as Group 230. A relatively narrow ditch, recorded as Group 274, ran parallel to the major feature on its western side only a metre from the edge of it. This smaller ditch was still a substantial feature as it extended over a distance of 21m and measured 1.10m wide and was 0.72m deep. The fill of the ditch produced a very tightly dated pottery assemblage that was deposited between 1240 and 1270. There seemed to be no apparent function for this feature although it might have marked the land division adopted as the north-south axis for the massive ditch before that feature was excavated. Alternatively it might have served as a barrier to stop the unwary from approaching the massive sump. During excavation of the feature the massive ditch became a large body of water during extended periods of bad weather and presented a considerable hazard. Another linear cut recorded as Group 257 ran parallel to the southern part of the sump on its eastern side. This feature might have been a robber trench as the basal fill contained a concentration of chalk fragments, but this interpretation is far from certain. However, the 'ditch' only extended 10m north-south before stopping abruptly at both ends, neither of which was truncated. A single post-medieval sherd was recovered from one of the fills of this feature but this almost certainly derived from one of the later cut features that had truncated the ditch. The pottery assemblage suggested that this feature was excavated in the 13th century.
- 7.9.6 An array of substantial pits, concentrated in the southern part of the area, was recorded as Group 288. The most notable of these was pit [2956] which contained a pottery assemblage of 135 sherds dated to 1170-1350. This ceramic group is very large for the period and location and is certainly not of a size compatible with occasionally visited farmland. Later medieval pits were located further to the north of Area A as Group 286; these are likely to date to the 14th century or later. Pit Group 287 consisted of a second larger group of later medieval pits, mainly located in the south of the area and contained pottery dating them later than 1270.
- 7.9.7 The most northern of the east-west aligned ditches defining the new system of land divisions was recorded in Area C1 as Group 188, in Area A as Group 256, in Area B1 as Group 579 and in Area B2 as Group 949. From Area B2 the ditch would have passed eastward into the unexcavated contaminated area but would very probably have terminated at a second massive north-south aligned ditch recorded as Groups 434 and 806. This ditch passed through the north of Area D and Area E3 before exiting the excavated area. This feature could be seen as a second sump located in the east and it will be discussed in due course.
- 7.9.8 As seen in Area C1 the northern east-west aligned ditch consisted of little more than a shallow gully. Group 188 contained no datable artefacts that demonstrated when the feature was in use. The ditch passed into Area A, where it was recorded as Group 256, and continued to be a relatively narrow and shallow feature, although the situation to the west of the massive ditch, Group 230, was perhaps more complex with a slightly shifting boundary being marked by a succession of features. Some medieval pottery was recovered from the fills of these features with

a small assemblage dated 1050-1150 retrieved from the earliest dated fill. Two later fills contained pottery dated to 1170-1350, although these assemblages are small.

- 7.9.9 To the east of the massive north-south ditch, but still in Area A, the feature (Groups 256, 579 and 949) was far more substantial, measuring over 2m wide and 0.75m deep. Very small quantities of pottery were recovered from the fills of this feature; the assemblage from the lower fill was dated 1050-1100 whilst the upper fill contained pottery dated 1270-1350. The pottery recovered from the fills of this feature in Area B2 was dated 1400-1500.
- 7.9.10 A second east-west aligned ditch was found to the south of that described above. It passed from Area C1, through Areas A and B1 and finally terminated in Area D. The ditch was recorded as Groups 523, 290 and 577; the latter Group was used in both Areas B1 and D. In all the course of the ditch was traced over a distance of c. 95m, it spanned virtually the entire area of excavation. In the east the ditch terminus was apparent a little to the east of a large north-south aligned post-medieval ditch that documentary research demonstrated to have formed the parish boundary. This boundary may have been redefined in a later period as the medieval ditch (Group 577) passed beyond the later north-south ditch (Group 434) before terminating suddenly. If the medieval boundary had been in the same place there seems little logic in the east-west ditch passing beyond it only to terminate a few metres further to the east.
- 7.9.11 The only dating evidence for the ditch (Group 577 or 290) recovered from Area C2 was provided by the relationship between it and pit [5259]. The ditch had truncated the pit which contained a good sized pottery assemblage tightly dated to 1000-1150. Some of the dating evidence from Area A is a little mixed, some intrusive post-medieval finds were assigned to the ditch fills, but the features that form Group 290 are earlier in the archaeological sequence than others such as those in Pit Group 288 which contained excellent dating evidence demonstrating that they were undoubtedly medieval.
- 7.9.12 Group 577 marks the continuation of the feature eastward across Area B1 and into Area D. The fills excavated in Areas B1 and D provided good dating evidence to suggest that the ditch was in use in the 13th century. A later recut of the ditch was recorded as Ditch Group 784 in Area D. A very large ceramic assemblage of 109 sherds was recovered from one of the fills, [5418]. This pottery group was dated 1300-1350 and demonstrated continued use of the ditch into this later period. This was a very large group of pottery to unearth such a considerable distance from the street frontages and apparently lying in open ground.
- 7.9.13 The second massive north-south aligned ditch mentioned above was located to the east of the excavation in Areas E3 and D where it was recorded as Groups 434 and 806 respectively. It was similar to that found to the west in that it had been dug through the thick clay unit into the underlying gravel in order to maximise its drainage effect. A similar width of c. 6m had been required in order to attain the depth necessary to reach the gravel and the ditch was c. 1.50m deep. Its course was traced over a distance of some 28m. In Area D the ditch was not recorded in plan or excavated due to constraints imposed by site logistics but the extent of the feature was apparent in sections recorded after machine trenching of the area. The southern extent of the ditch is somewhat speculative as it passed beyond the limits of the machine trench towards a contaminated area that could not be excavated. However, the ditch was not apparent a few metres to the south in the location of the later post-medieval east-west aligned ditch recorded as Group 780 in Phase 11. Very few finds were recovered from its fills but it appeared that, as with the massive ditch found to the west, this was a feature originally excavated in the medieval period which continued in use into later periods. In Area E3 the ditch appeared to truncate the medieval features that formed Group 142 but this might represent a recut rather than the original ditch.
- 7.9.14 The northwestern periphery of the site in Area C1 contained a noticeable concentration of pits dated to the medieval period. This may reflect its proximity to the busy medieval thoroughfare to the west (Tabard Street formerly known as Kent Street) and some of these pits could lie within back yard plots associated with buildings that once fronted onto the street, although they are

some still some distance from it. Pit Group 206 was well dated by the pottery recovered from the fills. These features were probably excavated in the later 13th or 14th centuries, they were located in the southwest of the area and as close to the street frontage as excavation reached. Pit Group 209 had a more widespread distribution, the dating evidence recovered from the fills was limited but the pottery recovered suggested that most of these features were earlier than those collected together as Group 206 although one is dated after 1270. Further pits were recorded as Group 211. A roughly north-south aligned linear cut (Group 191) ran parallel to the massive sump. This feature was somewhat poorly defined, it was deeper in some areas but, although recorded as separate features, these smaller linear cuts were entirely confined to the area of the larger feature above. Parts of the foundation trenches for the southern temple were robbed out in this period; these were recorded as Robber Group 200 and date to the 13th century.

- 7.9.15 A similar situation could be observed in Area E1 where the vast majority of the pits were located on the west side of the area. This perhaps confirmed that the main thoroughfare of the day was Tabard Street and despite Long Lane lying immediately to the north of this Area there were very few signs of medieval development along the frontage. Pit Group 1081 was of particular interest as it contained a pottery assemblage which included an almost complete profile of a vessel dated 1000-1100. This pit was sealed by one of the layers that formed Gravel Surface Group 1080. This fragmentary metallurgy covered an area c. 16m north-south by 12m east-west and is of great interest as it represented the only proven medieval surface anywhere on the site. A fragment of worked stone recovered from layer [8468], one of the make-up layers for the gravel surface, is worthy of comment. This piece was part of a stone statue, specifically a fragment of an upper arm, and may once have stood in the Roman complex focused in this area.
- 7.9.16 Very few of the pits in this area contained ceramics which dated them to the medieval period. Pit Groups 1078 and 1079 consisted of 21 cut features none of which produced any useful dating evidence. One of the pits that constituted Group 1077 contained an assemblage of 52 sherds dated 1430-1500. This substantial late medieval pottery group was retrieved from pit [8710] which was located close to the Long Lane frontage. This may represent the eastward development of the street frontage in the later medieval period.
- 7.9.17 Robber Group 1075 has already been mentioned above concerning the development of the 2nd century religious complex. As excavated this feature consisted of a rectangular pit measuring 3.60m by 3.20m by over 1m deep. As discussed above this pit may have represented a robbed out structural element, such as a plinth, the frequency of mortar and ragstone fragments in the fill lends credence to this theory. If this was a plinth it would have been roughly equal in size to another found on the southern margin of Area E1. However, the pit was much deeper than either of the construction cuts for the plinth bases found elsewhere in this area and any architectural element sprung from it could have been of considerable size and weight. The pottery recovered from the fill of this feature was dated 1050-1150 AD.
- 7.9.18 Ditch Group 1084 marked the line of a land division that ran east-west across the south of Area E1. This succession of shallow ditches or gullies was poorly understood when being excavated but the consistent appearance of small assemblages of medieval pottery in the fills made it evident that a slightly shifting boundary was marked on more than one occasion. These features ran roughly parallel and, immediately to the north of the extensive ditch line that traversed the northern part of the site, recorded to the south in Area C1 as Group 188. The features recorded in Area E1 might represent hedge lines rather than drainage ditches, which might explain the rather confused nature of the remains found in this area.
- 7.9.19 Ditch Group 1083 ran north-south through the centre of Area E1. This feature has already been discussed as a possible robber cut of a wall forming the western boundary of the late Roman temple complex. One factor which might militate against this interpretation is the course of the ditch, which does not run in a perfectly straight line. Whilst this cannot be denied the right angle it apparently formed with the Phase 8 wall (Group 229) is suggestive. However, the fills of the ditch

that formed Group 1083 only contained a single sherd of medieval pottery, a very slight return for a feature which was 24m long and nearly a metre deep.

- 7.9.20 A further concentration of medieval pits that can be related to the Tabard Street frontage was recorded in Area C2, particularly the southern part of it. Pit Group 521 consisted of fourteen cut features eleven of which contained medieval pottery. Most of these assemblages were small with a focus from the mid 12th to 13th centuries. A larger assemblage of 37 sherds dated 1270-1350 was recovered from pit [5891], two other pits contained pottery dated to this later period. The distribution of these pits is notable as they define a rectangular area which has no cut features within it. This might define a plot where no digging took place or even a building that had left no trace in the excavated levels.
- 7.9.21 A rectangular pit [5259] was located to the north of Group 521. This feature contained 31 sherds of pottery all of which were of the same Early Medieval Sand and Shelly ware dated 1000-1150. This feature was very isolated, partially as a result of modern intrusions and its proximity to the edge of excavation in this area, but the distribution of pits suddenly stops on a line to the east of this feature and those that formed Group 521.
- 7.9.22 To the south of the pit Groups discussed above, in Area G1, cut features that were probably associated with properties that fronted onto Tabard Street were apparent in the northern part of the Area. The situation in the southern part of Area G1 was more complex as the excavation covered an area where land divisions were dependant on the alignment of the road and the development of plots adjacent to it.
- 7.9.23 The array of intercutting features in the northern part of Area G1 was recorded as Pit Group 409. A particularly large shallow pit [12597] contained a moderately sized pottery assemblage closely dated to 1170-1220 but this feature was apparently later in the sequence than the pit [12595] which was quite precisely dated to 1340-1450 by a near complete glazed jug recovered from it. The Group presented clear evidence of medieval activity in this area with a very noticeable concentration of finds dating to late 13th to 14th century.
- 7.9.24 To the south of this a second group of pits that may relate to the street frontage had impacted on the east-west aligned ditches that defined a shifting but apparently very important boundary. As recorded the pits that formed Groups 405 and 407 truncated the fragments of the ditch system that characterised this area. Most of the archaeological sequence developed from this complex series of relationships presents a cogent record of pits and ditches that were excavated in the 10th to 12th centuries. Both of the pit Groups mentioned above were dated to this period, as were ditch Groups 352, 400 and 353. However, the latter apparently truncated Ditch Group 404 which contained pottery dated 1340-1500. The dating bracket for this earliest Group was only based on two sherds of pottery. If the pits in Groups 405 and 407 were related to properties situated on the street frontages the ditches which they apparently truncated must have silted up or been backfilled before the frontage was developed. However, none of the pits contained any datable artefacts to demonstrate a chronological progression and this sequence of events cannot be proven.
- 7.9.25 A very substantial pottery assemblage was recovered from a large rectangular pit, [12784], situated to the north of the ditch system some 30m from the western limit of the excavation. The pit measured c. 4m by 1.5m; the longest axis followed the east-west alignment of the ditch system. A substantial log, one of which was forked, had been laid north-south at either end of the pit some 0.50m from the sides. The function of this feature is unknown but the assemblage of 109 sherds from one of the lower fills of the pit demonstrated that it was in use from the late 14th, or more probably 15th century. The size of this assemblage seemed incompatible with an isolated feature in farmland and whatever function this pit may have had it appeared to form a focus for later medieval activity in this area.

- 7.9.26 An inhumation burial, recorded as Grave Group 340, was found in the eastern part of Area G1, the head was to the west although the orientation of the body was more southwest to northeast. Very little extra information could be gleaned from the analysis of the skeleton as the bones exhibited serious signs of degeneration, probably due to the effects of osteoporosis. Neither the age nor sex of the skeleton could be determined from the fragmentary bones recovered. The only dating evidence recovered was a small assemblage of abraded Roman pottery dated 160-400 AD. Although classed as medieval this grave could date to almost any period after the late 2nd century. This burial was isolated and did not form part of a cemetery.
- 7.9.27 The east-west aligned ditch system mentioned above was a defining feature of the southern half of the excavation. It began on the western limit of excavation and passed from Area G1 through Area F2/G2 before exiting the limit of excavation to the east. This covered a distance of some 85m. To the east the ditches followed a very similar alignment to that which defined the system of land division found in the northern part of the site. However, the alignment of the southern ditch system changed and veered in a more southerly direction c. 30m from the western limit of excavation. There seemed little rationale for this deviation but an obstruction of some sort, such as a cluster of trees, may have existed and forced the ditches to be re-aligned. The details of this ditch system and their dating are not discussed here as the sequence is complex due to the continual recutting of the ditches on slightly differing alignments. However, more complex factors might have been at root as it was clear from the excavation of Area F1 that the east-west aligned ditches connected with a whole system of smaller north-south aligned ditches that presumably marked land divisions in their own right. These ditches nearly all continued beyond the southern limit of excavation and were commonly spaced c. 7m apart. Some of these land divisions are not evident on the Phase 10 plans as some of the ditches continued in use into the early post-medieval period. Some of the dating evidence strongly suggested that this system of land division was already established by the late 12th century. One of the north-south ditches, [10261], contained a large 77 sherd assemblage dated 1170-1200. The remaining pottery spot dates recovered from Group 474 confirmed a late 12 to 13th century deposition date for the fills of this ditch. It seemed clear from the record produced for this Phase that the system of land division documented in the southern half of the site was not dependant on that seen further to the north and the focus of this system was located beyond the southern limit of the excavation. The division of land into thin strips could be linked to agricultural practice current in the medieval period and also raises the possibility that fields could be owned or worked by more than one individual. If this were the case the apparent continual redefining of the east-west ditches might be more understandable as each stretch of ditch forming the northern boundary of a field might have been maintained by an individual tenant or landowner. Periodic renewal along the entire length of the system might have been required but would have needed the agreement of several parties or the intervention of a more powerful local landowner to manage effort and impose a solution.
- 7.9.28 The north-south aligned ditches defining the 'fields' were relatively narrow and shallow. An exception was evident on the western margin of Area F1 where a more substantial north-south aligned ditch was recorded running parallel to the line of Tabard Street, c. 2m from the limit of excavation. The ditch measured up to 2.50m wide and was over 1.20m deep. The fragments of this feature that survived between the deep modern foundations that truncated this area were recorded as Group 460. A substantial pottery assemblage consisting of 50 sherds dated to 1290-1350 was recovered from fill [10237]. This was one of seven ceramic groups recovered from the ditch, the majority of which suggested that it was backfilled in the late 13th and 14th centuries. The ditch was not evident to the north of the major east-west land division discussed above and this feature probably represents a medieval roadside ditch. It might be assumed that there was insufficient space between the ditch and the road for properties to be built. The northern limit of this ditch could therefore mark the southern limit of the developed early medieval street frontage on the east side of Tabard Street.
- 7.9.29 A small group of pits was located to the east of the roadside ditch, these were recorded as Group 486. These features were excavated from the 13th to 14th century and would have been dug

whilst the roadside ditch was still in existence. In all probability they did not relate to a property that fronted onto the street.

- 7.9.30 Evidence of possible structural remains was recorded on the eastern margin of Area F1 and the adjacent part of Area F2/G2. A series of three superimposed linear cuts recorded as Group 125 in Area F2/G2 presented the most convincing evidence of building remains in this phase. These narrow cuts formed a right angle and could have held a substantial beam up to 0.40m in diameter. The shorter side of the potential structure was aligned with the adjacent ditch [11455], Group 19. As found the linear cuts did not form a cogent structure but these features were clearly not drainage or boundary ditches. They could have been the result of horticultural practice. A small pottery assemblage dated to 1140-1150 was recovered from one of the fills. A second group of linear cuts located in Area F1, to the west of Group 125, was recorded as Group 476. This Group consisted of small linear cuts all of which contained medieval pottery, although the date ranges of the pottery were wide and the coexistence of these features was far from certain. Another narrow linear cut which formed Ditch Group 481 could be connected with these possible structural features as it followed the same alignment as one of the beamslots located to the east. This cut contained pottery dated 1170-1220.
- 7.9.31 An extremely large cut feature measuring c. 16m by 9m by 1.50m deep was recorded as Group 321 in Area F2/G2. This pit was located to the north of the east-west aligned ditch system that traversed the entire Area. It was steep sided and would have presented a considerable hazard if, as appeared likely from the highly organic laminated fills evident within it, it had stood open and been filled with water. This feature has been interpreted as a pond, it may have originated as a quarry in order to remove clay for brick or tile making but this would have represented an isolated one-off event. The pottery assemblages recovered from the feature were small but this reflected the method of investigation, which was principally by machine trenching, as the feature could not be fully excavated by hand. The lower fills contained small quantities of medieval pottery which ranged from the 11th to the 15th century. Residual 15th century pottery was also evident in some of the upper fills which dated to the early post-medieval period and demonstrated that the pond was still being backfilled, if not in use, at that time.
- 7.9.32 An isolated structure was evident in Area G3 some 30m to the northeast of Pond Group 321. A right-angle formed by two beamslots, each of which measured c.1.75m in length, was associated with two large postholes which might have formed part of the structure. A small timber structure might be conjectured from the plan. A deep pit was situated directly below this structure. Although not totally regular the feature was roughly square and measured 1.50m in diameter and 1.30m deep. This group of features was interpreted as a latrine. Very small pottery assemblages were recovered from the fills of the features that formed Group 64 but these consistently suggested that this Group was in use in the late 12th or early 13th centuries. The Latrine Group was isolated from other medieval features.
- 7.9.33 Very little evidence of medieval activity was evident on the northern margins on the site. The massive sump ditches passed north-south through Area E2 in the west and E3 area in the east. The area between these two ditches was virtually devoid of medieval features and it appeared that there was no developed street frontage on this part of Long Lane in this period. A small array of medieval pits, Group 142, was evident to the east of the large ditch recorded as Group 434 in Area E3. To the east of this pit group a truncated fragment of a north-south aligned ditch (Group 145) contained a moderately sized pottery assemblage consisting of 27 sherds dated 1180-1220. This ditch fragment followed the same alignment as a very large later ditch, recorded as Group 79 in Phase 11, which had truncated it. The later ditch traversed the entire area of excavation and was used as the parish boundary in later periods. This tiny ditch fragment suggests that an earlier ditch had once defined this boundary.
- 7.9.34 A noticeable concentration of medieval features was found in the southern part of Area B1. Essentially two groups were defined in this Area. In the southeast of the Area a confused series of large intercutting pits which were possibly quarries for clay, Group 576, contained an assemblage



of 49 sherds dated 1250-1350. These features were found immediately to the south of the east-west aligned ditch (Group 577) that traversed the area and continued into Area D. In the southwest of the area a single pit [3541] (Group 581) contained an assemblage of 64 medieval sherds dated 1350-1450. This is a large late medieval ceramic group but the pit was very isolated; further features dated to this period were extremely sparse not only in this part of Area B1 but also the adjoining parts of the surrounding Areas A and G1. The nearest substantial medieval features formed Group 288 and were located some 15m to the northwest in Area A.

## **7.10 Phase 11: Late 15th to Late 17th Centuries (Fig. 15)**

- 7.10.1 The methodology adopted for the excavation focused attention on the Roman epoch and as a consequence later periods were principally represented by deep cut features. The exception to this was provided by three sample trenches targeting the later remains which were excavated before machine stripping of the site to the late Roman levels began. The earlier post-Roman phases are therefore quite widely represented by cut features recorded in the main area excavation. Later periods are almost exclusively represented by the remains documented in the three post-medieval trenches as ground levels had been progressively raised and even deep cut features rarely penetrated the late Roman horizons.
- 7.10.2 The phases into which these later remains have been grouped may seem somewhat arbitrary but the medieval remains clearly formed a cogent unit, although subdivisions within this era could of course be made. Phase 11 represented a very extended period which spanned notable political and economic changes. However, new forms of both pottery and ceramic building materials began being produced in the later part of the 15th century and provided a natural starting point for this phase. The later 17th century can be seen not only as a time in which the artefacts produced provide a natural dating bracket that can be used as a division between periods but also as a defining moment in English history when the economy of the nation state morphs into that of a colonial power. The increasing wealth generated by overseas possessions and trade fuelled the economy and was a vital factor in financing the industrial revolution. This period was represented by Phase 12. The massive changes in material culture wrought by new methods of mass production in the mid 18th century were of course reflected in the ceramics recovered from the excavation. The pottery and clay tobacco pipes made in that period were the principal dating tools used to define Phase 13. In Phase 14 modern features are generally those that date to the 20th century.
- 7.10.3 The development of the street frontage on Long Lane in the early post-medieval period can be attested by the archaeological remains documented in that area. An apparent anomaly concerned the paucity of features relating to this period found in the extreme western part of the frontage in Area E1. The frequency of cut features recorded in this area is much lower than that seen to the east, which appears at odds with the probable history of the frontage expanding out from the urbanised core of Southwark in the west towards the open ground of Bermondsey. However, the present course of the roads should be taken into account when gauging this apparent lack of development. The western end of Long Lane swings to the south to pass by St George's church; this arrangement is shown on 18th century maps which post-date the rebuilding of the church in 1735. However, it is possible that the western part of Long Lane passed further to the north in the medieval period, the ruined Roman temple would have forced the adoption of a more northerly route in the early part of that period. The street frontage could therefore have been more distant from the northern limit of the excavation in Area E1. The apparent lack of pits likely to have been dug in back yard plots associated with properties fronting onto the street could simply be due to these plots being located beyond the northern limit of the excavation. Some pits were evident, they were recorded as Groups 1069 and 1073, but their spatial distribution did not suggest a particular pattern of land division. The pottery assemblages recovered from these features dated them from the mid 16th to early 17th centuries.
- 7.10.4 Structural remains were evident in the form of robber trenches filled with gravel and broken roof tile. The trenches formed a right-angle representing the northeast corner of a building. An internal

wall running parallel to the western external wall formed a room c. 4.60m wide in the north. The trenches passed beyond the limit of excavation to the west and south. The building clearly would have extended to the south into Area C2 but the slightly deeper machine clearance in that Area had removed any trace of it. These remains might have represented substantial foundations as the trenches measured up to 0.80m in diameter, they were very shallow but only the base was extant following machine clearance. The trenches recorded as Robber Group 1067 measured c. 14m north-south by 9m east-west. It was clear from their alignment that this building was related to the Tabard Street frontage and not that of Long Lane. This once again reinforced the impression that the Long Lane frontage was somewhat distant from the northern limit of excavation. No pottery was recovered from the fills of the robber trenches but one of them did truncate a pit that backfilled after 1550.

- 7.10.5 The medieval north-south aligned sump ditch would still have been in use in this period. Even if it had silted up or been backfilled a considerable period would have needed to pass before the ground settled and dried out sufficiently and building could have been contemplated over it. To the east of the ditch the area of the northern temple contained no remains dated to this period but none of the relevant archaeological levels would have survived the modern truncations that had impacted this area. A very different situation was visible to the east of the modern warehouse foundations that enclosed the temple area. A plethora of pits was found in the eastern part of Area E2 and especially in Area E3 to the west of the second large medieval sump ditch. The distribution of these pits showed a very pronounced east-west alignment that followed a line c. 6m to the south of the limit of excavation and parallel to Long Lane. A few pits are visible to the south of the line but there can be little doubt that property boundaries are represented by this marked alignment and these pits almost certainly related to back plots associated with buildings fronting onto Long Lane. The pits as recorded in Area E2 formed Group 997 and dated from the mid 16th to mid 17th centuries. In Area E3 the pits were recorded as Groups 418, 426 and 430. The pottery recovered from the fills of these features again dated most of them in the mid 16th to mid 17th centuries, only two of the pits contained assemblages that might date them to the late 15th century and one of those groups is undoubtedly residual.
- 7.10.6 Trench 1, one of the areas in which the post-medieval archaeology was prioritised, was located above the area excavated as Area E3. Pit Groups 1193 and 1194 were both located close to the street frontage and contained pottery and clay tobacco pipes dated to the same period as the pits discussed above. In part this reflected the areas investigated but extensive pitting dating to the later 17th and 18th centuries only became evident further south from the street frontage. These later pits were recorded as Groups 1188 and 1190 in Phase 12.
- 7.10.7 The massive sump ditch that passed through the eastern part of Area E3, Group 434, may have continued in use into the early post-medieval period but this could not be demonstrated from the artefacts recovered from its fills. Very few features dating to this period encroached on the ditch location and the evidence available from those that did suggested that a stable ground surface had not been formed above the backfilled ditch prior to the middle of the 17th century. A remnant a ploughsoil horizon [9133] that sealed the ditch contained pottery dated to 1620-1650 and the construction cut for a barrel well [8905] produced an assemblage deposited between 1630 and 1680.
- 7.10.8 The developments recorded to the east of the ditch showed a different character to those described for the area to the west of it. Instead of the development of a clearly defined street frontage a mass of large intercutting quarry pits extended from the northern limit of excavation across the entire area and further south into Area D. These pits appeared to have represented the systematic exploitation of the clay as a raw material. The pits fills were very similar, mostly being composed of undifferentiated topsoil, and it was extremely difficult to distinguish one fill from another. There seemed a strong possibility that once the removal of the clay had begun the adjoining locations were cleared of topsoil by shovelling it into a previously excavated hole and moving through the 'seam' of clay. The area affected by this mining was well defined.

- 7.10.9 To the west the huge medieval sump ditch would have formed a natural boundary. Even if it was no longer in use as a property boundary the clay had already been stripped when the ditch was excavated. To the east a second huge ditch ran through Areas E4 and D before continuing south through Area F2/G2. This feature was recorded as Groups 79, 779 and 415. The ditch formed part of the parish boundary between St. George's to the west and Bermondsey to the east and continued in use until the 19th century. An east-west aligned ditch, recorded as Group 780, formed the southern limit of the quarry. This feature extended as far east as Ditch Group 779. To the west the ditch extended into the unexcavated contaminated area but the same alignment was followed further to the west by Ditch Group 571 which passed through Area B1 before being recorded as Group 268 in Area A. This east-west ditch appears to have replaced the medieval ditch that followed the same alignment further to the north. The pressure of an expanding street frontage may have necessitated this change as the area available for agriculture or horticulture was reduced by the development of plots on Long Lane. The medieval land division would only have left a narrow strip between the ditch and the back plots associated with the frontage; this might explain why the ditch was relocated further to the south.
- 7.10.10 The pits were almost undoubtedly excavated to extract the clay that occurred as a thick seam in this area. The surface of the clay would certainly have been flat when deposited but it had been eroded to both east and west by palaeochannels, thus leaving the thicker outcrop, which later warranted exploitation. However, the clay extraction appeared to have been limited to a single owner's property. The seam of clay would have become thinner to the south and may not have warranted extraction but the pit stopped abruptly to the north of the east-west ditch, which defined the boundary very clearly. This was also true for the boundary formed by the north-south aligned ditch to the east. No features dating to this period are evident in either Areas E4 or D to the east of this feature. Only small quantities of domestic waste were evident in the quarry pits, some of the dating evidence might be misleading as several pits contained pottery groups that might date back to the later 15th century. However, most of the pottery recovered demonstrated that the pits were probably excavated from the mid to late 16th century into the early 17th century.
- 7.10.11 Very few features of any kind were evident to the east of the ditch which formed the parish boundary, regardless of the Area concerned. One exception concerned a concentration of barrel wells that were recorded in Area G3 (Groups 45-48). These could not be fully excavated due to restrictions imposed by site logistics and were largely undated. However, one of the features that formed Barrel Well Group 46 contained clay tobacco pipe dated 1640-1660 which demonstrated that at least one of the group was in use toward the end of Phase 11.
- 7.10.12 Ditches relating to post-medieval land divisions survived on the southern periphery of the site. Ditch Group 464 in Area F1 was one of the north-south ditches that divided this area into narrow strips and was still in use around 1550 but was probably backfilled and out of use by the end of the 16th century. Significantly no clay pipe was recovered from any of the fills. Most of the pits located to the east of this feature could be dated to the 17th century by the artefacts recovered from them. Virtually every pit that constituted Group 454 contained pottery dated between 1630 and 1700, equally nearly all of them contained clay tobacco pipe dated 1660-1680. Two barrel wells located in the same area were recorded as Group 477 and almost certainly date to the same period.
- 7.10.13 The features located to the west of the ditch appeared to be earlier than those found to the east. The diverse intercutting features that formed Group 467 contained pottery assemblages that were dated from 1480-1600, 1550-1600 or were broadly dated to later than 1580. These ceramic groups appeared to be earlier than those found in the features located to the east and, again, no clay tobacco pipe was recovered, which would normally support a date before 1570. A barrel well, Group 461, was also found to the west of the ditch line and it too contained an earlier pottery assemblage dated 1480-1550.
- 7.10.14 A brick floor (Group 447), which must have formed part of a basement or cellar, formed the latest Group in the Phase 11 sequence in Area F1. The bricks used have been dated to after 1666,

which would clearly make this a Phase 12 feature (see Appendix 4). However, the floor might be a replacement as all of the datable artefacts associated with the construction of the basement are dated to earlier periods. Alternatively, these artefacts might all be residual or reused. The small rectangular cellar measured 5m east-west and 2.40m north-south.

- 7.10.15 Pits that might be associated with a developed frontage on Tabard Street were noticeably absent in the west of Area F1. Modern basements had impacted this area quite heavily but the medieval roadside ditch discussed in Phase 10 had survived in this area and no later pits were cut into the top of it. A small cluster of pits was evident to the north of this in Area G1. These features formed Group 397, the pottery assemblages recovered from the fills were small and either residual or not closely datable. No clay tobacco pipe was recovered from these pits, which would suggest that they probably predated the later 16th century.
- 7.10.16 Shallow ditches were evident adjacent to and running parallel with the western limit of the excavation. The function of these features was not clear as they were far too shallow to have had a noticeable effect on drainage, although only the truncated bases were evident. The pottery assemblages recovered from the fills were small and wide-ranging in date but these features might indicate that a street frontage was not developed here before the 17th century.
- 7.10.17 Part of the east-west aligned medieval ditch system may have continued in use during this period. However, the dating of Ditch Group 393 was entirely dependent on the relationship between ditch [12179] and a 16th century pit [12514], which it apparently truncated. However, the ditch could be one of the latest elements marking the shifting medieval boundary, although it was itself devoid of dating evidence with the exception of a single sherd of probably residual pottery dated 1000-1150.
- 7.10.18 Further to the north there are very few features dated to this period in either Area C1 or C2. Indeed, the most notable characteristic of the area closest to the frontage in Area C2 is an almost total lack of features dating to this period. A few pits were found in the southern part of Area C1 and were recorded as Group 205. The pits contained pottery with quite widely ranging dating brackets but they probably date from the late 16th to mid 17th centuries.
- 7.10.19 To the east of Area C1 in Area A the southern part of the massive sump ditch continued in use and a recut was recorded as Group 490. As discussed above part of the newly defined more southerly east-west aligned ditch system fed into this sump, these features were recorded as Group 268. The backfilling of this ditch system is quite precisely dated to 1580-1600. Several of the pottery assemblages recovered were dated to this brief time bracket, this included the very large group of 177 sherds recovered from fill [922]. Apart from these drainage features this period was represented by the usual array of pits and barrel wells, which were spread across the entire area without forming any particular pattern. Pit Group 497 consisted of four features widely dispersed across the northern part of the trench. The pits were dated to the late 16th and 17th centuries. Pit [863] was particularly well dated to 1630-1650 by the assemblage of 247 sherds recovered from its upper fill [861]. More pits, mainly those found in the southern part of the Area, were recorded as Group 243. These features are less precisely dated than those that formed Group 497 and might be slightly earlier in date; none of the pottery forms identified was specifically datable to the 17th century. The barrel wells recorded as Groups 247 and 242 were found throughout the Area and were dated to the late 16th to early 17th century.

## **7.11 Phase 12: Late 17th to Mid 18th Centuries (Figs. 16 & 17)**

- 7.11.1 The methodology adopted for the excavation called for the machine stripping of the post-Roman levels with the exception of three targeted trenches designed specifically to examine the later development of the site. The machine reduction of the main area ensured that very few features that dated to this period were recorded during the course of the area excavation. The discussion of the later periods is therefore confined to the remains documented in Trenches 1 to 3, with the exception of a few specific features of particular interest.

- 7.11.2 In Trench 3, situated in the eastern part of the excavation, the huge north-south aligned boundary ditch which formed the parish boundary would have continued in use into the 18th century, although no fills specifically dated to this period were recorded.
- 7.11.3 Trench 1 was located on the Long Lane frontage, almost centrally within it, and above the archaeological levels later examined in Area E3. The main development in Trench 1 consisted of the construction of a strip building which had its longest axis orientated north-south. It did not appear that the building had ever had a frontage on Long Lane. The northern part of the structure was partially truncated but the plan of the building as recorded suggested that the plot that it occupied was always located behind the properties that fronted onto Long Lane. In fact the projected northern limit of the building coincides almost perfectly with the property boundary established by plotting the Phase 11 pits that were recorded in Areas E2 and E3. The strip building would have been accessed by an alleyway from Long Lane that passed by a separate property that fronted onto the road.
- 7.11.4 The building would have measured c.24m north-south by 4.5m east-west, it was recorded as Group 1179. The foundations would have been relatively light as the trenches were shallow and only the width of a single brick. It was therefore probable that the majority of the superstructure was built of timber, although the building would still have had an upper storey. An exception to the largely timber build would have been the fireplaces which would have been in brick; two 'H' shaped brick structures represented the foundations and lower courses of these. The best preserved of these measured 2m east-west and 1.80m north-south. The 'H' formation would have served two rooms on each floor, each half of the 'H' would have formed a hearth on one side of a room with dividing walls extending on either side of the fireplace. These were probably made from lath and plasterwork and had left no trace in the ground. Internal partition walls were evident and the footings, consisting of a single width of bricks laid as headers, again suggested that the vast majority of the superstructure was built in timber, probably infilled with lath and plaster. The positions of the partition walls showed that the building was divided up into rooms measuring 14' by 13'. An interesting detail concerned the layout of the northern part of the building where two rooms were located to the north of the fireplace and probably formed part of the same dwelling. A doorway located on the east side of the building would have given access to the unheated northern room. This is not a typical arrangement for this form of building and might indicate that the northern part of the building had been modified. No evidence of flooring was evident in the northern part of the building, mainly due to the impact of a later rebuild, but the 'ghost' impressions of robbed out floor joists were recorded immediately to the south of the northern fireplace. Timber floors were probably used throughout the building with the exception of the fireplace surrounds which unsurprisingly were in brick or tile.
- 7.11.5 The dating evidence for the erection of the building, consisting of pottery and clay tobacco pipe collected from the construction cuts and make-up layers below the floors, was very consistent. There seemed little doubt that the building dated to the late 17th or very early 18th century. This would have made this a fairly late example of this style of construction. A plan of an almost identical building was recorded in Treswell's Surveys; the example used was a set of almshouses built in Whitefriars, City of London (Schofield 1987, 129-130). A very fine depiction of this form of strip building was produced in 1798 showing another set of almshouses, this time in Petty France, Westminster. The benefactor on that occasion was Cornelius Van Dun who had served a variety of English monarchs including Elizabeth I, the building depicted was therefore probably built before or around the same time as the example found at Whitefriars.
- 7.11.6 A small brick basement, Group 1182, was found on the eastern side of the strip building. This semi-interred brick structure measured 2.5m by 1.5m, a set of steps led down to the brick floor in the northeast-corner of the room. A small barrel had been set into the floor in the southeast corner. This appeared to be a fairly permanent arrangement as a semi-circular brick perimeter had been built around the barrel. The function of this room is not known but it is unlikely that clean drinking water could be drawn from the small barrel and some ancillary function might be conjectured for this external area. It is possible that it might operate as a cool room or dairy. The

pottery and clay tobacco pipe collected from the diverse elements of the Group again suggested a date of around 1680-1710 for the construction of the basement.

- 7.11.7 A gravel surface was apparent to the west of the strip building, the highest level recorded on it was 2.33m. The gravel had been truncated to both north and south but extended over a distance of 18m north-south, it was recorded as Group 1176. The dating evidence for this Group was poor, later material has undoubtedly contaminated the finds from this surface. However, a later cobbled surface laid directly above it contained two moderately sized pottery assemblages that both dated to the late 17th to early 18th centuries, a date confirmed by the clay tobacco pipe assemblage. The cobbled surface, although fragmentary due to heavy truncation, was particularly notable for the inclusion of large chunks of coral and a whale bone in the build (see Appendix 4). The coral derives from warm water locations and had certainly not been collected from around the coasts of northwest Europe. It had presumably been included in the composition of the floor for decorative effect but this material is so unusual for this period that a connection might be sought with the inhabitants of the adjoining buildings, who might have been seafarers.
- 7.11.8 To the north of the strip building the fragmentary remains of another structure were evident; they were recorded as Group 1184. The northern building was not as well preserved or documented as that to the south of it as it had been heavily impacted by later structures which had stood in the same location. The structure consisted of two rooms; the largest eastern room was rectangular with its longest axis orientated north-south. The internal dimensions of the eastern room were 6.5m by 3m, the adjoining room to the west measured 3m east-west and more than 3m north-south, it extended beyond the limits of excavation to the north. The walls of this building were considerably thicker than those of the strip building, they would have corresponded to a width of 1½ bricks and might have supported a masonry superstructure, although this is unlikely given the period in which the building was erected. The larger room had a probable fireplace on the south side of the north wall; this feature consisted of two stub walls 1m apart. It was difficult to establish a precise construction date for this building, some of the building material employed has been dated to after 1666 and some of the clay pipe recovered has been dated to the first half of the 18th century. However, a later floor was re-laid in the smaller western room and both the pottery, which was a moderately sized assemblage, and the clay tobacco pipe suggested that this building was already in existence by the late 17th century. Given that the floor was apparently a replacement the original building could have been earlier.
- 7.11.9 The area to the east of the strip building remained open ground into the early 18th century, very possibly a little later. Two Groups of pits were identified in this area. The earlier pits, Group 1190, were dated to the late 17th century to early 18th century by the pottery and clay tobacco pipe assemblages recovered from them. This Group was sealed by a soil horizon recorded as Layer Group 1189, the highest level taken on this horizon was 2.24m OD. The later pits had truncated the soils horizon and were recorded as Group 1188; these features were more likely to date to the first half of the 18th century. Most of the pottery assemblages recovered contained vessels produced in 1700 at the earliest and all of the clay tobacco pipe was dated to the early to mid 18th century.
- 7.11.10 With the exception of the pits located on its east side the construction of the strip building demonstrated the development of reasonably quality housing along the Long Lane frontage. This form of strip building was common for the period and applicable to many social settings. However, the parallels found for the strip building demonstrated that housing of this sort was deemed appropriate for many almshouses and these were not lightly trusted to the unworthy. This particular set of buildings was perhaps a cut above the industrial squalor for which Bermondsey and Southwark was notorious in this and later periods. A very different picture of the area could be gained by examining the remains found in Trench 2.
- 7.11.11 Trench 2 was located in the western and central part of the site. The trench was above the archaeological levels later recorded in the southern part of Area A. Most of the area covered by the trench was given over to industrial or craft level manufacturing and processing. This could be

seen simply from the objects recovered from a single large feature, ditch [525]. The fills contained iron nails, copper pins, a knife and two knife handles, a key, a set of scales and an inscribed cloth seal. The inhabitants at the time were probably engaged not only in animal processing but also the production and/or distribution of cloth. The pottery and clay pipe assemblages demonstrate that this feature was backfilled in the late 17th to early 18th centuries.

- 7.11.12 Ditch [525] formed part of Group 1222 which also included a very large timber-lined tank or tanning pit, context [552]. The pit measured c. 3.20m x 2.40m whilst the tank itself was at least 2.50m deep. The wooden tank comprised horizontal planks lining the sides which were on average 0.20-0.30m wide and 0.05m thick. Upright planks, posts and corner braces supported the corners of the pit. A cross brace was also utilised as a central support. The bracing had eventually given way as the northern face of the tank had bowed in considerably causing the planks on that face to break.
- 7.11.13 The primary fills of this feature were humic in nature and contained a large quantity of leather (off-cuts, a belt and numerous shoes), timber fragments and animal bone, as well as the unusual find of a bowling ball ([8480] SF1577 see Appendix 10). Several other bowling balls were recovered from deep cut features, mainly barrel wells, during the course of the main area excavation indicating that this was a popular local pastime.
- 7.11.14 The upper fills of the tank also had a high content of animal bone, as well as more off-cuts of leather, suggesting that this feature was a large processing tank for the tanning industry. The artefacts recovered from the fills suggested that the tank went out of use in the mid 18th century or later. However, the deposits that formed Levelling Group 1214 apparently sealed it. One of these, layer [176], contained a pottery assemblage of over 1,000 sherds that has been dated to c. 1730. The large ditch, [525], had also been backfilled by this time and the cut features that formed Group 1222 were buried below the newly levelled ground horizon which was recorded at 2.94m.
- 7.11.15 An unusual surface comprising a rectangular mortar layer bordered by two lines of cattle and horse long bones was recorded above the location of the timber-lined tank or tanning pit. Similar bones were located to the west but were arranged in a more random manner mixed with very degraded disturbed planking. It is possible that the long bones were used as some form of make up layer for a wooden floor surface with the mortar layer between the parallel lines of bones possibly representing an internal passageway. These features were recorded as Group 1212.
- 7.11.16 To the southeast of Group 1212 a small area of knuckle bone flooring, Group 1210, was recorded at 3.04m. The floor was formed from the epiphyses of sheep bones set upright to form a level surface. This clearly provided further evidence of animal processing as these bones would otherwise have represented waste that required disposal. To the north of Group 1212 was an area of cobbling and gravel surfacing associated with a series of postholes (Group 1216).
- 7.11.17 The truncated remains of a clay tobacco pipe kiln, Group 1207, was found in the north west of the trench. The central part of the kiln, complete with the demolished muffle (the inner part of the superstructure), was extant although the area had been heavily impacted by a modern foundation. The majority of the muffle contained clay tobacco pipe stems, with some fragments of roof tile and pottery, to give the kiln structural rigidity. Some fragments of the muffle had a slag like or kiln self-glaze resulting from firing. Occasionally clay tobacco pipe bowls, or their impressions were, also evident in the build, these dated the kiln to between 1680-1710 (see Appendix 3).
- 7.11.18 An extensive metallised surface consisting of rammed gravel, crushed brick and wood chips was recorded as Group 1221 in the central and southern parts of the trench. This feature covered an area of c. 18m north-south by 19m east-west, the highest level taken on it was 3.21m OD. A brushwood floor, Group 1220, formed from interwoven staves and planks, very similar in appearance to wattle hurdles, covered the metallised surface. There were virtually no structural elements associated with this surface and this might indicate an external yard rather than a

covered working area. The pottery and clay tobacco pipe assemblages collected from the floor have both been dated to 1680-1710.

- 7.11.19 Smaller fragments of metal surfaces, pits and timber drains also formed parts of Phase 12 in this Trench but are not discussed in detail. The character of this area has been clearly established. As was often the case in Southwark a relatively respectable frontage gave onto a rather grubbier area where the business of making a living was carried out. The processing of animal carcasses and the associated industries of tanning, with leather and bone working, were well represented, as was cloth working. These activities were widespread in 17th and 18th century Southwark.
- 7.11.20 A find of particular note was made in Area E1. Here a timber pump was located in a complex timber-lined pit; this was recorded as Group 1064. This feature consisted of a rectangular pit measuring c. 1.20m by 1.00m, a wooden lining to support the sides and a central wooden division that may also have acted as cross-bracing. A timber barrel was located in the southern half of the pit, placed tightly into the northwest corner of the southern compartment formed by the central timber division. A round timber, which initially seemed to be a solid post, stood upright within the barrel. Further excavation and cleaning demonstrated that the post was in fact a hollowed out log which had been fitted with a metal grill at the base to act as a filter. This showed that the log formed part of a water pump and when in use a piston and valve system within it would have been used to draw water from the pump. The clay tobacco pipe assemblage recovered from the fill associated with the construction of the pump suggested that it was built in the middle of the 18th century. The artefacts contained by the backfill of the pit showed that it went out of use later in that century, probably between 1760 and 1780.

## **7.12 Phase 13: Mid 18th to 19th Centuries (Fig. 18)**

- 7.12.1 Virtually all of the developments relevant to this period were documented in Trench 1. The building recorded on the street frontage was extensively modified or demolished. The partition wall between the two rooms fronting onto Long Lane was rebuilt and a triangular shaped room or internal passageway added to the rear of the building. An arched brick structure, Group 1167 (not illustrated), was built above the western room. It comprised three arched brick tunnels, the western and middle tunnel were both c. 0.70m wide by 0.80m high whilst the eastern tunnel was the same height and length but only 0.44m wide. A brick wall blocked both outer tunnels to the south, only the central tunnel passed through the whole structure. The original function of this structure is unknown, very little dating evidence was recovered from it but the make-up layer for the new floor [211] contained pottery dated to 1720-1780 and clay tobacco pipe dated 1700-1740. Precise dating was not therefore possible but the structure was probably built in the middle decades of the 18th century. This structure's function has not been ascertained.
- 7.12.2 The tunnel structure, Group 1167, was later covered with a brick superstructure. The middle tunnel was blocked and it was converted for an industrial use. The eastern tunnel was used as a fireplace and a limestone slab floor was laid down to the north of the brick structure. These modifications may have taken place in the 19th century but are not precisely dated as the bricks were the only datable artefacts examined and were re-used.
- 7.12.3 A new building was constructed to the east of that described above, this structure was recorded as Group 1147 (not illustrated). This was represented by a basement or cellar which measured 5m east-west and over 4m north-south, the cellar continued beyond the limits of excavation to the north. Internal buttresses were evident on the western wall and these would almost certainly have formed a chimney on the upper floors. Access to the cellar was by a series of steps built into the southern wall. This building continued in use at least up until the end of the 19th century, a vast pottery assemblage was recovered from the cellar and is discussed as part of Phase 14.
- 7.12.4 The strip building to the rear of the frontage was demolished and replaced by a new linear structure recorded as Group 1152. The ground plan of the new building was very fragmentary due



to later truncation but one interpretation of the remains demonstrated a new building that measured c. 22m north-south by 3.5m east-west. Two internal divisions were located at the northern end of the building. These formed two bays with internal areas of c. 4m x 3m. Assuming the rest of the building was divided in the same way there would have been at least five bays. The same alignment was used for the foundations of the new western wall as that previously used in Strip Building Group 1179. Given that this was the case it seemed curious that the new structure was considerably narrower than the old one, this seemed a poor utilisation of the available space. Some of the evidence for the construction date of this building is somewhat contradictory. The demolition deposit [280] which represented the end of the old strip building and levelling for the new one contained a large pottery assemblage closely dated to 1720-1730, a date confirmed by a second demolition layer. However, clay tobacco pipe collected from a third layer [286] was dated 1780-1830, although this small group might be intrusive. The building may have been constructed slightly earlier than the middle of the 18th century but undoubtedly stood through the period represented as Phase 13. Cartographic evidence suggests that this building was one of the properties depicted on Horwood's First Edition map of 1792-9 adjacent to Bennetts Close.

- 7.12.5 The small cellar to the east of the strip building, Group 1182, was rebuilt as Group 1161 and the sunken barrel bricked over. The brick steps were replaced in stone and a rough brick surface, Group 1158, replaced the gravel surface to the north of the cellar. These rebuilds were probably contemporary as the latest dated pottery assemblage recovered from the rebuilt cellar was dated to 1770-1800 and that from the surface make-up layer 1780-1800. The cellar went out of use in the late 19th century. The pottery recovered from the final backfill was dated 1840-1860.
- 7.12.6 Two rectangular and one circular brick-lined pits were located to the east of the strip building and the south of the large cellared building which fronted onto Long Lane, these were recorded as Cesspit Group 1169. All of these features went out of use in the later part of the 18th century.
- 7.12.7 During ground reduction to the west of Trench 1 the fragmentary remains of another strip building (Group 1148) were uncovered. This structure consisted of at least three bays, if the internal dimensions were consistent each would have measured c. 7.5m x 4.5m although only the central bay was extant. The bays were divided in half by internal partitions indicating that the building had at least 6 rooms. In the central bay the fireplace was located close to the eastern wall. Timber floor joists impressions were evident in some of the rooms. The levelling make-up layer for this building produced numerous coins, several of which dated to 1743.
- 7.12.8 In Trench 2 there were very few developments during the later 18th or 19th centuries. Two large rectangular pits, possibly associated with tanning or another industrial activity, were recorded as Pit Group 1206. The latest dated pottery assemblage recovered from these pits was dated 1750-1780, the latest clay tobacco pipes were dated 1730-1780. These assemblages almost certainly define the disuse of these pits, probably in the third quarter of the 18th century. The remaining finds were all dated to the first half of the 18th century.
- 7.12.9 The principal set of features recorded in Trench 3 relating to this period consisted of a series of adjoining timber-lined pits recorded as Tanning Pit Group 1232. The pits were evident in the northern section formed by machine clearance of the Trench. The artefacts collected from their fills demonstrated that the pits were in use from the last quarter of the 18th century until the middle of the 19th century. This type of feature is ubiquitous in the Southwark and Bermondsey area during this period.

### **7.13 Phase 14: Modern**

- 7.13.1 The large cellar recorded in Trench 1, which fronted onto Long Lane, was backfilled in this period. The entire basement was full of demolition rubble which appeared to be a single event. Given the very modern appearance of the vast pottery assemblage recovered and the fact that the room was filled with demolition rubble it was at first thought that the debris represented bomb damage from WWII but pottery analysis has demonstrated that the demolition event may have occurred a

little earlier possibly even in WWI. The pottery assemblage was comprised of multiple services of the same transfer-printed pattern and porcelain tea services. A date of 1884 to 1927 has provisionally suggested by the presence of a makers mark (Poulson Brothers) on some of the services. Yellow ware vessels were also identified in the group that are likely to have been manufactured prior to 1930. It is possible the assemblage represents old or discontinued stock stored in the cellar. Documentary research has shown that George Harding & Sons, a hardware merchant, occupied this area of the site from at least 1895 to 1914 (see Appendix 2). Further research could reveal whether this part of Long Lane suffered bomb damage, and if so when this occurred.

- 7.13.2 A cobbled road running south from Long Lane passed through the eastern part of Trench 1. This feature was recorded as Group 1168, it extended over a distance of c. 25m and stood to a height of 3.26m OD. It is probable that this small street continued in use well into the 20th century.



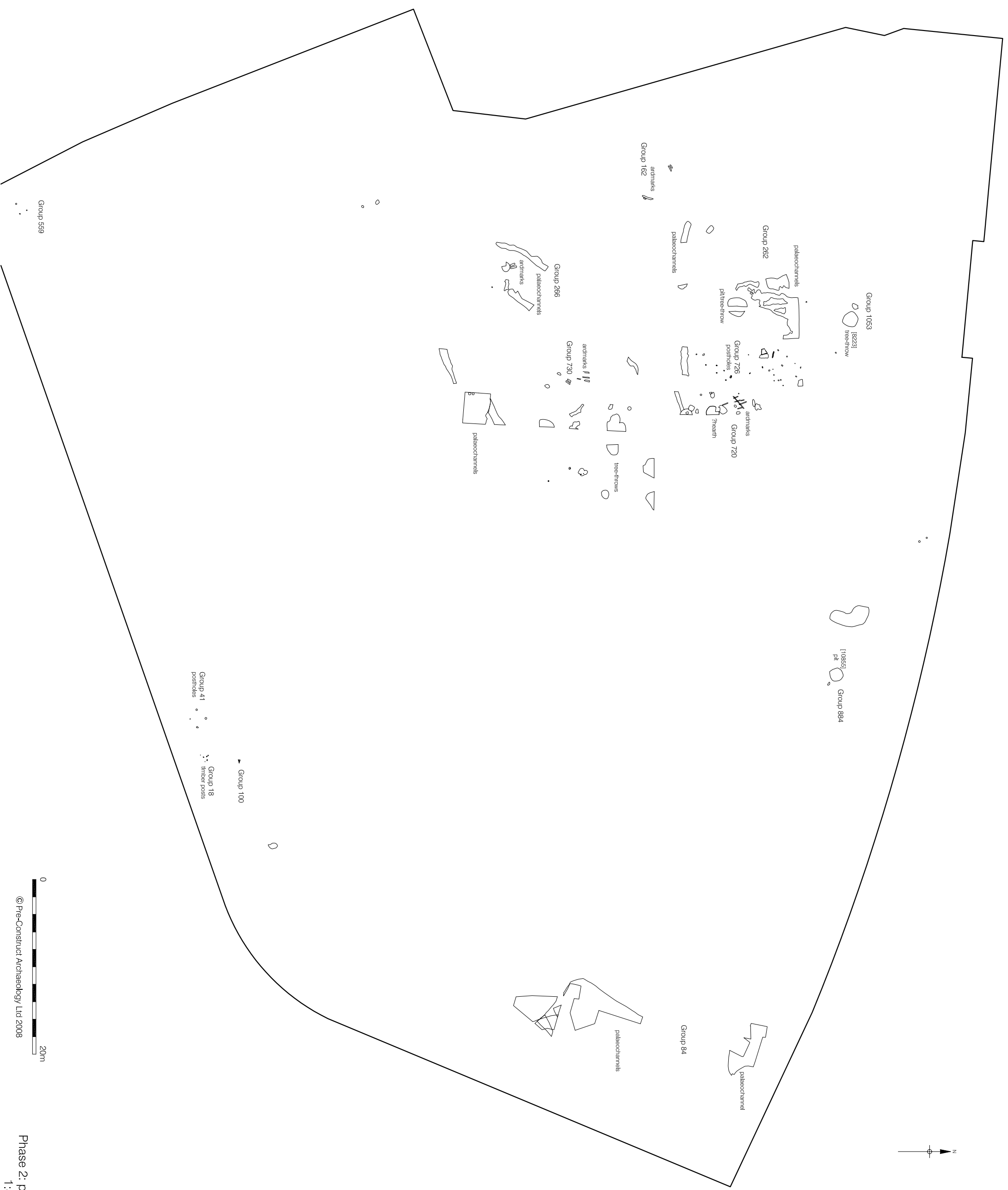
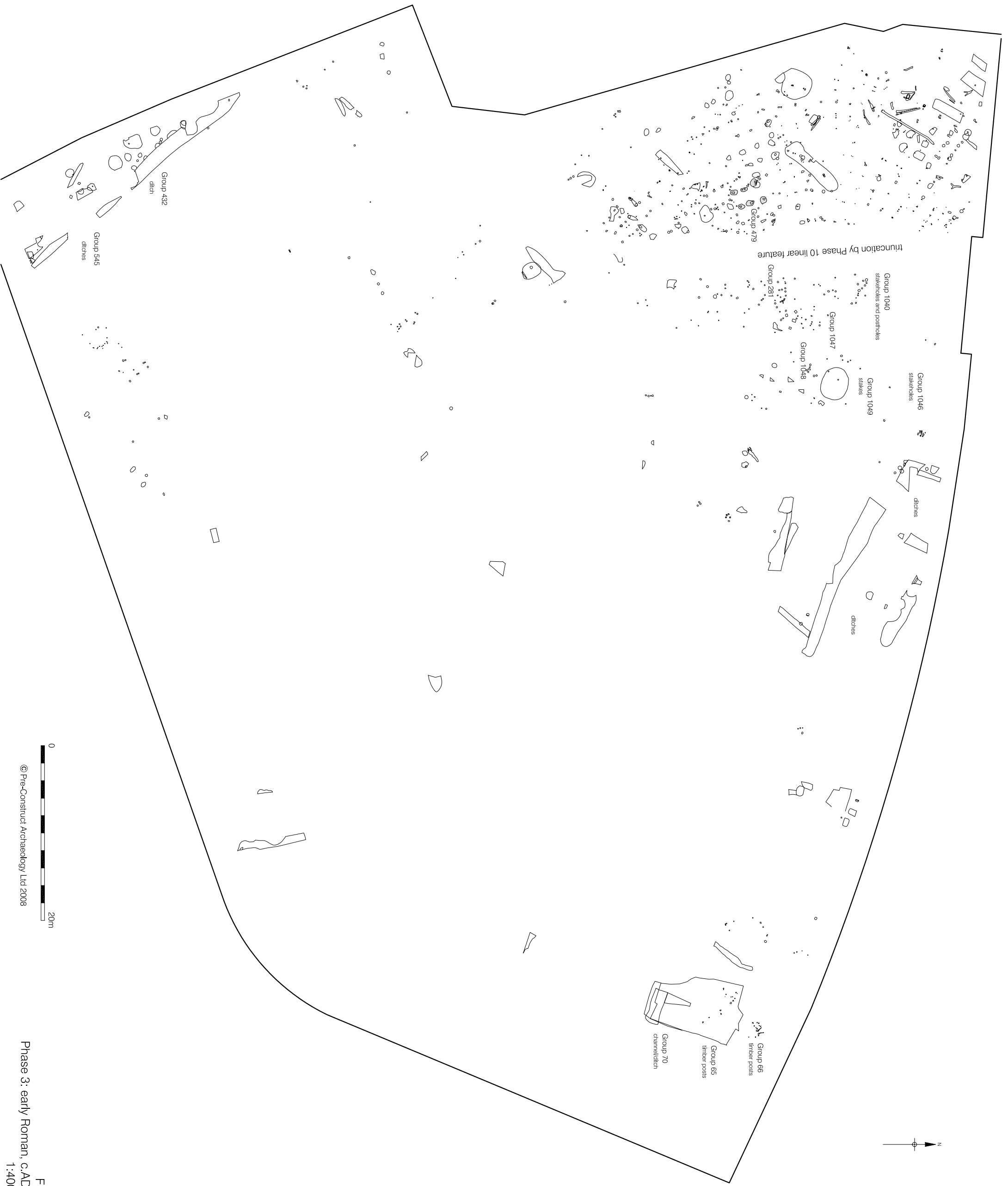


Figure 3  
Phase 2: prehistoric  
1:400 at A3

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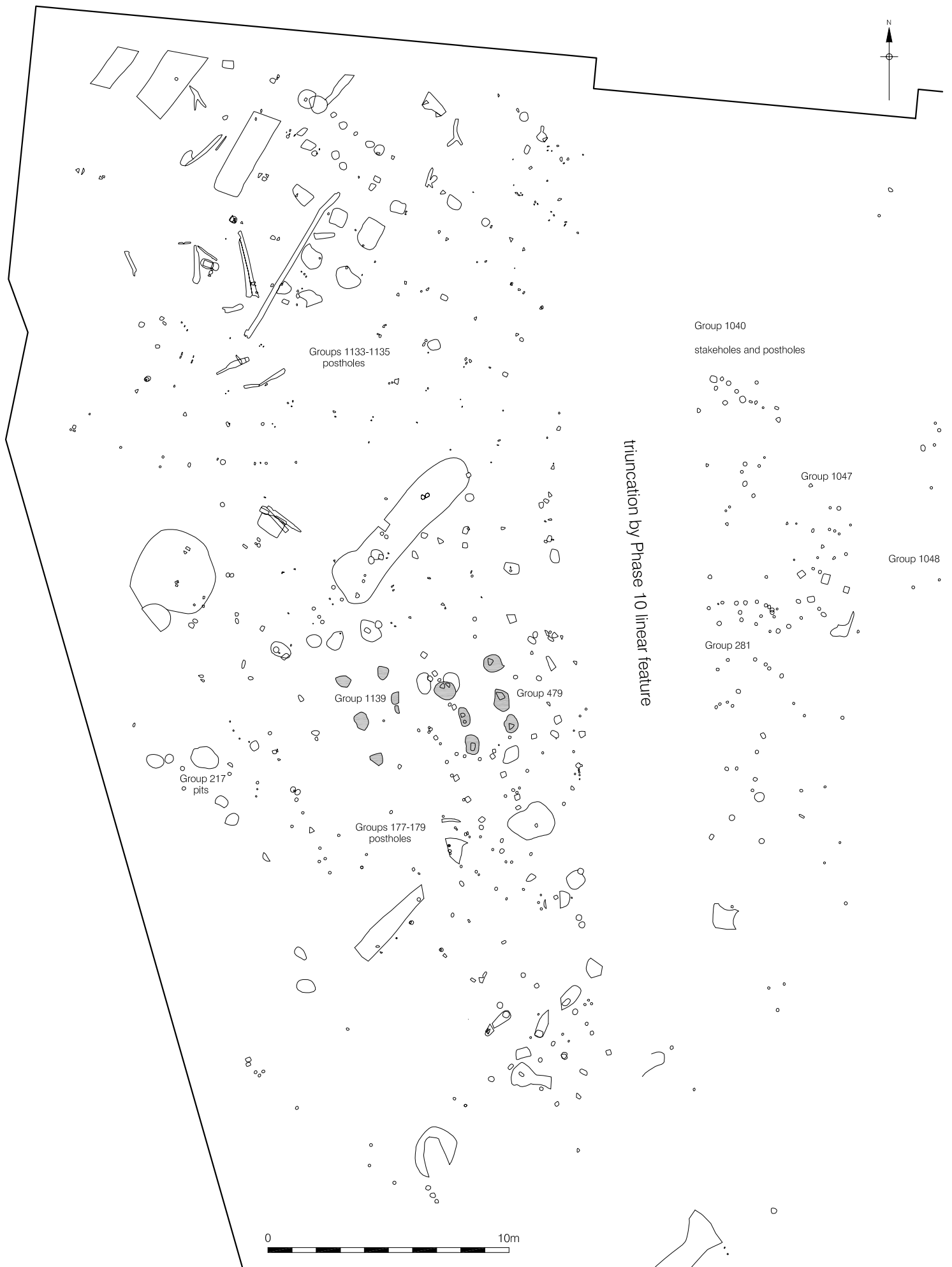




0 20m  
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Figure 4  
Phase 3: early Roman, c. AD 43-70  
1:400 at A3





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Figure 5  
Phase 3: early Roman, c.AD 43-70, detail  
1:200 at A4













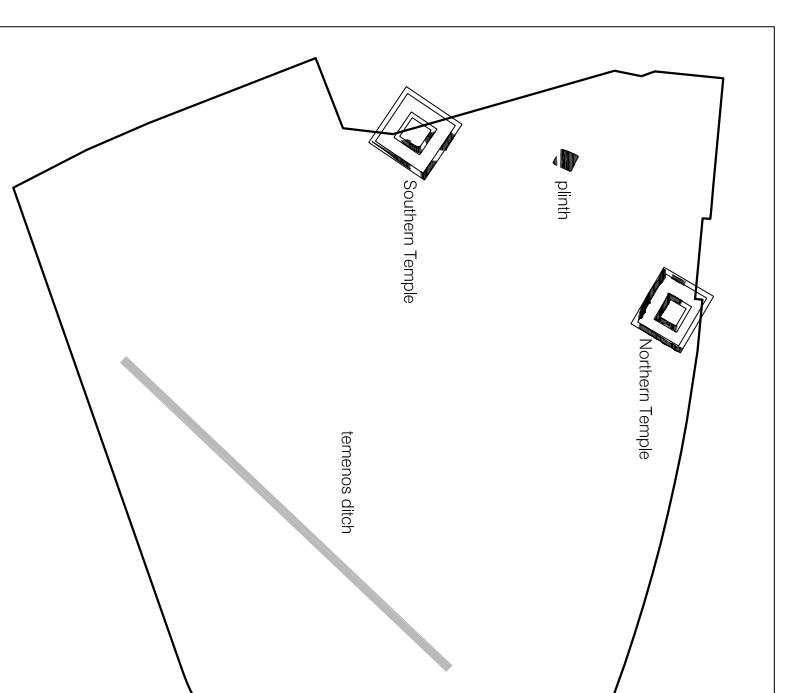
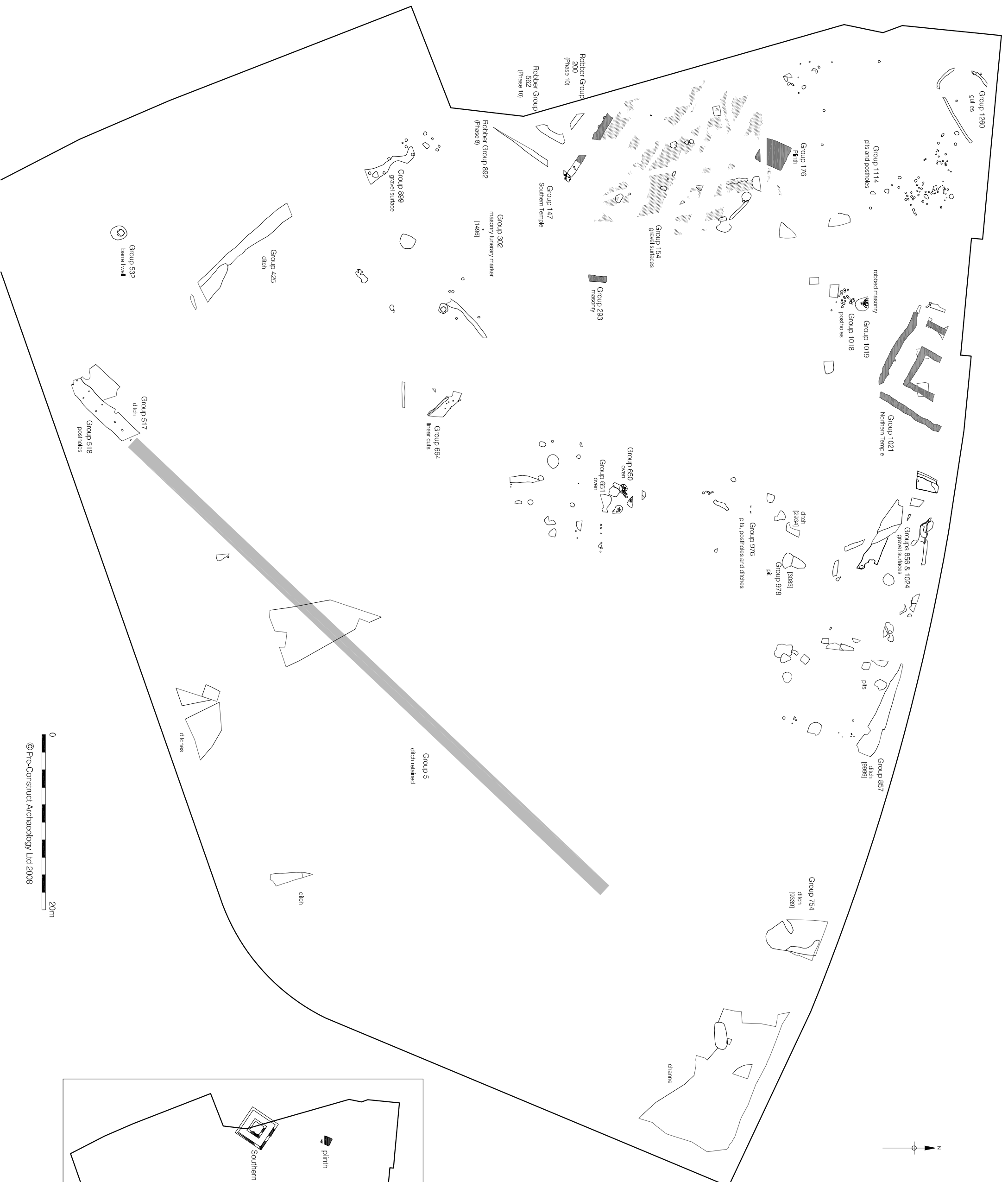


Figure 8  
Phase 6: c. AD 160-200  
1:400 at A3, inset 1:1,250



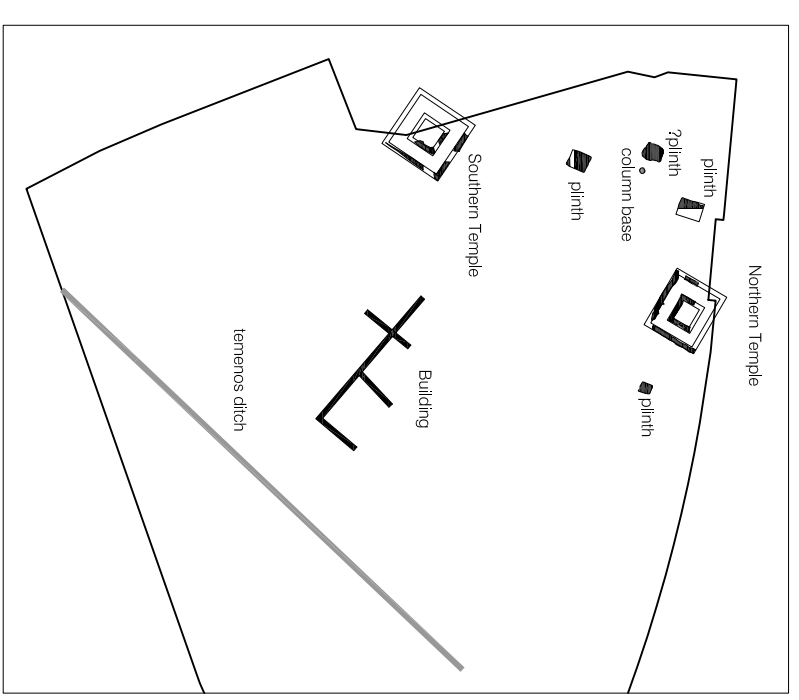
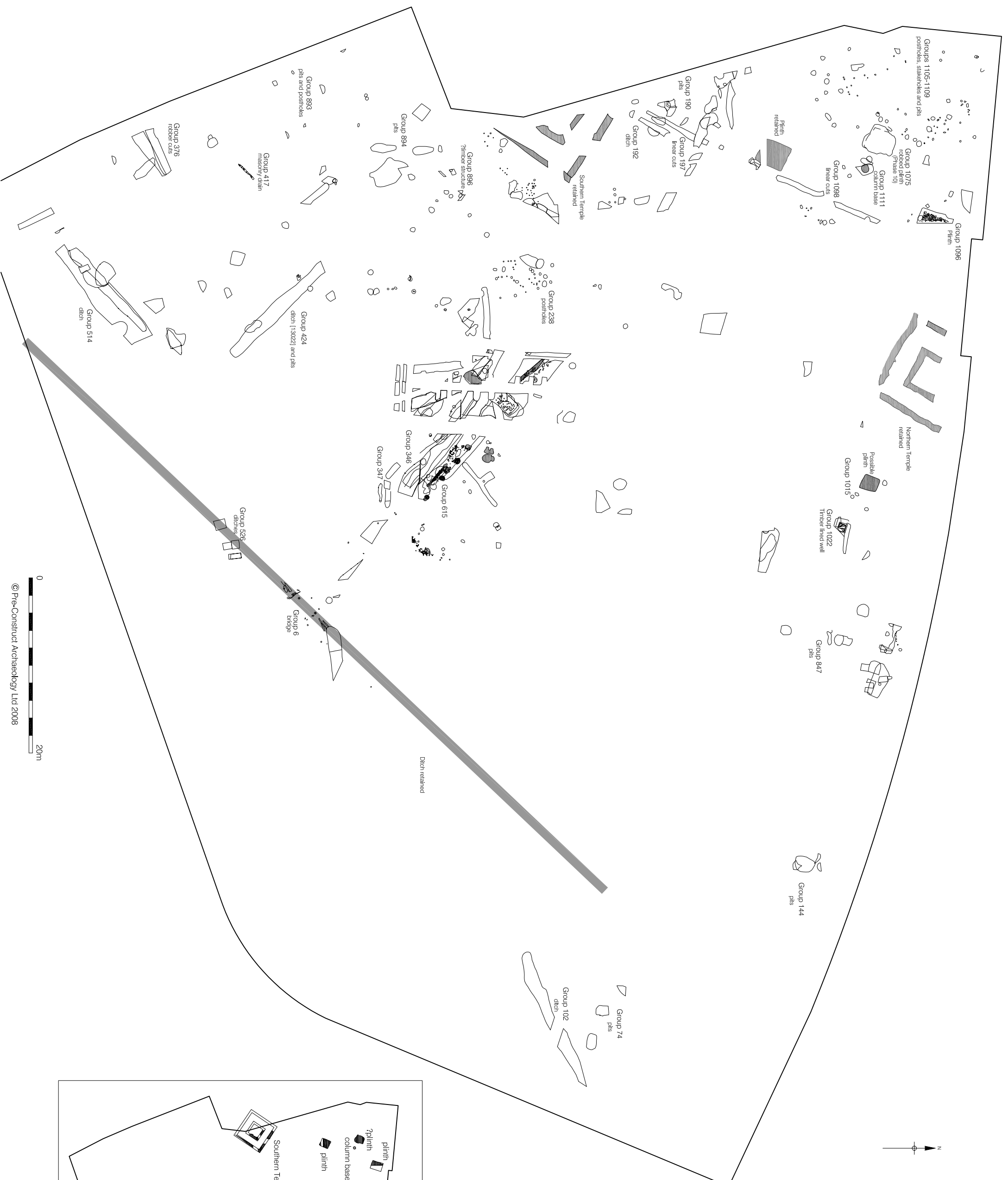
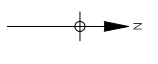
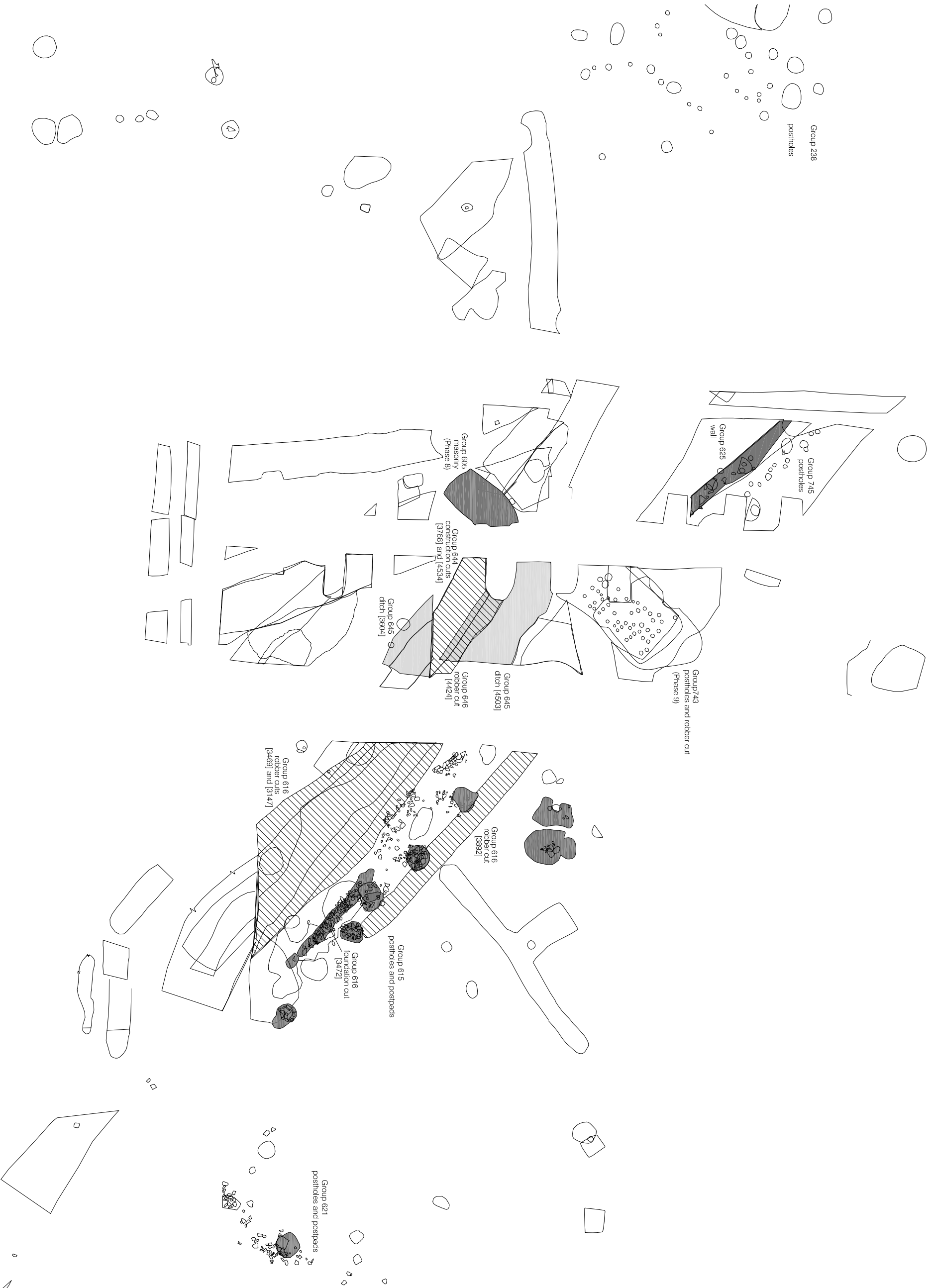


Figure 9  
Phase 7: 3rd century  
1:400 at A3, inset 1:1,250







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Figure 10  
Phase 7: 3rd century, detail of Building  
1:100 at A3



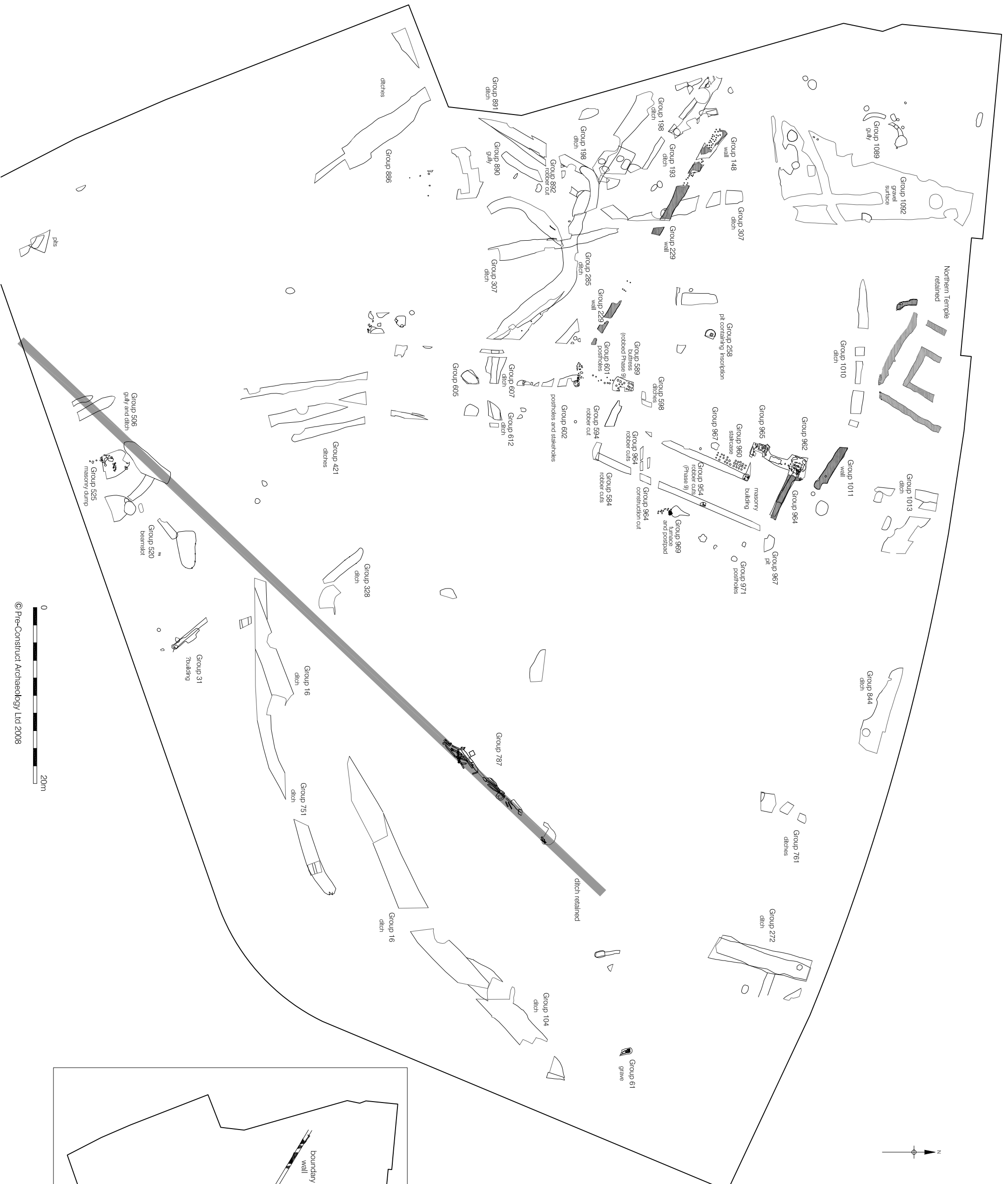


Figure 11  
Phase 8: 4th century  
1:400 at A3, inset 1:1,250



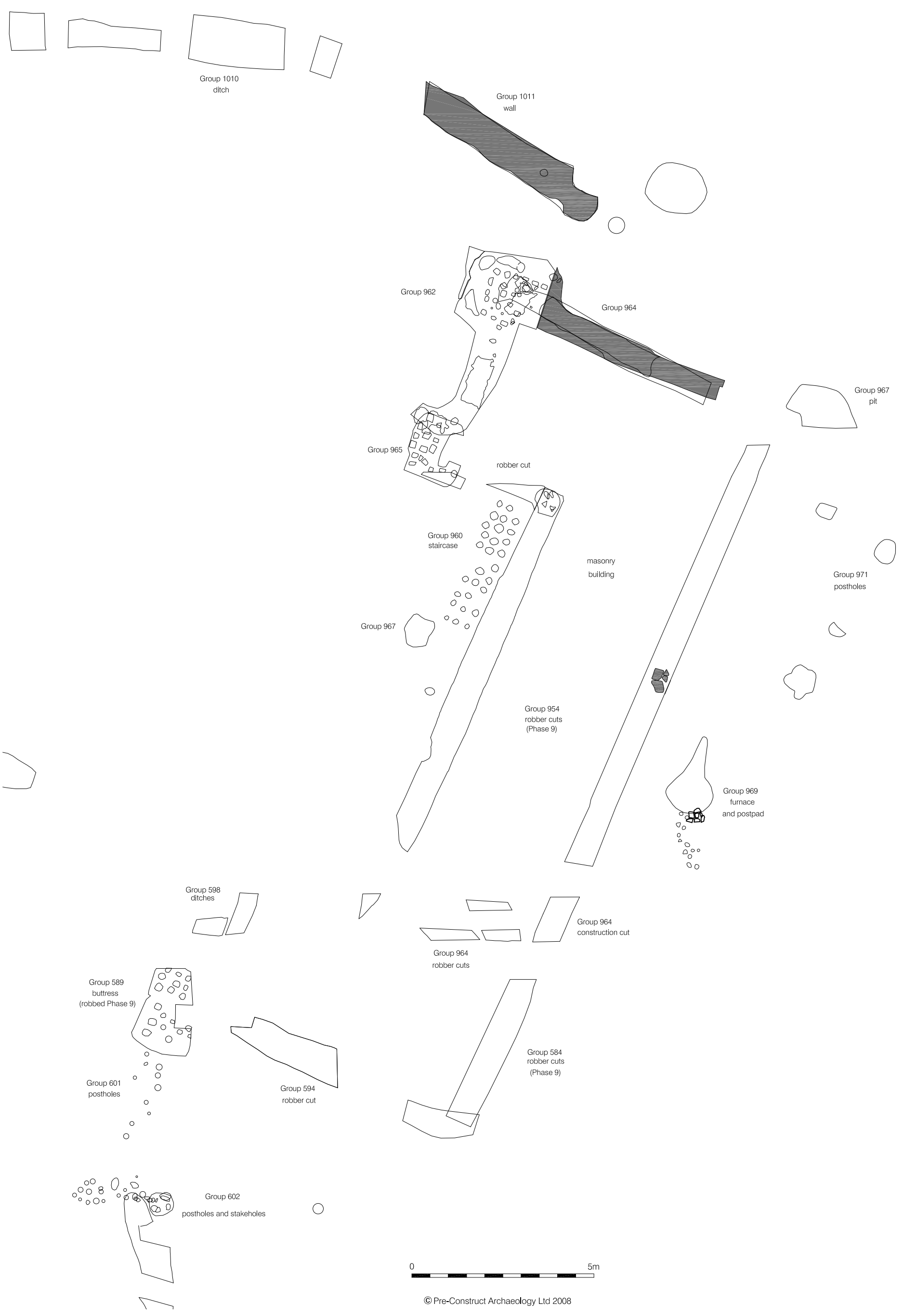
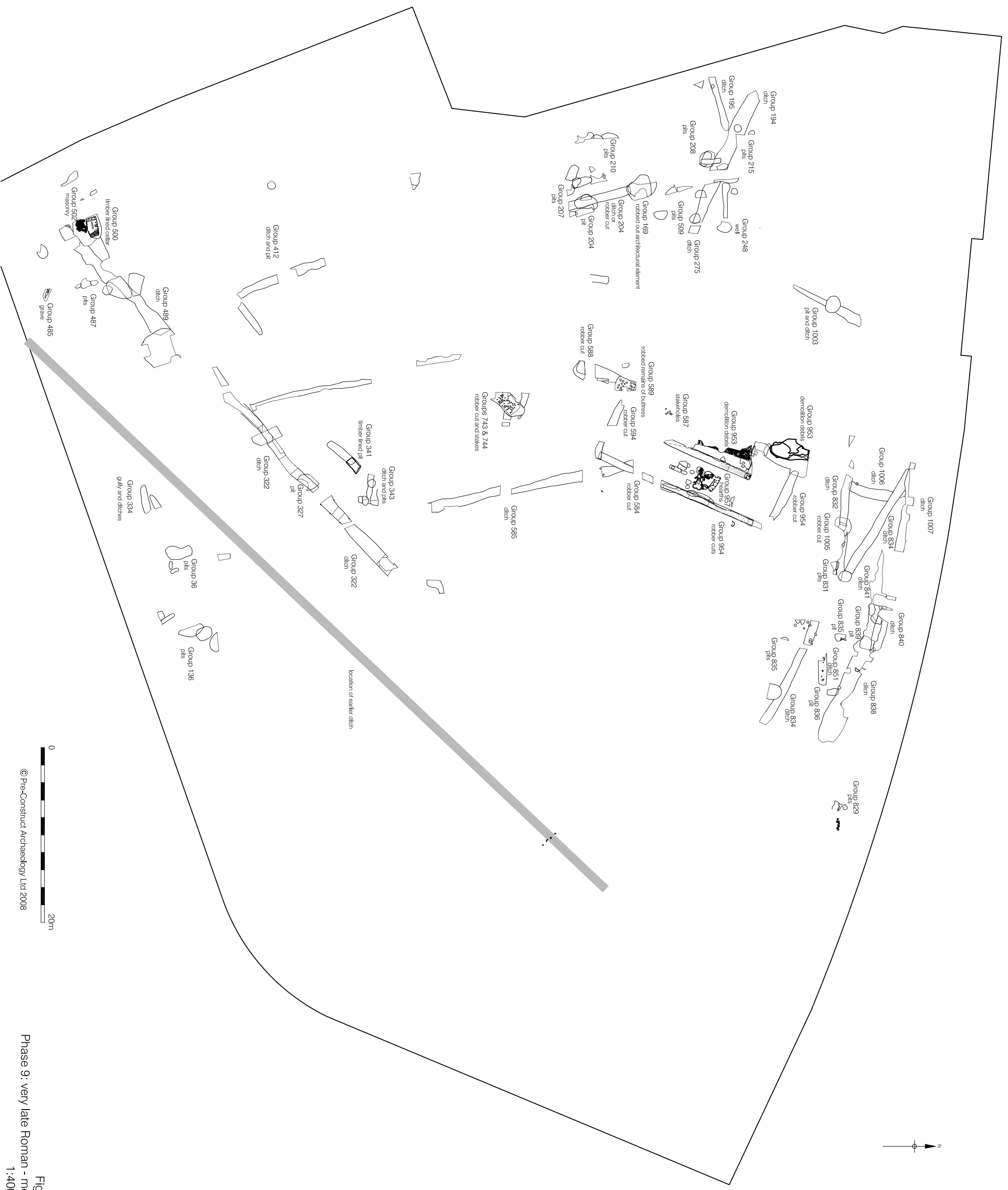


Figure 12  
Phase 8: 4th century; detail of masonry building  
1:100 at A3





0 20m  
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Figure 13  
Phase 9: very late Roman - medieval  
1,400 at A3



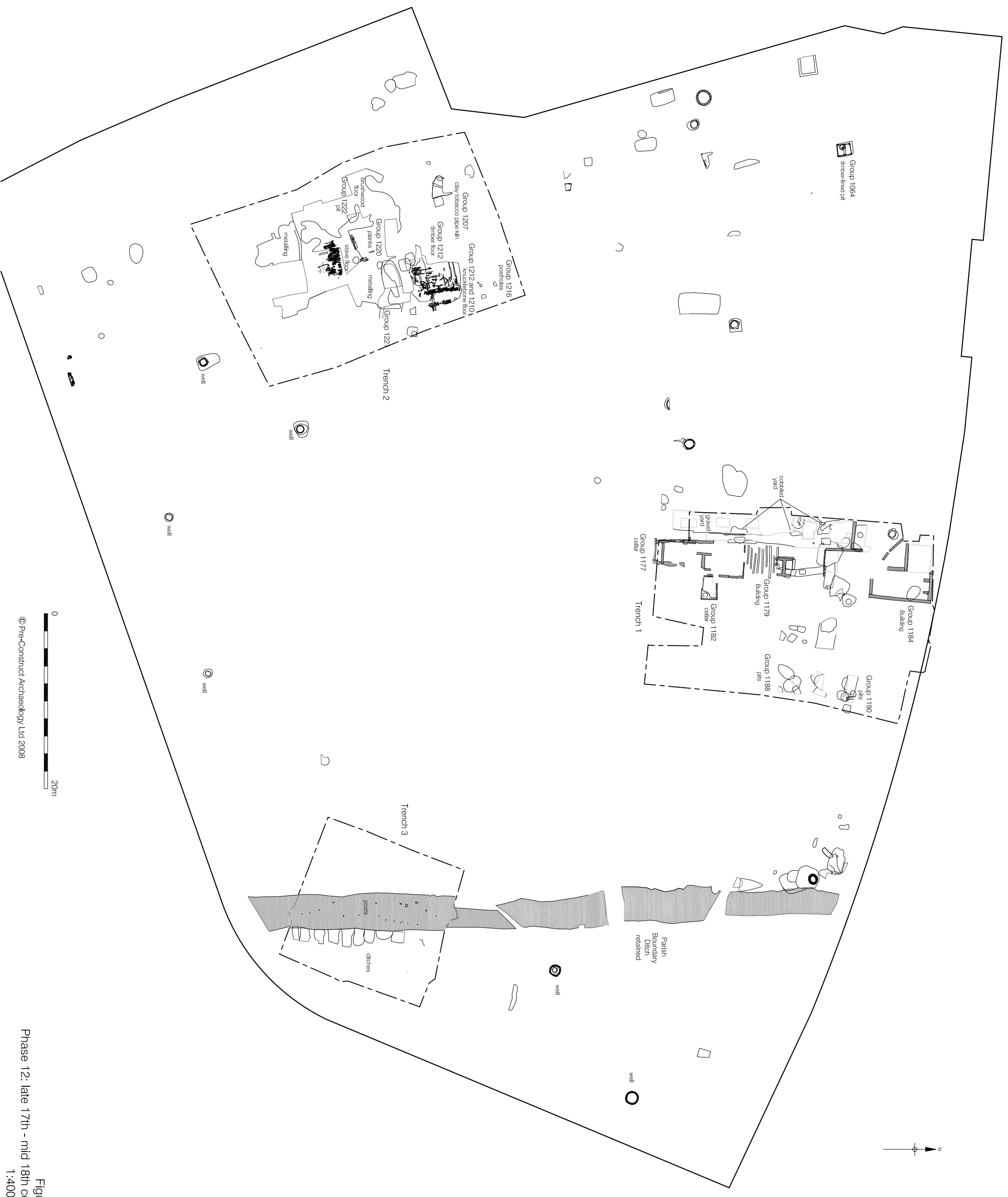








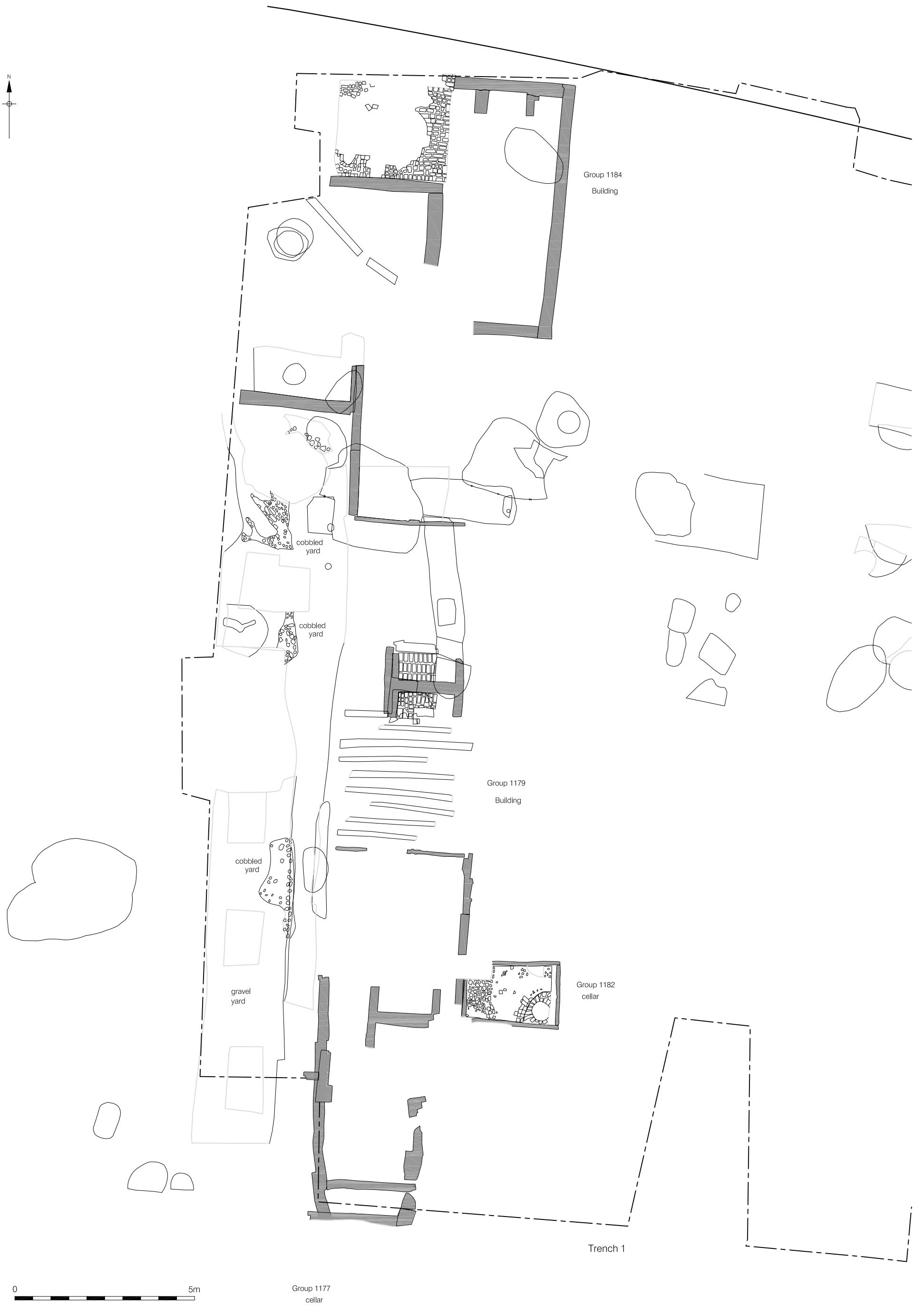




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Figure 16  
Phase 12: late 17th - mid 18th century  
1:400 at A3





0 5m

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Group 1177  
cellar

Group 1184  
Building

Group 1179  
Building

Group 1182  
cellar

Trench 1

Figure 17  
Phase 12: late 17th - mid 18th century; detail of building in Trench 1  
1:100 at A3





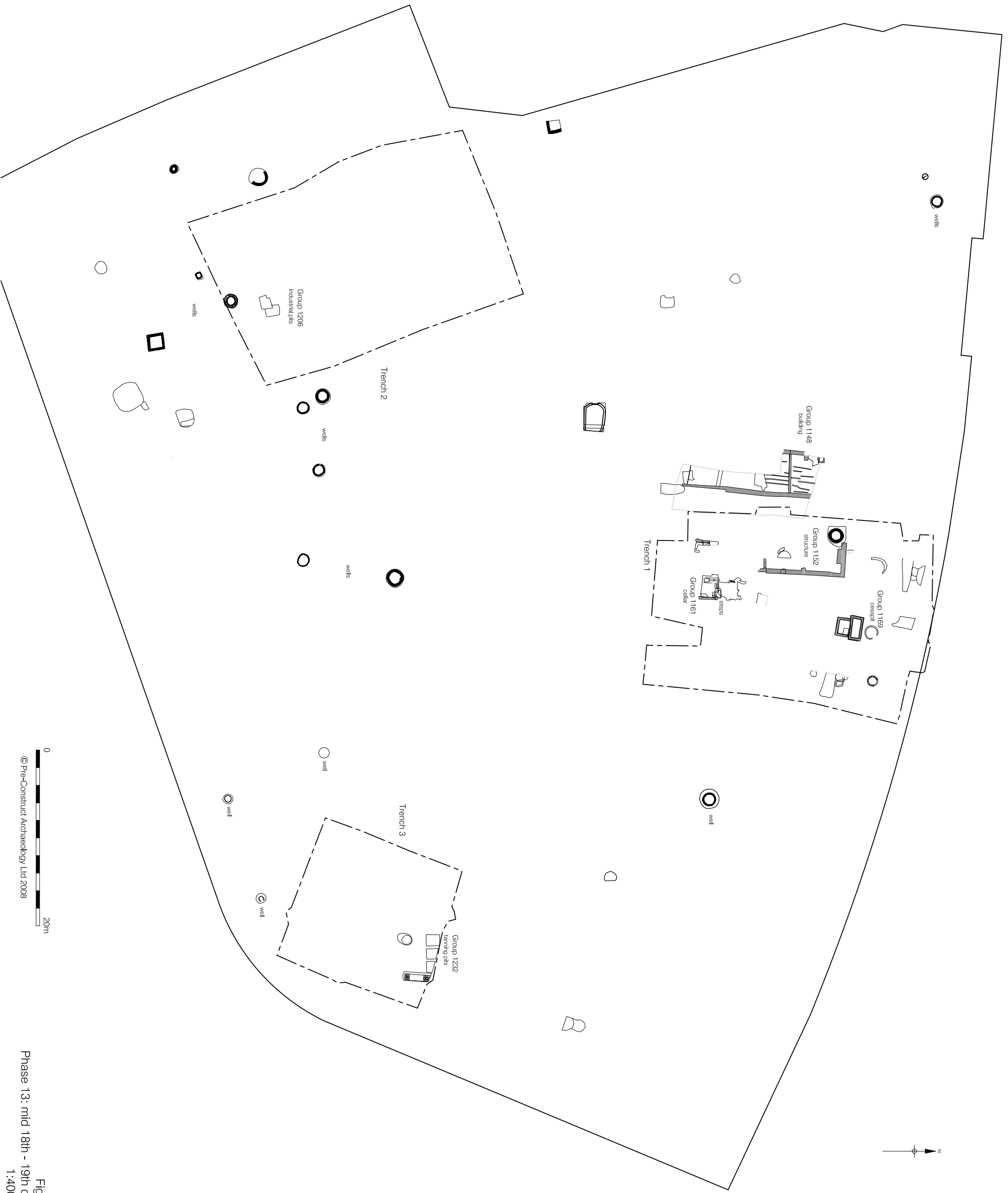


Figure 18  
 Phase 13: mid 18th - 19th century  
 1:400 at A3

0 20m  
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## 8 RESEARCH QUESTIONS

### 8.1 Original Research Questions

8.1.1 The Brief (Planning and Regeneration Division, Southwark Council, Dec. 2001) stated that: the excavation will present an opportunity to address the following research questions:

- **The presence date and nature of any prehistoric activity and how it relates to that already known in the area.**

The excavation at 5-27 Long Lane produced evidence of prehistoric exploitation of an eyot and water channel, and this has been mirrored by other sites in north Southwark. Although no evidence of prehistoric human activity was revealed during the evaluation it is possible that this was masked by Roman deposits. Further evidence of prehistoric exploitation in the area will add to our understanding.

- **The nature of Roman activity on site.**

The evaluation suggests the presence of Roman buildings. The location of the site in relation to known settlement, the likely location of Watling Street and any cemetery areas is of major regional importance. There are many specific questions about the Roman settlement which may be addressed by the excavation including the date of the earliest Roman occupation and date of the settlement's contraction; the nature of building construction and function; change in land use over time; evidence of the role of the military in the construction of the settlement, or of its continued presence during Roman occupation; any evidence of Roman burials and associated structures; evidence of Roman water management and exploitation of the water channel system.

- **The presence of archaeological deposits of the medieval period.**

Although little earlier medieval activity was revealed during the evaluation, documentary evidence, including that written by Carlin, suggests that the medieval settlement of Long Southwark extended to the site's vicinity. The date of the earliest medieval occupation, its nature and extent is of considerable importance and interest.

- **The presence of post-medieval buildings, and whether these represent domestic or industrial activity on the site.**

The evaluation indicated considerable post-medieval remains including significant probable industrial activity, the nature of which is of local importance.

- **The topographic and environmental profiles of the site, to further refine the predictive models for the area.**

Of particular interest is the position of the site in respect of the system of water channels and eyots that characterise the southern floodplain of the Thames in north Southwark. The environmental sampling of water channel fills, peat deposits will form an important element of the excavation objectives.

8.1.2 The following are also research topics set out in the method statements for the excavation of the three post-medieval trenches and the pre-medieval horizons (Brown & Moore July 2002; Brown & Moore Aug 2002):

- What is the potential for Palaeolithic and /or Mesolithic activities being recorded in the Terrace Gravels or sands?
- What is the nature of the later prehistoric activity at the site and how does it relate to other contemporary activity sites in the vicinity? A possible compacted platform of Bronze Age date was recorded toward the southern boundary at 5-27 Long Lane. Are similar features present at the subject site?

- Does a possible sandy eyot exist in the northeast of the site? Its existence, or not, should be established and evidence for prehistoric activity looked for.
- A major north-south watercourse has been identified, with peat at its lower level dated to the Bronze Age. What evidence is there for other palaeochannels and for exploitation of the water margins throughout the later prehistoric eras?
- It is clear that the watercourse remained open into the early period of Roman occupation. Is there any evidence for modification of the waterway other than the revetment recorded along its western bank? Was the water channel wide and deep enough for shallow draught vessels in the Roman (?and prehistoric) eras?
- Is there any evidence for weirs or fish traps within the channel?
- What were the mechanics that led to the infilling of the channel, i.e. natural, deliberate, or a combination of both. Can the date be determined for the final infilling episode?
- Is there any evidence for artefact deposition within the palaeochannels? Can such depositions be considered to be casual loss, opportunistic dumping, or have a ritual/magical significance?
- What evidence, if any, is there for Late pre-Roman Iron Age occupation of the site?
- Does the Roman occupation at the site commence soon after AD 50 or later in the 1st century? Is it possible to determine whether the choice of site and character of structure was determined by the proximity to Watling Street?
- What was the nature of the Roman occupation, e.g. domestic, industrial, or open space. How do the Roman features/structures respect the line of the Roman road?
- Is there, as at Swan Street, any evidence of a formal 'structured' boundary between settlement area and non-settlement area? If so how does the boundary manifest itself? Is there any evidence that the southern part of the site formed part of a ritual landscape, and if so how does it compare or contrast with the Swan Street evidence?
- Is there any evidence for Watling Street being present on the site? If it is present information pertaining to its establishment, date of modification(s), and disuse will be of regional importance. Also of importance will be information relating to construction methodology, materials used, dimensions and orientation.
- What, if any, evidence is there for Roman cemetery remains? Are inhumation, cremation, or a combination of both practices present? Is it possible to determine whether one superseded the other? Is there any evidence of funerary monuments, or mortuary practices as at Great Dover Street?
- In what way, if any, did the nature of occupation change over the 400 years of Roman occupation?
- What evidence, if any, is there for land uses between the 5th and 11th centuries?
- Marta Carlin states that the Borough High Street frontage from the bridgehead to St. George the Martyr was fully developed by 1200. What is the nature of the evidence for land use to the rear of the frontage?
- Is it possible to determine medieval property boundaries and can they be tied in to specific properties?

- From the cultural detritus is it possible to determine social class, occupation, industries and/or diet of the population throughout the medieval and early post-medieval era?
- Is it possible to determine whether the topographic location and/or the underlying geological formations had any influence on site selection in the post-medieval era?

## 8.2 Results Concerning Original Research Questions

### 8.2.1 Topographical

- 8.2.1.1 Most of the evidence regarding the development of the larger palaeochannels was gathered from sections that resulted from the machine reduction of the natural clay and gravel deposits that were sealed by the archaeological levels or the machine trenching of selected areas under archaeological supervision. A very complex system of braded channels was evident on the eastern margin of the site; these were bounded by a high area of natural clay that ran southeast to northwest. The most extensive channel followed roughly the same alignment to the west of this area of high natural deposits; the channel was evident in two sections (Sections 64 and 66). The channel did not have well defined edges, the break of slope with the surrounding ground surface was almost imperceptible which in part accounted for the extensive recorded width, as seen in Section 66, which was a maximum of 7.30m. The channel was a maximum of 1.38m deep, although the peat deposit which filled the channel continued for over 0.30m above the apparent top of the channel.
- 8.2.1.2 The palaeochannel described above passed through the centre of the southern part of the site and progressed toward the northwest corner of the site. It is probable that the channel became wider and even less well defined the further it went north and the closer it came to the east-west Borough Channel which is known to have passed east-west to the north of the excavated area. Although a marked slope to the west was noticeable on the surface of the natural clay and gravels recorded in Section 66 a defined channel similar to that seen in Section 64 was not evident.
- 8.2.1.3 Although the channels referred to above would probably have fallen within the tidal range during some periods from the Neolithic onwards there is no direct evidence that they were ever used for transportation. The nature of the early Roman timber structures found in the northwest corner of the site is at present unclear but it is possible that their function was connected with the channel that passed to the north of the site. No evidence exists for the use of vessels within the site bounds in the Roman period and it is very unlikely that any passable channel existed within the excavated area.

### 8.2.2 Prehistoric (Phase 2)

- 8.2.2.1 The excavation revealed limited evidence for prehistoric activity. The nature of this evidence can be divided into four categories; the lithic assemblage, direct evidence for agricultural landuse, environmental evidence suggesting the abandonment of the site and the pottery evidence relating to the pre-Roman period.
- 8.2.2.2 A moderate to large assemblage of struck flint was recovered, principally through the bulk sieving of a buried soil horizon that was sealed by the peat formation which covered large tracts of the site and appeared to have been utilised in the practice of early agriculture. Similar soil horizons have been found on many of the islands in north Southwark. Most of the identifiable forms can be dated typologically to the Mesolithic and Early Neolithic periods, although no *in situ* knapping scatters were identified. A leaf-shaped arrowhead from the Early Neolithic might be from purely casual loss or suggest that the site was being visited in order to exploit the food resources available. Also of note were the two polished axes both being of Neolithic date although one was recovered from a prehistoric horizon. The date of the flint assemblage recovered from palaeosoil

horizon is consistent with the radio-carbon dating of the peat horizon which sealed it, the results showed that the peat began forming in the middle Bronze Age (Appendix 19).

- 8.2.2.3 Some areas of the site demonstrated criss-cross patterns formed from shallow linear cuts. These were interpreted as ard-marks, the pattern produced resulted from the continued dragging of a wooden plough(ard) through the soil. Although in no way as extensive as other examples known from Southwark, such as Wolsey Street (Drummond-Murray et al 1994) or 169 Tower Bridge Road (Boyer forthcoming), where present the ard-marks appeared to present convincing evidence of early agricultural landuse. Similar remains unearthed in Southwark have all been dated, where this was possible, to the Bronze Age. As stated above the palaeosoil horizon was buried below the middle Bronze Age peat horizon, indicating that any agricultural activity took place before this. A small but nevertheless significant proportion of the flint assemblage, although not diagnostic, probably dated to the Bronze Age. The balance of the evidence suggested that the site was open ground during the earlier Bronze Age and used for agriculture but was not the site of a settlement.
- 8.2.2.4 The research questions specifically pointed to the possibility of there being a sandy eyot in the northeast corner of the site and its possible suitability for agriculture. Although topographical modelling is still incomplete it was clear from observation of the natural deposits exposed during the course of the excavation that an area of high sand and gravel was present in this area. In fact the natural sand survived to a height of 1.20m OD which was almost as high as any of the sand and gravel deposits recorded in the southwest corner of the site where the ridge of high ground had attracted Roman road builders.
- 8.2.2.5 The very high sands and gravels were, however, capping the clay unit which was evident over much of the site. The clay survived to a level of 1.01m OD, which was itself a notably high reading. The investigation of the earlier topography of this area was limited, the clay represented a deposit that pre-dated the late Bronze Age peat formation, but the highest level taken on the sands and gravels sealed by the clay was 0.46m OD. The extent of the high ground in the northeast corner was very limited and any eyot that had existed here would have consisted of a very small parcel of dry ground that stood in the midst of braded channels. No evidence for prehistoric landuse was evident from this area and the limited area of utilisable ground would have probably rendered arable agriculture impractical.
- 8.2.2.6 Analysis of the sediments sealing the peat horizon sampled in Section 64, Area D, indicate that the site may have been flooded in the Late Bronze Age/Early Iron Age with some prolonged periods of inundation. The actual flooding of the site would very obviously have led to its abandonment. The climatic deterioration, which presumably preceded the rise in sea level, may in itself have led to the end of farming well before the site itself was flooded (Appendix 19).
- 8.2.2.7 The frequency of prehistoric pottery was generally low and the occurrence of early ceramics in contexts forming part of the prehistoric sequence was virtually nil. Very few features that could have pre-dated the Roman invasion of Britain were identified and a high proportion of those that were appeared to be tree-throws. The paucity of pre-Roman features was mirrored in the ceramic assemblage which contained very few later prehistoric elements. Most of the pottery that might have been dated to the Iron Age consisted of transitional forms that could easily have been produced in the early Roman period. Five Late Iron Age potin coins were recovered from the site. These appeared to be late in the series which were minted until the mid 1st century AD. The bulk of the evidence very clearly indicated that the earliest Roman remains had not masked an earlier prehistoric settlement.

### **8.2.3 Roman (Phases 3-9)**

- 8.2.3.1 There was little evidence for significant Roman activity pre-dating AD 50 within the site, although a number of spot-dates suggest the area was a least occasionally utilised at an earlier date in the Roman period.

- 8.2.3.2 The range of structures present on the site in this early period has yet to be fully appraised but most of these post-built structures left very little dating evidence and dendrochronology has not yet been carried out. The few structures that have been positively identified among the mass of early postholes were not laid out on the predominant alignment established in the later first century. There can be little doubt that the proximity of Watling Street and the higher ground evident on the western part of the site influenced the location of the earliest buildings but there was no evidence of the road itself within the excavated area nor of buildings which fronted directly onto it. In the case of the timber structures located in the northwest corner of the site in Area E1 it seems probable that whatever interpretation is given to them the proximity of the channel to the north was of far more relevance than that of the road. The channel was a natural highway that could have been used to transport goods into and out of this part of Southwark before the construction of the road. The status of the channel would have become more debatable once the road had been built; part of it was infilled to facilitate the construction of the road. The causeway would have been susceptible to tidal erosion if the channel had not been blocked at points distant from the road crossing. At present it is not known if the channel would still have been open to the north of the site after the building of the road in c. AD 50-55. This point is particularly relevant for the early period as the possibilities provided by water transport would have continued to be of great importance before a bridge over the Thames was completed.
- 8.2.3.3 The alignments of the clay and timber buildings erected in the late 1st century to early 2nd century were all connected to a southwest to northeast aligned ditch which traversed the site. This feature was infilled with gravel in order to form a road or street surface and a series of clay and timber buildings covering a distance of some 40m stood alongside the metalled side street. This was a major surprise as the alignments established were in no way related to Watling Street. The ditch later used as a road ran parallel to the '*temenos*' ditch which lay further to the east and is believed to have formed the boundary of the later religious precinct. The '*temenos*' ditch is believed to have been a natural feature that was later managed during the Roman period. If this interpretation is correct the major alignment, which was established in the later 1st or early 2nd century and prevailed throughout the Roman period, may have been dependent on the natural topography of the site rather than the road system.
- 8.2.3.4 As stated above the nature of the earliest buildings has yet to be established but the remains of the clay and timber structures dated to the early-mid 2nd century are similar to many examples found in Roman London. It is probably that craft industries were carried out in external areas associated with the buildings and some of the structures could equally have served as combined shops/workshops and domestic buildings. Although discrete working areas have not yet been identified a marked peak in the occurrence of iron working slag was apparent in Phases 4 and 5, which corresponded to the occupation of the clay and timber buildings on the site. Peaks in the representation of small domestic animals such as fowl and dogs in the bone assemblage were also indicative of a thriving local population. This type of occupation featuring some light industrial/craft production combined with domestic use of buildings could be said to be typical of many peripheral parts of the Roman city such as the upper Walbrook valley and many areas of Roman Southwark (Hammer 2003; Cowan 2003; Douglas 2007).
- 8.2.3.5 The nature of the occupation and the entire character of the built environment were radically altered during the later 2nd century. A religious complex centred around two Romano-Celtic temples was established, this superseded the earlier arrangement of clay and timber buildings although the dominant alignments used in land division were maintained. The temples were constructed in stone and extensive metalled surfaces laid around them. A marked reduction in the frequency of domestic and industrial waste coincided with the establishment of the religious precinct. The exception to this trend came in the fills of the '*temenos*' ditch which showed a very high frequency of artefacts and animal bone. The composition of the assemblage recovered from the ditch, some of which demonstrated signs of ritual 'killing', suggested that it accumulated as a result of placed deposits being laid in a watercourse rather than casual rubbish disposal. It is possible that a timber fence stood on the east side of the ditch and formed a definitive boundary to the religious complex.



- 8.2.3.6 It is important to comment on the character of the '*temenos*' ditch as it featured heavily in the research questions. This was the result of a fundamental if very understandable misinterpretation of the remains unearthed in the evaluation. One side of the ditch was uncovered along with some associated timberwork; these were interpreted as the bank of a major revetted watercourse. Although the '*temenos*' ditch was a major feature, indeed one of the defining features of the entire Roman landscape, it was not a navigable watercourse of any description. The timberwork found within it represented the management of a small natural stream. In a slightly later period, discarded fencing was placed in the ditch. The continual use of the ditch for the deposition of large quantities of pottery, glass and bone naturally led to it silting up. This was most noticeable in the south near its terminus where the ditch was largely backfilled by the end of the 2nd century. Deposition progressed toward the north and was still taking place in the later Roman period after AD 270. The course of the northern part of the stream was not clearly established but lines of driven timber uprights found in a location that crossed its presumed course may have represented fish traps, or possibly a sluice, near its confluence with the Borough Channel.
- 8.2.3.7 The character of the built environment was changed again in the later Roman period when the religious complex was remodelled and the area of the ritual enclosure more starkly defined by the construction of additional masonry structures and demolition of some earlier buildings. The southern temple was probably abandoned if not demolished in the earlier part of the 4th century. The southern boundary of the complex was relocated northward and defined by a stone wall which extended eastward to meet the southwest corner of a large masonry building. This winged building extended over a distance of 24m north-south and was the largest masonry structure unearthed during the excavation. The function of this new building was not readily apparent; it did not have a hypocaust heating system but was undoubtedly a multi-storey structure. It may have provided accommodation for priests or supplicants and travellers. Regardless of the building's function it was clear that it marked the eastern extent of the remodelled precinct. A second wall probably closed the northern side of the precinct running from the northwest corner of the winged building toward the southern side of the northern temple. The western extent of the precinct was not located within the area of excavation. However, the arrangement of plinths, statues and columns found in the western part of the enclosed area would have appeared to continue unaltered with the exception of repairs to the external surfaces. The public piazza immediately to the west of the northern temple remained in use throughout the 4th century and probably beyond that into the early 5th.
- 8.2.3.8 The landscape beyond the walled enclosure was likely to have reverted to open ground. A system of ditched enclosures located to the south of the new precinct has been dated to the 4th century principally through its stratigraphic relationships with other features. This apparently late Roman ditch system could be a later adaptation of the terrain, if the ditches were dug in the 5th century they would have been likely to contain very similar pottery assemblages to those recorded, the only likely difference might have been that more of the pottery could have been abraded.
- 8.2.3.9 The southern part of the site showed a marked concentration of finds and features dating to the late Roman period but it is quite likely that, as in the medieval period, a separate focus of development existed in this area which lay beyond the site to the south. A very clear connection between the southern part of the site and the cemetery at Great Dover Street came in the form of funerary monuments of diverse sorts which were found in more or less broken up states. Quite why this material had been brought to the site is unclear. It did not appear that it was adopted as building materials as is often the case in large later Roman constructions such as city walls. One of the better pieces of worked stone, a pine-cone finial, has a direct parallel at Dover Street. It seemed curious that such weighty objects were transported over some distance simply to be discarded in a pit. No evidence was found for systematic burial within the site although three inhumations were discovered. However, the three articulated burials were not located in a single area and at present they are not even firmly dated to the same phase. However, the inhumations can be dated to the late Roman period or later but at present little more can be said with confidence. The stratigraphic and artefactual dating evidence regarding these burials are both

weak and further research is unlikely to improve this situation unless scientific dating techniques are considered appropriate.

- 8.2.3.10 It was thought that evidence of earlier cremations had been unearthed as some small pits dating to the later 2nd century revealed fills rich in charcoal and/or fragments of burnt bone. However, the majority of the burnt bone was sheep and none of the bone proved to be human and there is therefore no basis for believing that a cremation cemetery was located within the site. One pit did contain a complete vessel, which might indicate a ritually placed deposit.
- 8.2.3.11 There is no direct evidence of military occupation of the site during the Roman period but objects connected with the army were recovered. Very few of these objects came from sealed contexts and none were recovered from the earliest phase connected to the Roman occupation. The earliest point at which objects with military associations were deposited was probably the first quarter of the second century. A split bone sword handle made its way into a gravelly deposit forming metallurgy within the 'road ditch' and a miniature sword handle was recovered from a layer found far to the south of the full size object. Two disc brooches of a type often associated with military sites were found, one of them in a sealed Phase 4 context. The presence of two of these brooches on a single site is notable in its own right (Appendix 9). Further evidence that the site was visited by military personnel can be inferred from unstratified finds recovered through metal detecting. These consisted principally of tie rings used to fasten segments of plate armour that dated to the second or third centuries. However, the general level of occurrences of all military objects was not thought to be disproportionate to a city in which soldiers formed an integral, but not dominant, part of the population. The dedication of one of the Tabard Square temples to a god of war, Mars Camulus, might naturally have attracted acts of worship from those associated with the military (Appendix 9).
- 8.2.3.12 At present there is no evidence that can be related to the presumed contraction of Roman Southwark toward the southern bridgehead during the later Roman period. Quite the contrary and the walled enclosure appeared to be used throughout the 4th century and beyond. Some of the evidence of continued 5th century activity was concentrated around the winged building that formed the eastern limit of the precinct. The northern temple provided the most probable provenance for the inscription that was interred in a ritual pit or shaft found just to the south of it. The burying of the inscription took place some time after AD 370, this presumably indicated that the northern temple had continued in use at least up until this time. Indeed, far from confirming theories concerning a contraction of settlement towards the southern Thames bridgehead it would appear that the Tabard Square complex provided a second focus for continued Roman occupation. The proximity of the complex to a major road junction should not be overlooked, this was in every way a strategic location and would have been an important focus for travellers entering and leaving the settlement to the north.
- 8.2.3.13 As stated above a concentration of late Roman finds and features was evident in the southern part of the site. This focus apparently continued throughout the early 5<sup>th</sup> century as evidenced by the presence of hand-made pottery types probably produced after AD 400 and quite possibly into the earlier part of the Saxon period. Pottery dating to between AD 400 and AD 650 was very sparse but the distribution of this material was strongly biased to the southern half of the site. Although none of this material occurred in contexts that can be securely dated to the early medieval period there can be no doubt that a very late Roman and early medieval focus existed in here, or, more probably, immediately beyond the southern limit of the excavation. Whether this shows continuity or the arrival of new settlers is a moot point, the ethnicity of a user cannot be established by identifying an object. The southern part of the site also had a very noticeable medieval presence with a highly organised system of land division defined by ditches. The fills of the ditches contained pottery dating from the eleventh century onward but it is probable that a defined system of this sort had evolved before the deposition of pottery became more widespread. It was clear that a small settlement of some sort, possibly a single farmstead but perhaps a small village, existed to the south of the site during the later Roman and medieval periods and there is

no reason to believe that an area suitable for agriculture production in both these periods would not have continued to be exploited in the intervening period.

- 8.2.3.14 Further evidence of occupation dating to a period when a Romanised lifestyle was no longer recognisable was found within the winged building which formed the eastern limit of the walled precinct. The hearth defined by stones and ceramic building materials set around a pit was discovered in the main corridor which linked the two wings. A series of small post or stakeholes that may have acted as a windbreak or even a spit was evident to one side of the hearth. These features could not be dated from the ceramics recovered from their fills as they consisted of residual late Roman forms but there can be little doubt that they were used between the disuse of this structure, probably at some time in the 5<sup>th</sup> century, and the robbing of the walls and foundations that took place in the medieval period at the very latest. This squatter occupation of a semi-derelict building may have been a very short-lived episode and hardly represents occupation of the site but is clearly of intrinsic interest.
- 8.2.3.15 It has been suggested that to the south of the main focus of Roman settlement in Southwark a ritual landscape may have developed. This lay outside the boundaries of the Roman settlement (Beasley 2006). To the west of the Tabard Square site this is evidenced at Swan Street with apparently ritual activity in the form of the deliberate placing of human bone and 'killed' pots among other objects in boundary ditches and shafts (Beasley 2006). Together with the two cemeteries encountered to the west at Lant Street (Sayer and Sudds forthcoming) and Great Dover Street (MacKinder 2000) the temple complex at Tabard Square would appear to be part of a landscape dedicated to death and ritual. Offerings may have been made within the temples as one either entered or left the settlement. A number of objects would appear to have been deliberately placed within features within the site, most notably the laying of an inscription in the base of a pit and the deposition of the face cream canister and other objects in the *temenos* ditch. However, the religious and ritual activity at Swan Street and Tabard Square might also be influenced by the presence of major roads, Stane Street at Swan Street and Watling Street at Tabard Square.

## 8.2.4 Medieval (Phase 9-10)

- 8.2.4.1 The terms of the Archaeological Brief for the excavation meant that post-Roman deposits and features were only studied in detail in three discrete trenches across the site, elsewhere only deep features which cut through Roman horizons were recorded. This obviously has led to a wide discrepancy in the record of post-Roman remains across the site as a whole. The three trenches did not provide evidence of significant remains during the medieval period, however, cut features were revealed across the rest of the site especially to the west.
- 8.2.4.2 Across the western part of the site a series of pits were revealed which are most likely associated with back plot activity behind buildings that fronted Kent Street (Tabard Street). There was no evidence of built structures, but the pits are suggestive that occupation had spread to the vicinity of the site during the medieval period. There was no evidence of similar activity along the Long Lane frontage which might suggest that settlement there had not yet spread into this area. Elsewhere the site was in agricultural use and divided into parcels land by a series of large north-south and smaller east-west aligned ditches. To the south the area was split up into small strips of land c. 5-6m across which may represent small fields, individual strips or building plots. Indeed the only evidence of structures dating to the medieval period was found in this area and may represent the scanty remains of farm or ancillary buildings.
- 8.2.4.3 The presence within the site of such large ditches, up to 10m wide, during the medieval period would suggest that topography and changing environmental conditions was again influencing settlement and development. With rising water levels from the late Roman period onwards the proximity of the channel immediately to the north must have had an impact on the site and this is witnessed by the large ditches that were now required to drain the site.

## **8.2.5 Post-medieval (Phase 11-14)**

- 8.2.5.1 Outside the three excavation trenches post-medieval activity was, as with the medieval period, limited to cut features. The earliest post-medieval structures recorded on site were found to the west along the Kent Street (Tabard Street) frontage and consisted of robbed out walls and a small cellar both dating to the late 15th to early 17th century. The presence of several barrel wells would suggest that other buildings of that date had been present but had either been truncated by later activity or had been in areas where the post-Roman deposits were removed by machine in accordance with the Archaeological Brief. Along the Long Lane frontage the only indication of buildings were a few barrel wells presumably in the back yards of structures.
- 8.2.5.2 During the early post-medieval period the extensive drainage network established in the medieval period was still largely in place. There were modifications to the system in the south of the site and gradually over time the only ditch that was retained was the large north-south one in the east of the site. This eventually became the line of the parish boundary. A concentration of small quarry pits to the west of that ditch indicates that the area was exploited for its natural resources during the early post-medieval period.
- 8.2.5.3 Structures dating from the late 17th-mid 18th century were recorded along the Long Lane frontage. These consisted of long strip buildings with gravel and cobbled yards. These may have been domestic in nature and parallels can be drawn with other dated examples. However, to the south of the site and especially in the southwest part of the site there was evidence of industrial and craft activity located in areas behind the Kent Street (Tabard Street) frontage. A series of yard surfaces constructed from timber, gravel and even knucklebones and later pits was the scene of animal processing, tanning and possible cloth processing. A clay tobacco pipe kiln dating to c. 1680-1710 was further evidence of industrial activity in the area. All these activities are widespread in the north Southwark area.

## **8.3 Revised Research questions**

- 8.3.1 The following questions have arisen out of the excavation which will be addressed during the analysis and publication phase of the post-excavation process.
- Can the natural topography and geology of the area from the Bronze Age to the immediate pre-Roman period be refined?
  - How does the prehistoric activity on the site, which mainly consisted of residual finds and lithics, compare with other sites in Southwark?
  - How does the natural topography of the area influence the settlement patterns and use of the site in The Roman period? Combined with evidence from the site at 5-27 Long Lane to the north (Douglas 2007) is it possible to determine the influence of the channel between the two sites and the history of the channel's reclamation and diminution?
  - A concentration of postholes was observed over much of the northwestern corner of the site; it was possible to see radiating lines amongst the pattern and clusters of six posts; following dendrochronology of samples from the surviving timber posts will it be possible to determine the nature of the structure(s) which they represent the remains of?
  - How does the occupation along the western part of the site as represented by the clay and timber buildings compare with settlement patterns in the rest of Roman Southwark?
  - Are the pits that were filled with burnt material ritual in nature? Examples of cremated sheep have been found in the Walbrook valley (Leary in prep; Rielly in prep) and Romford (Butler & Rielly in prep) and if these are similar features can comparisons be made with similar features in Roman London and Roman Britain?

- The Temple Complex
  - Can the entire temple precinct be reconstructed?
  - How does the temple complex compare to other known temples in Roman London?
  - How does the temple complex compare to temple precincts in Roman Britain?
  - Can comparisons be made between the temple complex at Tabard Square and such precincts elsewhere in the Roman Empire?
  - Can the finds assemblages, especially pottery, small finds, coins and animal bone, be seen in any way to be unusual and thus characteristic of a religious site?
  - How do the finds assemblages from the pre-temple phases compare with those that are associated with the temple phases of activity on the site?
  - How do the finds assemblages compare with other known temple/religious sites in Roman London, Roman Britain and the Roman Empire as a whole?
  - Can the distribution and nature of coins, small finds, pottery, animal bone and other finds across the site help to determine the nature of religious practices being undertaken on the site?
  - Do any of the finds recovered from cut features on site such as the temenos ditch exhibit signs of ritual activity on site?
  - Is there any evidence of Christian use of the buildings in the 4th century?
- Can the dating and nature of Phase 9 activity be refined?
- How does the late Roman / early medieval activity which has been recorded on site compare to other activity of that date both in Southwark and the City of London?
- What can the network of ditches excavated on site in the medieval period tell us about land division and agricultural practices in the medieval period?
- Can the network of medieval enclosures be compared to other sites in London and the the region?
- The medieval division of the sites into small pieces of land c. 5-6m wide was a striking feature of the southern part of the site. Similar strips of land were recorded immediately to the north of the City of London in Moorfields (Butler 2006), are these features at Tabard Square similar agricultural features or are they associated with building plots?
- Can the post-medieval strip buildings found along the Long Lane frontage be linked to individual properties following a study of cartographic and documentary sources?
- How can study of the clay tobacco pipe kiln contribute to our knowledge of London clay tobacco pipe manufacture?
- How has the fluctuation in water levels over time influenced the occupation activity on the site?

## 9 CONTENTS OF THE ARCHIVE

### 9.1 Paper Records

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Sample Sheets	483
Plans	4793
Sections	134
Photographs:	
Medium Format: Colour	390 shots
Medium Format: Black and white	406 shots
Black and white prints (35mm)	68 films
Colour Slide (35mm)	87 films

### 9.2 The Finds

Roman Pottery	576 boxes
Post Roman Pottery	293 boxes
Clay Tobacco Pipe	23 boxes
Ceramic Building Material	800 boxes
Worked Stone	240 fragments
Painted Wall Plaster	39 boxes
Glass	38 boxes
Lithics	4 boxes
Coins	1059 objects
Small finds	1726 objects
Slag	18 boxes
Animal Bone	592 boxes
Human Bone	3 boxes
Leather	300 bags
Textile	5 pieces
Timber	c.850 pieces
Dendrochronological Samples	184 samples
Environmental Samples:	69 samples
Column	
Bulk	414 samples



## 10 IMPORTANCE OF THE RESULTS AND PUBLICATION OUTLINE

### 10.1 Importance of the Results

- 10.1.1 The site at Tabard Square has proved to be of great significance not only locally but regionally and nationally. At 1.25 hectares the site is by far the largest excavation ever undertaken in Southwark and has because of its size produced the largest assemblages of many artefact types yet found in Southwark. For example the number of Roman coins recovered, c. 1000, nearly doubles the known previous total from the whole of Southwark. It was initially thought that the site was on the periphery of Roman settlement at Southwark and that its vicinity to one of the large channels which divided the gravel terrace from the second island might have suggested that site was largely unsuitable for occupation. However, the results of the archaeological excavation have proved truly outstanding both in terms of the archaeological remains and the artefacts recovered; the temple precinct and such finds as the London inscription and the face cream canister are of national significance.
- 10.1.2 The excavation has provided important information regarding the geology and topography of the site prior to the Roman period. Although there would appear to have been minimal prehistoric activity on the site the study of the peat formation, which has been dated to between the Middle Bronze Age and the Roman period, and the palaeochannels have provided important topographic data.
- 10.1.3 The Roman period has provided the most important discoveries. The concentration of posts which apparently radiate out in a fan shape would appear to suggest either a concentration of activity in this early Roman period or perhaps one large and unknown structure. Although further analysis of the results needs to be undertaken, together with additional dating provided by dendrochronological analysis of the timber posts, it is possible that an important addition to the story of early Roman Southwark may be provided by this enigmatic series of posts.
- 10.1.4 Activity on site up to the mid 2nd century AD consisted of the spread of settlement along Watling Street which lay to the west of the site. The clay and timber buildings that were revealed were located outside an apparent enclosed area initially formed by ditches. The main concentration of buildings in the northwest part of the site respected the northern ditch which was later backfilled and turned into a road which must have linked up with Watling Street to the west. This building evidence provides important evidence concerning the expansion of Roman Southwark in the first two centuries of Roman occupation.
- 10.1.5 By far the most significant discovery was the temple precinct located to the northwest of the site. This was established in the late 2nd century AD and having undergone several modifications survived into the 4th century AD. The temple precinct consisted initially of two Romano-Celtic type temples with an associated *temenos* ditch. It was initially modified with the addition of a large building to the south of the temples and open area. Later the complex contracted in size with the southern temple going out of use and a large buttressed masonry structure being erected within a smaller precinct defined by boundary walls. This quite unexpected find is of major importance not just for Roman Southwark but for Roman London as a whole. Relatively little is known about Roman temples in London (Hall and Shepherd 2008). The Temple of Mithras was found in the 1950s on the banks of the Walbrook and has been the subject of an updated study (Shepherd 1998). Temples have been identified at the Forum (Marsden 1980, 50-52) and in the southwest quarter of the city by the Thames (Williams 1993; Bradley and Butler 2008) and more recently a temple and a shrine have been identified in the vicinity of the amphitheatre (Bateman et al 2008). However, The Tabard Square temples are unique in London for having the vast majority of the precinct revealed and the relative completeness of excavation during a single archaeological investigation. The archive offers the opportunity to compare Roman finds assemblages from pre-temple phases with those from the temple precinct phases and to compare these assemblages



with other temples across Britain and the Roman Empire. A detailed study of these assemblages will add greatly to our knowledge of what religious practices and rituals may have been performed at such sites, what animal were being sacrificed and what objects were being offered to the gods. The finds from the *temenos* ditch, which include the face cream canister will be of vital importance in this regard.

- 10.1.6 One of the most interesting aspects of the Roman activity on site was that, based on both late 4th century coins and pottery, the site was occupied up to the end of the Roman period. This is at odds with the previously held view that in the late Roman period the Southwark settlement had contracted to a small enclave around the bridgehead. This late occupation of the site, which may even continue into the immediate sub-Roman period, with squatter occupation of the large masonry building is an important aspect of the site which is deserving of further analysis and full reporting.
- 10.1.7 Some of the finds from the site are of national if not international significance, most notably the face cream canister and the inscription. The fragments of statuary, especially the Bronze foot, and other mortuary fragments are of great significance in their own right, whilst many of the other finds assemblages are of such a size as to be an important resource for the future study of Roman Southwark and London for many years.
- 10.1.8 Whilst the post-Roman sequence of the site was not given the highest priority by the Archaeological Brief and was only the subject of detailed excavation in three trenches, an interesting medieval and post-medieval sequence was revealed. The rise in water levels and the medieval response to this occurrence took the form of large drainage ditches and channels which allowed the site to be turned over to agriculture. The evidence of the first structures revealed on site in the post-Roman period is important in documenting the spread of medieval and post-medieval Southwark. The industrial and craft activity including tanning and animal processing is part of an important borough-wide industry, whilst the clay tobacco pipe kiln is one of the few to have been excavated in London.

## **10.2 Further work**

- 10.2.1 The phasing of the site will be refined following the dendrochronological analysis of timber samples taken from beneath the major structures and further analysis of the coins and the pottery, especially the Samian ware. The archaeological sequence will be compared to other sites in Southwark to place the results in a Southwark-wide context. Further research will be undertaken on the form, development and history of other temple sites from London, Britain and the Continent and to place the temple precinct within a context of other Roman religious sites.
- 10.2.2 The finds assemblages will be further analysed and spatial distribution of material across the site will be attempted. As mentioned above the composition of pre-temple and temple phases artefact groups will be compared and contrasted, and will be further compared with other assemblages from Southwark and comparable temple sites. Further work for individual finds assemblages will follow as far as possible the recommendations as outlined in the individual specialist reports (see appendices).

## **10.3 Publication Outline**

- 10.3.1 The complexity and significant nature of the archaeological sequence found during the excavation of Tabard Square warrants comprehensive publication. It is therefore recommended that the site be published as part of the Pre-Construct Archaeology monograph series. A brief synopsis of the proposed monograph contents are detailed below although details of the layout should not be considered fixed as they may be subject to revision later in the publication process. The publication will to a large extent be a synthetic text with much of the finds information integrated into the main text. However, certain key aspects of the finds assemblages will be discussed in chapters devoted to specialist reports. Catalogues and tables will to a large extent not be included

in the publication but will either be appended on an accompanying compact disc or available on a relevant website. It is proposed that the publication will be in the order of 200-300 pages in length. The monograph will be peer reviewed by one or more archaeologists who are deemed experienced in this area of research. Individuals will be approached once the draft is nearing completion.

## **Archaeological Investigations at Tabard Square PCA Monograph Series**

*Frontispiece*

*Title Page*

*Contents*

*Contributors*

*Figures*

*Tables*

*Summary*

*Acknowledgements*

### *Chapter 1 Introduction*

Circumstances of the Investigations  
The Monograph and the Archive  
Geology and Topography  
Archaeological and Historical Background

### *Chapter 2 Evidence and Interpretations of Pre-Roman Activity*

Integrated chapter, including lithic report, assessing the dearth of features, the presence of residual material and the implications for understanding the site within the prehistoric landscape generally and the Bronze Age and Iron Age landscape specifically.

### *Chapter 3 The Pre-Temple Roman Archaeological Sequence*

The Roman sequence will be described up to the middle of the 2nd century AD. This will focus on the timber structure(s) in the northwest corner of the site, the network of drainage/ enclosure ditches and the spread of occupation to the site with the clay and timber buildings recorded across the western part of the site.

### *Chapter 4 The Roman Temple Complex and its Modifications*

The temple complex will be described in full outlining all the modifications that were made to the precinct. Supporting finds information will be integrated into the main text.

### *Chapter 5 Roman Specialist Reports*

Pottery by James Gerrard & Malcolm Lyne with contributions by Jo Mills (samian), David Williams (Amphora) and Kay Hartley (mortaria)  
Coins by James Gerrard  
Small Finds by James Gerrard  
Iron Slag and Related Debris by Lynne Keys  
Glass by John Shepherd  
Building Materials by Kevin Hayward  
The Leather by Quita Mould  
Human Bone by Ellie Sayer  
Animal Bone by Kevin Rielly  
The Timber by Damian Goodburn  
Environmental Samples by Nick Branch and Quest

### *Chapter 6 Discussion of Roman Activity*

A discussion of the Roman activity will begin by placing the site in its topographic and geological context. The early Roman activity will be discussed and compared to other sites in Southwark.

The temple complex will be discussed in detail and it will be compared with similar sites in Britain and the Continent. The possibility of it being located in a zone of religious and ritual activity outside the boundaries of the settlement will be explored. The final years of Roman activity on site will be discussed and its implications on the rest of the Southwark settlement.

*Chapter 7 The Medieval and Post-Medieval Archaeological Sequence*

The activity after the end of the Roman period until the late post-medieval period will be described focusing on medieval drainage and agricultural activity and the first post-Roman structures being established on the site and the industrial and craft activity in the post-medieval period.

*Chapter 8 Medieval and Post-Medieval Specialist Reports*

Pottery by Chris Jarrett  
Clay Tobacco Pipe by Chris Jarrett  
Small Finds by Märit Gaimster  
Glass by John Shepherd  
Iron Slag and Related Debris by Lynne Keys  
Building Materials by Kevin Hayward  
Animal Bone by Kevin Rielly  
The Timber by Damian Goodburn  
Environmental Samples by Nick Branch and Quest

*Chapter 9 Discussion of Medieval and Post-Medieval Activity*

The medieval and post-medieval activity on site will be compared with the results of other sites in the vicinity and in Southwark. Research of documentary and cartographic evidence will be made to correlate with the archaeological results.

*Chapter 10 Conclusions*

*Bibliography*  
*Index*

## **11 ACKNOWLEDGMENTS**

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### **Tabard Staff During Site Work**

**Supervisor;- Post Medieval Trenches 1-3**

Chris Pickard

**Site Director;- Main Excavation**

Douglas Killock

**Area Supervisors;- Main Excavation**

Ireneo Grosso, Jo Taylor, Guy Seddon

**Watching Brief Supervisors**

Elliott Wragg, Simon Deeves, Roddy Mattinson

**Excavators**

S Allen, R Archer, S Aylford, E Bailey, A Banyasz, A Baxter, H Baxter, K Bazley, M Bazley, G Bevan, S Bickelman, P Boyer, T Bradley, N Bray, D Britchfield, E Brown, J Brown, S Byrne, P Cardiff, T Carew, M Chesterman, H Clough, S Clough, T Collie, M Comey, A Corsini, M-E Crowther, J Cunningham, R Dave, L Derry, E Diggles, A Doherty, A Douglas, L Doulton, S Duckering, R Duckworth, C Dunscombe, D Eddisford, V Emmerson, G Evans, D Fallon, B Ferguson, A Fiehill, C Fisher, C Forcey, N Garry, A George, K Gibson, A Gleeson, S Graham, C Hall, D Harris, A Haslam, A Hassan, N Hawkins, C Hewitson, S Holden, C Holloway, M House, A Howe, K Hulka, W Johnson, F Keith Lucas, I Kirkpatrick, A Lane, A Lask, J Leary, M Leasure, A Leonard, A Lord, J Lord, R Lythe, H MacQuarrie, S Maher, J Marchant, A Margetts, C Mason, R Matthews, C Mayo, M McMurray, P McNulty, S Miles, J Mitchell, G Morice, K Morishima, D Mulligan, S Murphy, N Nichols, A Nilsson, S Noon, C O'Neill, V Osbourne, R Osterlund, A Pooley, S Ransom, C Raymond, C Rees, G Rees, J Roberts, R Rooney, F Sadarangani, B Sauine, E Sayer, R Shepherd, R Sims, L Soderbaum, J Taylor, A Tinsley, R Thorne, A Tinsley, A Turner, K Tyler, W Valentine, V Vargo, J Warbuton, N Ward, D. Waterfall, S Watson, J Wiles, A Williams, G Wilson, A Woolmer, E Wragg, V Yendell, L Yeomans, R Young

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**CAD Drawings**

Digitised CAD drawings were produced from the originals by V Osborn, H Baxter, C Blundy, C Davies and A Bailey

**Post Excavation Team**

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## **APPENDIX 1: ROMAN POTTERY ASSESSMENT**

**By Malcolm Lyne**

### **Introduction**

The excavation yielded 69752 sherds of Roman pottery from 13827 contexts. This material spans the period between the Roman Conquest and the early 5<sup>th</sup> century and has been subdivided into five phases of activity. There is an earlier phase of prehistoric activity but this is not covered by this assessment and predates peat formation over much of the site.

### **Methodology**

All of the pottery assemblages were quantified by numbers of sherds and their weights per fabric. These fabrics were identified both macroscopically and by using a x8 magnification lens in order to determine the natures, forms, sizes and frequencies of added inclusions. Finer fabrics were further examined by a x30 magnification pocket microscope with built in artificial illumination source. Fabric codings are those formulated by the Museum of London Archaeological Services for Roman pottery from the London area (Anon 2000)

A number of pottery assemblages are large enough for more detailed quantification by Estimated Vessel Equivalents (EVEs) based on rim sherds (Orton 1975)

### **The Assemblages**

#### **Phase 3**

The peat deposits which covered much of the excavated area yielded 318 sherds of pottery, nearly all of which dates to c. AD 43-70. The largest assemblage comes from Group 263 Contexts [3123], [4226] and [4505] in Area A (194 sherds) and includes fragments in Early Roman Sandy ware A (c. AD 40-80, 12%), Highgate Wood B fabric (c. AD 40-100, 10%) and Alice Holt/Surrey greyware (c. AD 50-120, 9%). South Gaulish Samian forms include Dr 15/17 (c.AD.43-85), Dr 18 (c.43-90) and Dr 24/25 (c. AD 43-70). Other wares include ERMS, VRW, VRG, PATCH, NKSH, GBWW and LYON in an assemblage which is almost entirely pre-AD 70 in date but also includes 3 fragments in post AD.70 Highgate Wood C fabric.

The dumps of sand, silt and clay above the peat in Area A, making up Group 250, produced 329 sherds (3691g) of pottery. The largest assemblages within this group came from silty soil [2019] (55 sherds), [1453] (48 sherds) and silty clay [4462] (91 sherds) and include very little which need be later than AD 70. The few exceptions are 13 fragments from Copthorne Close Greyware vessels (c. AD 70-140) and two in Highgate Wood C fabric (c. AD 70-160) in an assemblage otherwise largely made up of sherds in 'Belgic' grogged, Alice Holt/Surrey, Eccles, ERMS, ERSI, ERSA, FMIC, HWB and RDBK wares.

Two alluvial deposits in Area E1 (Contexts [10752] and [10938]) produced 85 sherds of c. AD 50-80 dated pottery similar in fabric make up to that from the peat and including five drawable pieces. A similar deposit in Area C2 (Context [7568]) yielded 62 sherds of similarly-dated pottery

A dump of peat in Area E1 (Context [8379]) yielded 346 sherds (6278g) of pottery, of which the bulk dates to c. AD 43-70/80. The latest sherds comprise 16 fragments from a Class 4F bowl in Highgate Wood C fabric (c. AD 70-140), a sherd from South Gaulish Samian Dr 18 platter stamped C.SILVI.P (c. AD 70-90), another from a Dr 37 bowl (c. AD 70-110) and several from a Class 4A bowl of Frere's Type 329 in VRG fabric (1972, c. AD 85-105). It is possible, however, that the commencement date for the last vessel could be pushed back to AD 70.

Most of the various ditches belonging to this phase were lacking in pottery but Ditch [13182] in Area G1 yielded 137 sherds of c. AD 60-100 date. Most of the ground make-up dumping was also lacking in pottery, as were the various flimsy and ephemeral structures belonging to this phase.

#### Phase 4

This phase saw the appearance of a number of clay and timber structures and a road within the excavated area.

Elements of the road were recorded/excavated in Areas A (Group 232), B1 (Group 693), C2 (Group 630) and E2 (Group 1037); yielding 358 sherds from the road construction dumps and metalling and 2911 from the roadside ditch fills. Most of the pottery assemblage from the road construction dumps (294 sherds) comes from Contexts [1858] and [2037] in Area A and dates to c. AD 70-110/120: the construction dumps and road surface in Area B1 yielded a somewhat smaller 64 sherd assemblage, most of which is of similar Flavian date but includes single fragments each from a BB1 lid of post AD 110 date and a c. AD 130-200 dated Type 2H jar in VRG fabric from the surface Contexts [1346] and [1261] respectively: these were probably trodden into the surface of the road during its time in use.

The 'road ditch' [10445] in Area E2 yielded a good stratified sequence of pottery assemblages from fills [10254], [10255], [10444], [10511], [10558], [10606], [10608] and [10923]. The 2558 sherds of pottery from these fills are, for the most part, of c. AD 70-110/120 date: the most common fabrics are Highgate Wood C (25%), Verulamium Region White and Greywares (25%), South Gaulish Samian (14%) and Alice Holt/Surrey greywares (11%). The extreme paucity of handmade greyware sherds in ERSA fabric (c. AD 43-80, 0.03%) and those in Highgate Wood B fabric (c. AD 43-100), 0.7%) indicate that there is very little of this assemblage earlier than AD 70 in date and that most of it was probably dumped during the period c. AD 90-120. A few sherds, however, are slightly later in date and include fragments of a necked-jar of Frere type 2254 in VRW fabric from Context [10608] (1984, c. AD 130-160) and BB1 flanged-bowls from Contexts [10254] and [10511] (c. AD 110-160): they indicate that the ditch continued to receive small amounts of rubbish into the second quarter of the 2<sup>nd</sup> century.

The ditch running parallel with this 'road ditch' (Group 277) produced a mere 13 sherds but a dump sealing its fills (Context [3079]) yielded a considerable 394 sherd assemblage datable to between c. AD 70 and 120. Most of these sherds are freshly broken and include 26 fragments from a tripod bowl in Highgate Wood B fabric.

The most significant building of this phase is Structure 8000 in Area C1. The various brickearth floors and wall sills of this building (Group 150) yielded 169 sherds (5774g) of pottery. These constructional sherds are mainly Flavian but also include fragments of BB1 jars (c. AD 110-160) and lid from brickearth floor contexts [7588], [7591] and [7738], as well as a Verulamium Region Whiteware jar of Frere type 418 (1972, c. AD 105-115) from Context [7743] and a similarly-dated bowl of type 492 in the same fabric from Context [7747]. These fragments suggest that the building was erected c. AD 110-120 or slightly later.

The brickearth floor and levelling layers that formed Building Group 921 in Area C2 produced 475 sherds of Flavian pottery: one of the sherds, a fragment from an Alice Holt/Surrey greyware jar of Lyne and Jefferies type 1-28 (1979), may be later than AD 100 but this is uncertain. It seems likely that the building was constructed during the last years of the 1<sup>st</sup> century AD.

Constructional deposits for Buildings 919 and 926 in the same area yielded 70 and 1598 sherds respectively. The 70 sherds of c. AD 70-120 dated pottery from the floors of Building 919 include fragments from a flagon of Frere type 241 in Verulamium Region Whiteware (1972) suggesting construction between c. AD.70 and first years of the 2<sup>nd</sup> century AD.

The much greater quantity of pottery from Building 926 includes a large 477 sherd assemblage from levelling layer [7779] below the floors of the building. Highgate Wood C fabric sherds make up the largest element in this assemblage (23%) with Alice Holt/Surrey greyware accounting for another 18%. Other significant elements in this largely Flavian assemblage are ERSB jars (7%), South Gaulish Samian (13%) and Verulamium Region Whitewares (13%). The latest sherds (only four) are from a BB1 flanged bowl (c. AD 110-160) might indicate that the building was probably constructed c. AD 110-120 but the majority of the pottery is of earlier date. Building 921 yielded 475 sherds of similarly dated and earlier pottery, all of which are clearly residual.

The ground make up for Shrine/Mausoleum Structure 64 in Area D was totally lacking in pottery, as were constructional features relating to the same building. Three of the levelling up deposits for Structure 822 nearby (Contexts [6302], [6294] and [6311]) produced just four sherds of late 1<sup>st</sup> century AD date.

The pottery from destruction deposits and levelling dumps elsewhere in Area C1 (Group 174) yielded 33 sherds which, for the most part, are of similar date to those from the Group 150 construction deposits but also include an intrusive sherd from a Lower Nene Valley Colour-coat beaker of post AD 160 date.

The constructional floor and wall sill deposits for a building, in Area G1, (Group 365) yielded a mere 16 sherds of pottery, suggesting construction c. AD 70 but too small an assemblage for reliable dating. Other features belonging to this phase in the same area did, however, yield considerably larger assemblages of pottery. A fill of ditch [13235], context [13190] produced 326 sherds (7901g) of pottery datable to the period c. AD 120-160 and characterised by a predominance of sherds in HWC fabric (44%) from a variety of vessel types, including 2F jars (c. AD 120-160). Other fragments come from a BB1 cooking-pot and flanged bowl (c. AD 110-160), BB2 cooking-pots (c. AD 110-200) and a Central Gaulish Samian closed form (c. AD 120-200).

Various groups of ground make-up dumps from the site produced large assemblages of mainly c. AD 70-120 dated pottery: these include Group 254 in Area A (806 sherds, 14478g), Group 305 in the same area (923 sherds, 22081g), Group 1127 in Area E1 (664 sherds, 17560g) and Group 362 in Area G1 (1776 sherds, 46633g): the last-mentioned assemblage is, however, severely compromised through contamination by much later intrusive material.

#### **Phase 5**

The Group 172, 185 and 214 dumps sealing the remains of Structure 8000 and below the temple structure in Area C1 produced 741 sherds (19555g) of largely AD 70-120 dated pottery. The sherds from Group 172, however, include fragments of Central Gaulish Samian Dr.18/31 dish (c. AD 120-150) and a carinated bowl in VRG fabric (c. AD 130-170) from Context [7153], fragments from a necked jar of Frere type 334 in Verulamium Region Grey ware fabric (1972, c. AD 125-175) from Context [6291] and a flagon of Frere type 566 in Verulamium Region Whiteware (c. AD 120-180) from Context [6292]. Group 214 yielded further sherds of a bowl in VRG fabric (c. AD 130-145) from Context [7159] and BB2 cooking-pot sherds from Contexts [6136], [6593], [6492] and [7111]. An absence of anything later suggests that these dumps were deposited between c. AD 130 and 150 and suggests, in turn, that Structure 8000 of the previous phase had a very short life in use of no more than 20 or 30 years.

The various fills of the '*temenos*' ditch in Area G1/F1 (Group 350) and Area F2/G2 (Group 5) produced 705 and 447 sherds of pottery respectively: 554 fragments came from [12699], the fill of [12700]. This assemblage is large enough for quantification by EVEs: the bulk of it can be dated c. AD 130/140-200 although a one sherd of post-AD 240 Oxfordshire Red Colour-coat fabric is also present. There may be a ritual element in this assemblage, as it includes a complete refired or waster flagon of Frere type 1942 in Verulamium Region Whiteware (c. AD 140-175) and large refired and blackened fragments from two other mid-2<sup>nd</sup> century flagons in similar fabric. An elaborate jar of unusual type and in similar fabric has a hole drilled in its side before firing in an assemblage which also includes a complete poppyhead beaker in Highgate Wood C fabric (c. AD 130-160), fragments from Central Gaulish Samian forms Dr 31 (c. AD 150-200) and Dr 31R (c. AD 160-200) and a fragments from a number of BB2 pie-dishes with latticed decoration (c. AD 130-180).

Context [12825] in Group 350 and [12855] in Group 5 yielded a further 111 and 428 sherds respectively. The assemblage from Context [12825] had a predominance of sherds in BB2 fabric (78%), including fragments from a plain Class 5C bowl (c. AD 150-250) and Class 3J3 everted-rim cooking-pots (c. AD 150-230), a fragment from a straight-sided dish in BB1 fabric (c. AD 200-270) and a reconstructable Central Gaulish Samian Dr 38 bowl stamped NAMILIANI (c. AD 140-200). The pottery from Context 12855 includes fresh fragments from another plain BB2 Class 5C bowl, Colchester and Cologne beakers (c. AD 130-250), an East Gaulish Samian Dr37R bowl (c. AD 140-200) and a Central Gaulish Dr 38 example (c. AD 140-200).

The levelling layers below external surface Group 911 in Area C2 yielded 774 sherds (24824g) of pottery after discounting the 66 sherds from the contaminated Contexts [5256] and [5278]. Much of the pottery is clearly residual in its contexts but Context [5604] yielded an 85 sherd assemblage, including a fragment from a BB2 dish (c. AD 130-180) and sherds from Central Gaulish Samian forms Dr 18/31 and Dr 37 (c. AD 120-150 and c. AD 120-200 respectively). The assemblage from Context [5552] includes a sherd of a flagon of Frere Type 805 in VRW fabric (1972, c. AD 140-190); indicating that this surface was laid after AD 140.

Possibly contemporary with this surface are the make-up levelling, brickearth floors and occupation deposits for and associated with a new building (Group 902). The 674 sherds from Group 902 are also largely residual but include fragments from everted-rim cooking pots in BB2 fabric and a similar form in Highgate Wood C fabric (c. AD 120-160) from clay floor [5875] and external surface [5987] respectively. Occupation deposit [5936]/[5992] below these surfaces had more contemporary material, including sherds from Central Gaulish Samian forms Dr27 and Dr18/31 (c. AD 120-150) and another Class 2F jar in HWC fabric (c. AD 120-160).

Another building nearby in Area C2 (Group 904) appears to be slightly later than Building 902: the 44 sherds from construction Contexts [5685], [5684], [5362], [5299] and [5349] include fragments from an acute-latticed jar in Thameside greyware (c. AD 150-270) and more c. AD 120-150 dated Central Gaulish Samian fragments and suggest a date soon after AD 150 for its construction. Occupation and demolition deposits [5613] and [5684] produced a further 12 sherds, including a fragment from a bowl in VRW fabric (c. AD 135-145).

Levelling layer Groups 249 and 284 in Area A and Group 1118 in Area E1 all yielded large pottery assemblages. Groups 249 and 284 in Area A yielded 1396 and 1142 sherds of pottery respectively. The derived nature of the soil dumps containing this pottery means that most of the sherds are residual in nature and date to c. AD 70-120. The latest sherds in Group 249 include those from a Central Gaulish Samian Dr18/31 (c. AD 120-150) and Dr38 (c. AD 140-200), a Type MT11 cup in LOEG fabric (c. AD 120-140) and a Cologne beaker (c. AD 130-250). Deposition during the mid-2<sup>nd</sup> century AD is indicated.

The latest sherds in Group 284 are of similar date range and include those from a jar in VRG fabric (c. AD 130-140), Central Gaulish Samian Dr18/31s (c. AD 120-150), two Class 4A bowls in VRG fabric (c. AD 120-170) and a Class 4A bowl in VRW fabric (c. AD 135-160).

The 4595 sherd assemblage from Levelling layer Group 1118 in Area E1 appears to have been dumped at a slightly earlier date than Groups 249 and 284, with the latest sherds being from a Class 1B flagon and a Class 4A bowl in VRW fabric (c. AD 130-140 and 130-160 respectively) and a Class 2H jar in VRG fabric (c. AD 145-200). The extreme paucity of bowl fragments in BB2 fabric suggests deposition not much later than AD 130 despite the presence of the Class 2H jar.

Area G1 yielded two large pottery assemblages, from Layer Group 369 (1289 sherds, 46208g) and Ditch Group 377 (744 sherds, 30279g). The assemblage from Group 369 consists very largely of c. AD 70-120 dated sherds but also includes fragments from BB1 cooking-pots and flanged bowls (c. AD 110-160), everted rim jars in HWC fabric (c. AD 120-160), Central Gaulish Samian forms Dr18/31 and Dr 27 (c. AD 120-150), a Sinzig beaker (c. AD 130-250) and a bowl in VRW fabric (c. AD 130-180). A tazza in VRW fabric should, on present knowledge, be later than AD 150 and suggests, together with the other pottery, that these layers were deposited during the mid-2<sup>nd</sup> century AD.

Most of the pottery assemblage from Ditch Group 377 was deposited during the period c.AD.120-170 and includes fragments from a HWC everted-rim jar (c. AD 120-160), a VRW bowl (c. AD 130-180) and a flagon in VCWS fabric (c. AD 140-170).

## **Phase 6.**

The foundations of the Romano-Celtic temple in Area E2 by their very nature could not be expected to yield much pottery. Wall Context [8177] did, however, yield a small 11 sherd assemblage, including a BB2

sherd and one of Central Gaulish Samian, confirming a mid-to-late 2<sup>nd</sup> century AD date or later for its construction. A gravel surface associated with this temple (Context [9874]) in turn yielded three sherds, including one from a Colchester Whiteware mortarium dated c. AD 170-250. This in turn suggests a post AD 170 date for the construction of the temple.

Ditch [9999] in Group 857, Area E3 contained a stratified sequence belonging to this phase. The primary fill (Context [9998]) yielded a 39 sherd assemblage of c. AD 150-200 dated pottery, including those from BB2 latticed 'pie dishes' (c. AD 130-180) and a Thameside 'scorched' greyware cooking-pot (c. AD 150-270/300). The secondary fill (Context [9940]) produced a further 168 sherds, including fragments from a plain BB2 'pie dish' of Monaghan type 4H5-7 (1987, c. AD 170-270) and a dish of type 5E1-6 in the same fabric (c. AD 150-300). Other sherds include those from a Rhineland mortarium (c. AD 170-300), several Thameside greyware jars (c. AD 150-270) and tazzae in Verulamium Coarse White-Slipped and Verulamium Region Whiteware (c. AD 150-250). A c. AD 170-200/250 date is indicated for this assemblage.

Only three of the various pits and postholes making up the rest of Group 857 produced any pottery. The 13 sherds from the fill of Pit [9919] (Context [9918]) include a fragment from a tazza with square-toothed rouletting in VRW fabric (c. AD 150-200); the 22 sherds from the fill of Pit [10425] (Context [10424]) include eight sherds from a Class 4H bowl and a 5E1-7 dish in BB2 fabric (c. AD 170+) and one from a Rhineland mortarium (c. AD 170-300), suggesting deposition during the period c. AD 170-200/250. The four sherd assemblage from the fill of Pit [9890] (Context [9891]) is made up of residual Late 1<sup>st</sup> century AD fragments.

The fills of Ditch Group 425 in Area G1 (Contexts [12757], [12758] and [13126]) produced 311 sherds (9203g) of mainly Late 2<sup>nd</sup> century AD pottery, of which BB2 makes up 17% and includes a mixture of latticed Class 5D and plain Class 5C 'pie-dishes' (c. AD 110-180 and 150-250 respectively). Highgate Wood C products make up a further 14% of an assemblage otherwise containing small numbers of sherds from a wide variety of sources. The latest sherds are from a BB1 dish of very unusual form and provisionally dated c. AD 210-290, a c. AD 180-200 dated cooking-pot in the same fabric and an Eifelkeramik jar (c. AD 200-270).

The other significant assemblage belonging to this phase is that from the fill of Pit [9339] in Area E4. The 503 sherds (16237g) of pottery from this feature have BB2 making up 22% of it, including the same mixture of latticed and plain 'pie-dish' forms as in Ditch Group 425. Beaker and jar sherds in Highgate Wood C fabric make up a further 14% in an assemblage which also includes fragments from a Central Gaulish Samian Dr31R dish (c. AD 160-200) and Thameside Greyware vessels (c. AD 150-250).

## Phase 7

There is a useful sequence of pottery assemblages from Area B1. The earliest of these is layer Group 622 which yielded 67 sherds of pottery, including those from a Much Hadham Oxidised ware beaker base (c. AD 250-400), a flagon of uncertain type in Lower Nene Valley Colour-coat fabric (c. AD 270-400), several plain BB2 'pie-dishes' (c. AD 170-270) and an Oxfordshire Parchment ware closed form (c. AD 240-400). An absence of Alice Holt/Farnham and other late greywares strongly suggests that these layers were deposited during the third quarter of the 3<sup>rd</sup> century AD.

The building construction contexts of Group 621 above these layers produced very little pottery but collapsed wall Context [3556] yielded eight fragments, including three pieces of BB1 from a beaded and flanged bowl (c. AD 240-300) and a dog-dish (c. AD 200-400), as well as a sherd from a white/black-slipped dog dish in Alice Holt/Farnham greyware (c. AD 270-370). The presence of the latter points to a date after AD 270 but probably not much after.

Structural Group 616 above Group 621 yielded a further 101 sherds: some of this is clearly residual but wall robbing cut [3469] yielded a fragment from a dog-dish in BBS fabric (c. AD 250-350) and the eight sherds from masonry foundation [3227] include a fragment from an obtuse latticed cooking-pot in BB1 fabric (c. AD 200-400) and the pedestal base from a vessel in Much Hadham Oxidised ware (c. AD 250-

400). An absence of Alice Holt/Farnham grey ware and other late coarse ware forms suggests a date no later than c. AD 270-300

The fills of Ditch Group 642 elsewhere in Area B1 produced a small 16 sherd late 3<sup>rd</sup> century AD assemblage including two abraded sherds in Oxfordshire Red Colourcoat fabric (c. AD 240-400), one each from a Moselkeramik beaker (c. AD 200-275), a Lower Nene Valley Colour-coat beaker, a CAM 306 bowl, a BB1 cooking-pot and an Oxfordshire Whiteware M17 mortarium (c. AD 240-400)

Pit and posthole Group 894 in Area C2 had 102 sherds (2538g) of pottery of which the best assemblages came from the fills of Pit [5420] (Context [5419]) and [5372] (Context [5373]). The 70 sherds from Pit [5420] include 14 large, fresh fragments in BB1 fabric from a cavetto-rim cooking-pot (c. AD 200-300), an incipient-beaded-and-flanged bowl (c. AD 210-290), a developed example (c. AD 270-300) and a straight-sided dish (c. AD 220-300). A similar number of fresh sherds from jars of Monaghan's types 3H5.2 and 3H8.1 (c. AD 150-300 and c. AD 180-230 respectively) are also present as are fragments from an imported Sponge ware bowl (c. AD 250-400), a Hadham Oxidised ware face pot (c. AD 250-300/400), a LNVCC pentice beaker (c. AD 250-370), an Oxfordshire Red Colour-coat C51 bowl (c. AD 240-400) and a CAM306 bowl (c. AD 200-350). This pit was almost certainly in use during the last quarter of the 3<sup>rd</sup> century AD. The 25 sherd assemblage from Pit [5372] is less closely datable but includes 3<sup>rd</sup> century AD sherds and a post-AD 250 sherd in Hadham Oxidised fabric: a c. AD 250-270 date seems likely.

The pits of Group 847 in Area E3 (with the exception of Pit [9778]) failed to yield significant pottery assemblages: the small amounts of material from Pits [10599] (4 sherds), [9570] (38 sherds) and [9641] (33 sherds), and Gully [9611] (24 sherds) do, however, suggest an Early-to-Mid 3<sup>rd</sup> century AD date for these features. The fills of Pit [9778] (Contexts [9776] and [9777]) produced a more substantial 189 sherds (4745g) of pottery: most of the fragments fall within the period c. AD 170-200/250, with the latest fragments from a BB1 straight-sided dish (c. AD 200-270) and a Moselkeramik beaker (c. AD 200-270) suggesting a c. AD 200-250 date for this feature

The successive backfills of the '*temenos*' ditch in Area F2/G2 (Group 21, Contexts [12649], [12681], [12682] and [12683]) contained 103 sherds (3157g) of pottery and suggest that this backfilling took place over a period of time. The lowest fill (Context [12683]) produced 11 sherds of 2<sup>nd</sup> century AD pottery, of which the latest was from a c. AD 140-150 dated East Gaulish Samian Dr18/31 dish. Context [12682] above had 45 sherds of mainly fresh material with a date-range extending into the Early 3<sup>rd</sup> century AD: Context [12681] above [12682] produced a smaller 35 sherd assemblage including five fresh sherds in white/black slip decorated Alice Holt/Farnham greyware from an everted rim jar (c. AD 270-400), a Lyne and Jefferies Type 5B-4 bowl (1979, c. AD 270-330) and a Type 6A-6 dish (c. AD 270-300). These and a fresh fragment from a Type C23 beaker in Oxfordshire Red Colour-coat ware (c. AD 270-400) suggest that Context [12681] was dumped during the last years of the 3<sup>rd</sup> or early years of the 4<sup>th</sup> century AD.

The fills of Ditch Group 346, Area G1 (Contexts [13219], [13255] and [13262]) yielded 15 sherds of pottery of 3<sup>rd</sup> -4<sup>th</sup> century AD character, including fragments from a Moselkeramik beaker (c. AD 200-275), a Lower Nene Valley Colour-coat scale beaker (c. AD 160-300), an Alice Holt/Farnham greyware vessel (c. AD 200-400) and the base from a beaker in Much Hadham greyware (c. AD 250-400).

## Phase 8

Layer Group 534 in Area A produced 281 sherds (6372g) of pottery, much of which was abraded. Most of the assemblage can be dated no more closely than c. AD 270-400 but the fact that Alice Holt/Farnham greywares account for as much as 28% of the assemblage indicates that dumping must have taken place after AD 300: the abraded nature of much of the Alice Holt and other Late Roman pottery would suggest an even later date. This later date is supported by fresh fragments from an LNVCC flagon of a type dated c. AD 270-400 but, in this author's experience, more common after AD 350.

Pit [1567] in Area A and containing the inscription also yielded 28 sherds of pottery, including the greater part of a painted Oxfordshire Red Colour-coat flagon of type C14.2 (c. AD 350-400+): the rest of the sherds are residual. This looks like a Late 4<sup>th</sup> century AD ritual deposit.

A somewhat small but fresh pottery assemblage came from the Group 606 dumping in Area B1 (Contexts [2694], [4068] and [4322]). The 47 sherds making up this group assemblage include fresh sherds from two BB1 beaded-and-flanged bowls (c. AD 240-300), an obtuse-latticed cooking-pot in the same fabric (c. AD 280-350), a beaker in Hadham Oxidised ware (c. AD 250-370) and a Type 1A.17 liquid storage jar in AHFA fabric (c. AD 270-300). This suggests somewhat earlier dumping during the last years of the 3<sup>rd</sup> or early years of the 4<sup>th</sup> century AD.

The foundations for the major Roman building in Area B2 were cut through layers with building material (Groups 966 and 968). Most of these contexts are lacking in pottery but Context [2727] in Group 968 produced 47 sherds (1199g) including fragments of Alice Holt/Farnham ware (c. AD 270-400+), a type C97 mortarium in Oxfordshire Red Colour-coat fabric (c. AD 240-400+), a BB1 jar and a Late Roman Grog-tempered ware example (c. AD 270-400+). Late Roman Grog-tempered wares become more common in London as the 4<sup>th</sup> century AD progresses suggesting that the building may have been constructed during the 2<sup>nd</sup> quarter of the 4<sup>th</sup> century or later. This is supported by another small assemblage from the Group 966 Context [2670] which includes sherds from two rilled jars in Overwey/Portchester D fabric (c. AD 330-420+).

Ditch [5413] in Group 193, running parallel with the *temenos* boundary wall in Area C1, produced 91 sherds (1565g) of pottery, the latest of which are fragments from Alice Holt/Farnham greyware forms 3B.10 (c. AD 270-400+), 5B.4 (c. AD 270-330), 5B.8 (c. AD 270-400+) and 6A.4 (c. AD 270-370), as well as a dog-dish in BBS fabric (c. AD 250-350) and a beaker in Much Hadham Oxidised ware (c. AD 240-400). Where more closely datable than to the Late Roman period in general, the sherds suggest an Early 4<sup>th</sup> century AD date for this assemblage.

The fills of north-west to south-east running Ditch [5329] in Area C2 (Group 886) yielded 384 sherds (11812g) of pottery: much of this is residual but the latest sherds include fragments from a dish of type 6C.1 and a bowl of type 5B.4 in Alice Holt/Farnham greyware (c. AD 330-400 and c. AD 270-330 respectively), incipient-beaded and developed beaded and flanged bowls in BB1 fabric (c. AD 210-290 and c. AD 270-300), a bead-rim beaker in Lower Nene Valley Colour-coat fabric (c. AD 250-370), a type C52 bowl in Oxfordshire Red-Colour-coat fabric (c. AD 350-400) and two CAM306 bowls (c. AD 200-350). This ditch appears to have stayed in use from the late 3<sup>rd</sup> to the end of the 4<sup>th</sup> century AD.

The various dumps making up layer Group 512 in Area F1 (Contexts [11349], [11483], [11660], [11706] and [11740]) had 204 sherds (5658g) of pottery. There is a fairly large residual element and most of the Late Roman sherds cannot be dated any more closely than c. AD 240/70-400: Context [11660] did, however, yield two fresh sherds from a jar in Harrold Shell-tempered ware which should be later than AD 300 and indicate that these layers were deposited during the 4<sup>th</sup> century AD.

The fills of Ditch Group 16=104, which traversed Areas F2/G2 and G3 yielded a mere 49 sherds of pottery. Most of these sherds are not closely datable but they include two fragments from Alice Holt/Farnham greyware cooking pots (c. AD 270-400).

## Phase 9

The pottery assemblages of this phase tend to be small, scrappy and abraded and in most cases residual: there are, however, a few exceptions.

An east-west ditch of this phase in Area A, Ditch 959=980 Group 275, yielded 37 fairly fresh sherds, including from a late 4<sup>th</sup> century AD Mayen ware jar, an Oxfordshire Red Colour-coat bowl of type C81 (c. AD 300-400), a closed form in Lower Nene Valley Colour-coat fabric (c. AD 270-370) and a Late Roman Grog-tempered everted rim jar (c. AD.270/350-420+). The make-up for a very late gravel surface elsewhere in Area A, Group 289, produced 58 more sherds, including two from a type 1C-6 Alice Holt storage jar (c. AD 330-400+) and a fragment from another Mayen ware jar (c. AD 350/70-400).



A concentration of small pits and postholes, Group 956, representing squatting in the central room of the now disused building in Area B2 produced 17 sherds of pottery. Most, if not all, of these sherds are abraded and clearly residual: they include two small fragments each from Oxfordshire Red Colour-coat bowls and Alice Holt/Farnham greyware closed forms. Eleven more small broken-up sherds came from a late hearth, Pit [2118], within the same building and include eight further fragments in Alice Holt/Farnham greyware.

The wall robbing trenches for this disused building in Areas B1 and B2 produced a mere 44 sherds of abraded pottery. This abraded material includes sherds in Alice Holt/Farnham greyware and Oxfordshire Red Colour-coat fabric, suggesting that the wall robbing may have taken place as late as the medieval period.

The fills of Ditch Group 1013 in Area E2 produced a very interesting 406 sherd (6688g) assemblage. The lower fill of ditch [8394], context [9169], had 46 sherds of pottery, of which 34 fragments are clearly residual: of the contemporary sherds, seven are in Alice Holt/Farnham greyware of post-AD 270 and probably 4<sup>th</sup> century date, two from a Hadham Oxidised beaker and two from a Lower Nene Valley Colour-coat flagon and beaker. The secondary fill, context [8393], yielded 321 sherds, of which about a third could be said to be residual. The rest includes fragments from C52 and C84 bowls in Oxfordshire Red Colour-coat fabric (c. AD 350-400), a German Marbled Ware flagon (c. AD 350-400) and a Mayen ware dish and jar (c. AD 370-400). This feature appears to have received rubbish dumping throughout the 4<sup>th</sup> century and possibly into the earliest years of the 5<sup>th</sup> century. This Group is currently in Phase 8 and needs rephrasing to Phase 9.

Ditch Group 1006 in Area E2 is stratigraphically later than Ditch Group 1013 and yielded 87 sherds of Late Roman pottery: these include sherds from a rilled amphora, a German Marbled Ware flagon (c. AD 350-400), a Mayen ware dish (c. AD 370-400+) and two fresh handmade jar sherds in sand-tempered fabric. These latter and the amphora sherd suggest a post-AD 370 date, with the stratigraphy indicating a probable post AD 400 date for this feature.

The 29 sherds from Context [10554] in the fills of the largely contemporary wall robber cut Group 1005 in Area E2 are largely made up of 11 fragments from a horizontally-rilled amphora and 17 from an oxidised handmade jar of ?5<sup>th</sup> century AD date: the other fills (Contexts [10553] and [10555]) were aceramic.

A very late ?Sub-Roman ground horizon in Areas E3 and E4 (Groups 760 and 765) produced 150 sherds (4129g) of pottery, including a fresh sherd from a handmade jar in Late Roman West Kent Grog-tempered ware (c. AD 270-420+) and eight more sherds in handmade sandy greyware of uncertain origin and possible early 5<sup>th</sup> century AD date.

Ditch [9860] (Group 838) is cut from the same level in Area E3 and yielded 112 sherds (1875g) of 4<sup>th</sup> century AD pottery from its various fills (Contexts [9900], [9924], [9913] and [9859]). Some of these sherds are abraded and probably residual but the fresh fragments include two from a handmade Late Roman grog-tempered jar (c. AD 270-400+) and five from Oxfordshire Red Colour-coat bowl forms C51 (c. AD 240-400+), C55 (c. AD 240-400+) and C79 (c. AD 340-400+). The fill of Pit [10130] cutting this ditch (Context [10129]) produced 27 abraded and very abraded Late Roman sherds including one from a dish in Hadham Black Surfaced ware (c. AD 350-400+): all of these sherds are residual in their context, which is otherwise aceramic. The 105 sherds from destruction horizon Group 837 above these features are mainly 4<sup>th</sup> century AD in date and include sherds from a German Marbled Ware flagon (c. AD 350-400), a Mayen Ware jar (c. AD 370-400+) and a handmade Late Roman Grog-tempered ware cooking-pot.

Layer Group 90 in Areas F1 and F2/G2 yielded 250 sherds (6763g) of mainly residual pottery but including assemblages with fresher fragments from Contexts [11523] (113 sherds) and [11754] (16 sherds). Much of the pottery from Context [11523] is abraded, including all of the 46 sherds in Alice Holt/Farnham greyware: these abraded sherds include a fragment from a c. AD 350-400+ dated Class 1A storage vessel. The few fresh sherds include two fragments from a necked jar in handmade grog-tempered ware (c. AD 370-400+) and another from a handmade ?post-AD 400 sand-tempered jar. Other, slightly abraded, sherds include those from a rilled jar in Overwey/ Portchester D fabric (c. AD 330-420), a

Type C84 bowl in Oxfordshire Red Colour-coat fabric (c. AD 350-400+) and a Pink Grog-Tempered Ware storage-jar from the Towcester area. The latter two are dated c. AD 270-400 but tend to be more common in London after AD 350. The small abraded 10 sherd assemblage from Context [11698] includes a fragment from an Oxfordshire Red Colour-coat bowl with a rosette stamp (c. AD 350-400+). The indications are that Group 90 was deposited during the early 5<sup>th</sup> century AD.

Another ditch, Group 489, in Area F1 is of approximately the same date as Layer Group 90 and yielded a further 57 sherds of Late 4<sup>th</sup> century AD pottery. These include fragments from a storage jar, a type 8-11 flagon (c. AD 270-400+) and a type 6C-1 dish (c. AD 330-400+) in Alice Holt/Farnham greyware, two fragments from a horizontally-ribbed jar in Overwey/ Portchester D fabric (c. AD 330-420+), a fresh sherd from a Mayen ware cooking-pot (c. AD 350/70-400) and two fragments from Late Roman Grog-tempered ware jars (c. AD 270-420+).

Ditch Group 334 truncated Layer Group 90 in Areas F1 and F2/G2 and produced 99 sherds of Late 4<sup>th</sup> century AD pottery, including five more sherds from a type 1C-6 Alice Holt storage jar (c. AD 330-400+), three fresh sherds from horizontally-ribbed jars in Overwey/ Portchester D fabric (c. AD 330-420+) and two pieces from Harrold Shell-tempered jars (c. AD 300-400+). An abraded fragment from a beaded-and-flanged bowl in Canterbury Grog-tempered ware is also present (c. AD 370-420+), the dates for which and the condition of the sherd suggest an early 5<sup>th</sup> century AD date for elements in the assemblage. Fragments from other beaded-and-flanged bowls in Canterbury Grog-tempered ware are known from other post-AD 400 pottery assemblages at Hunt House, Southwark (Lyne 2002) and Verulamium (Lyne 2006).

Pit Group 487 in Area F1 is contemporary with Ditch Group 334 and comprises Pits [11430], [11496], [11495], [11504], [11423], [11388], [11392], [11429], [10297] and [11225], Ditch [11336] and Posthole [11235]. Of these, Pits [11423], [11392], [11429] and [11225] were aceramic, as was Posthole [11225]. Pit [10297] yielded the largest pottery assemblage in this group (93 sherds, 2781g), including fragments from Alice Holt/Farnham greyware dish form 6A-8 (c. AD 350-400+), a necked jar in West Kent Grog-tempered Ware (c. AD 350-420), a LNVCC beaker in thick-walled late fabric (c. AD 350-400+) and a thin-walled storage-jar in oxidised sandy ware similar to an example from the 5<sup>th</sup> century AD building at the unpublished Batten Hanger, Chilgrove villa site in West Sussex. Five of the seven sherds from the fill of Pit [11495] (Context [11496]) are abraded and include the base of a Mayen ware jar (c. AD 370-400+). This pit was, in turn, cut by Pit [11430], the four sherds from which include a high-fired fragment of a jar in what may just possibly be E ware of 6<sup>th</sup> century date.

## **Recommendations**

It is recommended that all of the pottery assemblages referred to above be written up with an estimated 250 pot drawings. Those from the peat horizon, ditches, pits and construction and occupation of the various buildings should be discussed in detail with quantification tables where appropriate: the reporting on the assemblages from ground make-up dump groups should concentrate on the latest sherds from the assemblages with the rest of the material dealt with cursorily.

The various post-AD 370/400 dated assemblages are very important and should be written up in detail with particular attention paid to levels of wear on the sherds and the handmade wares: all of the diagnostic sherds in the latter group of wares should be drawn. I propose using the same methodology as I applied to the 5<sup>th</sup> century assemblages from the Whitefriars site in Canterbury with tables showing levels of wear set against the various fabrics and numbers of sherds and their weights per fabric in order to determine levels of comminution.

A few residual Roman sherds are of interest in their own right and will need to be drawn: these include a single very large fragment from a face pot in Hadham Oxidised fabric from shallow cut (Context [13609]) in Area G1.

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## APPENDIX 2: POST-ROMAN POTTERY ASSESSMENT

By Berni Sudds and Chris Jarrett

### Quantity

Total number of boxes: c. 300 boxes.

Total sherd count: 21,141 sherds.

Total number of contexts producing pottery: 1017 contexts.

### Methodology

The Museum of London Archaeology Specialist Service's pottery type codes have been used to classify the ceramics. The material was quantified for each context by fabric, vessel form and decoration using sherd count (with fresh breaks discounted). Estimated vessel numbers were quantified for only the larger, well-stratified context assemblages, a total of 573 groups, representing 15,403 sherds and 7,168 vessels. Examples of the fabrics can be found in the archives of PCA and/or the Museum of London. A ceramic database cataloguing these attributes has been generated using Microsoft Access.

The bulk of the assemblage was quantified by Berni Sudds and Chris Jarrett, post-Roman ceramic specialists within PCA, although part of the medieval assemblage was processed by Meredith Wiggins, a post-graduate student studying at the Institute of Archaeology, University of London, in fulfilment of her Masters dissertation (Wiggins 2005).

A list of provisional dates for the pottery within the contexts is provided in appendix 1 (Table 7). The **Date range** is the earliest date for the earliest material within the context and the latest date of the latest material in the context. The **Latest Date** is the range for the latest dated pottery type and the **Spot Date** is the suggested date of deposition for the pottery in the context based solely upon the pottery. The provisional phase of each context and the size of the associated assemblage, by sherd count, is also listed.

### Condition of the Pottery

As to be expected in an assemblage of this size, recovered from a wide range of deposits the condition of the pottery is greatly variable. Of the 1017 contexts the majority (873) contained small assemblages of up to 30 sherds. A total of 101 groups were of medium size producing between 31 and 100 sherds and 25 were large, containing over 101 sherds. Eighteen of the context assemblages were very large, comprised of multiple boxes. It is important here to distinguish between size and condition. Although large some groups, namely those with a correspondingly high number of minimum vessels, are not necessarily in good condition. Indeed, general dump layers, aside from producing large quantities of pottery useful for general fabric statistics and trends, are not as reliable in reflecting the nature of activity taking place in the vicinity at a specific point in time as the moderately sized sealed groups with a lower minimum number of vessels high level of completeness.

Continued exploitation of the site has given rise to a quantity of both residual medieval and post-medieval material.

### The pottery

A breakdown of the post-Roman pottery assemblage by period is presented in Table 1. As sherd count represents the only consistently recorded variable this is the only method of quantification used for comparative purposes throughout this report.

Phase	Total sherd count	% of sherd count
Saxon	6	-
Medieval	2694	13%
Medieval/ Post-medieval	417	2%
Post-medieval	18020	85%
Undated	4	-

Table 1: Breakdown of the assemblage by period.

## Saxon pottery

There are a total of six sherds of pottery that have characteristics of the Early Saxon period (c. AD 400-650). No forms can be identified with the sherds. One sherd has bone inclusions (ESBO), an Early Saxon potting tradition now being recognised in the Thames valley, and another thick walled sherd is grog tempered (ESGR), while a further four sherds are sand-tempered and given the provisional code of ESAN, but require further sub-division.

Early Saxon pottery is rare in Southwark, being present to the east at Bermondsey Abbey, but also near by and to the west on the Roman cemetery site at Lant Street (Jarrett forthcoming).

## Medieval pottery

The pottery types present, their date range and the number of sherds recovered are shown in Table 2. The majority are well paralleled in London but there are also 82 sherds of pottery from some 50 vessels that remain provisionally unsourced.

Of these six sherds represent greywares and another three sherds possibly Roman greywares. One sherd may be an uncommon London area Late Saxon gritty fabric and five sherds are of early medieval appearance. Two of the latter group have grog-tempering and include a pitcher form, whilst a further example may originate from Surrey, indicated by the iron-stained inclusions. Another sherd from this group has sparse shell tempering and there is also an atypical imported red painted ware.

The unsourced high medieval wares include 25 unusual greywares, including three possibly from Kent and another of unknown origin with white-slip and green-glaze decoration. Eight sherds are oxidised sandy wares and may be London-type ware variants or from either Essex or Kent. Two other sherds may be from the Low Countries and include a slip-decorated vessel. Seven sherds are only defined temporarily as sand-tempered wares whilst unsourced white earthenwares are represented by eight sherds and may include Surrey whiteware variants. Seventeen sherds have a Kentish Weald appearance to their fabric, two of which are glazed.

Fabric code	Common name/expansion	Date range	No
ANDE	Andenne-type ware	1050-1200	1
CBW	Coarse Surrey-Hampshire border ware	1270-1500	347
CBW BIF	Coarse Surrey-Hampshire border ware cooking pot with bifid rim	1380-1500	15
CBW CIST	Coarse Surrey-Hampshire border ware bung-hole jug	1340-1500	56
CBW FT	Coarse Surrey-Hampshire border ware cooking pot with flat-topped rim	1340-1500	9
CBW HD	Coarse Surrey-Hampshire border ware in the highly decorated style	1270-1350	1
CBW LGR	Coarse Surrey-Hampshire border ware large rounded jug	1340-1500	31
CEM36	CAT: N/W Kent shelly-sandy ware	1100-1250	1
CHEA	Cheam whiteware	1350-1500	115
CHEA BAR	Cheam whiteware barrel-shaped jug	1430-1500	35
CHEA BIF	Cheam whiteware cooking pot with bifid rim	1440-1500	3
CHEA FT	Cheam whiteware cooking pot with flat-topped rim	1350-1440	1
EARL	Earlswood-type ware	1200-1400	11
EMCH	Early medieval chalk-tempered ware	1050-1150	2
EMGR	Early medieval grog-tempered ware	1050-1150	5

<b>Fabric code</b>	<b>Common name/expansion</b>	<b>Date range</b>	<b>No</b>
EMGY	Early medieval gritty ware	1080-1200	3
EMIS	Early medieval Surrey iron-rich sandy ware	1050-1150	12
EMS	Early medieval sandy ware	970-1100	100
EMSH	Early medieval shell-tempered ware	1050-1150	105
EMSS	Early medieval sand- and shell-tempered ware	1000-1150	78
ESHER	Early south Hertfordshire-type coarseware	1050-1200	2
ESUR	Early Surrey ware	1050-1150	16
FKING	Fine Kingston-type ware	1320-1400	3
KING	Kingston-type ware	1240-1400	320
KING ANT	Kingston-type ware with anthropomorphic/zoomorphic decoration	1240-1350	1
KING HD	Kingston-type ware in the highly decorated style	1240-1300	12
KING PELL	Kingston-type ware with pellet decoration	1270-1350	1
KING POLY	Kingston-type ware with polychrome decoration	1240-1300	2
KINGSL	Kingston-type slipware	1250-1400	1
LARA	Langerwehe/Raeren stoneware	1450-1500	4
LCOAR	Coarse London-type ware	1080-1200	110
LCOAR CALC	Coarse London-type ware with calcareous inclusions	1080-1200	2
LCOAR SHEL	Coarse London-type ware with shell inclusions	1080-1200	1
LIMP	Limpsfield-type ware	1150-1300	13
LLON	Late London-type ware	1400-1500	59
LLSL	Late London-type slipware	1400-1500	7
LMHG	Late medieval Hertfordshire glazed ware	1340-1450	16
LOGR	London-area greyware	1050-1170	9
LOND	London-type ware	1080-1350	337
LOND BAL	London-type ware baluster jug	1180-1350	10
LOND BOT	London-type ware bottle	1270-1350	2
LOND DJ	London-type ware drinking jug	1270-1350	2
LOND EAS	London-type ware with early style decoration	1140-1200	5
LOND HD	London-type ware in the highly decorated style (including anthropomorphic/zoomorphic)	1240-1350	33
LOND NFR	London-type ware with north-French style decoration	1180-1270	10
LOND POLY	London-type ware with polychrome decoration	1240-1350	1
LOND ROU	London-type ware with Rouen-style decoration	1180-1270	13
LOND TUL	London-type ware tulip-necked baluster jug	1270-1350	10
LOND WSD	London-type ware with white slip decoration	1240-1350	8
MCS	Coarse medieval sandy wares	1140-1300	2
MG	Mill Green ware	1270-1350	9
MG WSD	Mill Green ware with white slip decoration	1290-1350	1
NORM	Normandy gritty ware	1050-1250	1
REDP	Red-painted ware	900-1250	5
REDP BUF	Red-painted ware with buff fabric	900-1250	2
SAIG	Saintonge ware with even green glaze	1280-1350	6
SAIM	Saintonge ware with mottled green glaze	1250-1650	8
SAIP	Saintonge ware with polychrome decoration	1280-1350	3
SCAR	Scarborough ware	1200-1350	2
SHER	South Hertfordshire-type greyware	1170-1350	438
SHER COAR	Coarse south Hertfordshire-type greyware	1170-1350	3
SHER FL	South Hertfordshire-type flint-tempered greyware	1170-1350	4
SIEB	Siegburg stoneware with iron wash	1450-1550	4
SSW	Shelly-sandy ware	1140-1220	146
STAM	Stamford-type ware	1050-1150	3
SYSH	Surrey shell-tempered ware	1000-1300	2
THET	Ipswich/Thetford-type ware	900-1100	1
TUDG	'Tudor green' ware	1350-1500	21

Table 2: Medieval pottery

## Medieval/Post-medieval pottery

Pottery types produced across the arbitrary transition from the medieval to post-medieval period are shown in Table 3. Again the majority can be well paralleled with unsourced wares spanning the 15<sup>th</sup> to 16<sup>th</sup> centuries being represented by just seven sherds. These have a transitional appearance, being very high fired and dissimilar in technology and appearance to the typical contemporary London products.

Fabric code	Common name/expansion	Date range	No
CUENCA	Cuenca ware	1400-1600	1
DUTR	Dutch red earthenware	1300-1650	222
DUTSD	Dutch slip-decorated red earthenware (Utrecht-type)	1400-1550	9
DUTSG	Dutch slipped red earthenware with sgraffito decoration	1450-1550	7
DUTSL	Dutch slipped red earthenware	1300-1650	55
LANG	Langerwehe stoneware	1350-1550	4
MISC IMP	Miscellaneous imported wares	900-1900	2
MISC WW	Miscellaneous whitewares	900-1900	1
MORAN	Midlands late medieval orange ware	1400-1820	56
MPUR	Midlands purple ware	1400-1750	29
SAIN	Saintonge ware	1250-1650	6
SIEG	Siegburg stoneware	1300-1630	12
SPAM	Merida-type micaceous ware	1270-1650	2
SPGR	Spanish green-glazed ware	1250-1650	4
SPOW	Miscellaneous unsourced Spanish wares	1250-1900	4

Table 3: Medieval/post-medieval wares

## Post-medieval pottery

The extensive range of post-medieval pottery types identified on site are listed in Table 4. Given the size of the assemblage the broad range of fabric types, most of which occur frequently in London, is perhaps to be expected. Additionally there are 80 sherds, representing some 30 vessels that cannot be readily provenanced. Nine sherds may be Roman in date, six of which derive from an internally glazed jar, unusual for the Roman period. Three sherds are in buff-coloured fabrics and another one is an unsourced whiteware fabric. There is also a flat lid in a very distinctive coarse-tempered fabric superficially resembling Peninsular House ware.

Two sherds in a hard, high fired, fine fabric also remain unsourced although one has calcareous inclusions and three further sherds are defined only as sand-tempered wares. There is also a single sherd of a possible self-glazed fabric with organic temper, which might be from a bell mould or was perhaps used for casting some other metal object. Sixteen sherds can be broadly categorised as oxidised sandy wares and include a bottle and a dish with a complex slip-trailed design, possibly from Kent. Four sherds may be in North Kent Tudor ware whilst seven other sherds may originate from Kent and a further fifteen sherds have a Kentish Wealden appearance.

Three of the unsourced sherds are atypical stoneware fabrics and amongst the possible imported wares are six sherds that may be Spanish or Iberian in origin and the pulled foot of a colander in a Continental earthenware. Finally, one sherd may represent an imported frit ware, possibly from the Middle East.

Fabric code	Common name/expansion	Date range	No
AGAT	Agate ware	1730-1780	13
ANDAL	Andalusian tin-glazed ware	1480-1550	1
ANDCO	Andalusian coarseware	1700-1800	1
BBAS	Black basalt stoneware	1770-1900	35
BBASG	Black basalt stoneware with glaze	1770-1880	1
BEAG	Beauvais green-glazed ware	1500-1600	7
BEAU	Beauvais sgraffito ware	1500-1630	1

<b>Fabric code</b>	<b>Common name/expansion</b>	<b>Date range</b>	<b>No</b>
BEAU POLY	Beauvais polychrome ware	1500 -1600	4
BEAU1	Beauvais single sgraffito ware	1500 -1630	12
BEAU2	Beauvais double sgraffito ware	1500 -1630	6
BEAY	Beauvais yellow-glazed ware	1500 -1600	4
BLACK	Blackware	1600 -1900	29
BORD	Surrey-Hampshire border whiteware	1550 -1700	33
BORDB	Surrey-Hampshire border whiteware with brown glaze	1600 -1700	63
BORDG	Surrey-Hampshire border whiteware with green glaze	1550 -1700	887
BORDG CHP2	Surrey-Hampshire border green-glazed whiteware flat-rimmed chamber pot	1650 -1750	98
BORDO	Surrey-Hampshire border whiteware with olive glaze	1550 -1700	478
BORDY	Surrey-Hampshire border whiteware with yellow glaze	1550 -1700	1070
BORDY SL	Surrey-Hampshire border whiteware with yellow glaze and slip-trailed decoration	1550 -1700	1
BRILL	Brill red earthenware	1550 -1800	2
CHEAR	Cheam redware	1480 -1550	6
CHPO BW	Chinese blue and white porcelain	1590 -1900	123
CHPO IMARI	Chinese Imari porcelain	1680 -1900	22
CHPO MING	Chinese porcelain with late Ming-transitional decoration	1570 -1644	2
CHPO ROSE	Chinese porcelain with famille rose decoration	1720 -1800	44
CHPO VERTE	Chinese porcelain with famille verte decoration	1690 -1730	6
CLM34B	CAT: Medway hard silty sandy ware with calcareous inclusions	1450 -1550	2
CLM37	CAT: Medway (Maidstone) fine calcareous sandy ware	1525 -1575	1
COLP	Columbia plain tin-glazed ware	1500 -1600	1
CPM64	CAT: N/W Kent fine calcareous ware	1550 -1725	15
CREA	Creamware	1740 -1830	57
CREA BAND	Creamware with slip trailed banded decoration	1797 -1830	4
CREA DEV	Creamware with developed pale glaze	1760 -1830	657
CREA EAR	Early Creamware	1750 -1770	4
CREA GRN	Green-glazed Creamware	1760 -1830	5
CREA MARB	Marbled Creamware	1770 -1830	1
CREA PNTD	Creamware with polychrome painted decoration	1760 -1800	6
CREA TORT	Creamware with tortoiseshell glaze	1740 -1770	5
CSTN	Cistercian ware	1480 -1600	15
DERBS	Derbyshire stoneware	1700 -1900	20
DTGW	Dutch tin-glazed ware	1512 -1800	23
EBORD	Early Surrey-Hampshire border whiteware	1480 -1550	21
ENGS	English stoneware	1700 -1900	9
ENGS BRST	English stoneware with Bristol glaze	1830 -1900	19
ENPO BW	English porcelain with under-glaze blue painted decoration	1745 -1830	5
ENPO HP	English hard paste porcelain	1780 -1900	187
ENPO OTR	English porcelain with over-glaze transfer-printed decoration	1755 -1800	2
ENPO PNTD	English porcelain with over or under-glaze polychrome painted decoration	1745 -1900	23
ENPO UTR	English porcelain with under-glaze blue transfer-printed decoration	1760 -1900	2
ENPO WORC BLTR	Worcester porcelain with under-glaze blue transfer-printed decoration	1765 -1900	1
FREC	Frechen stoneware	1550 -1700	571
KOLFREC	Cologne or Frechen stoneware	1550 -1580	24
KOLS	Cologne stoneware	1500 -1580	5
LIGU	Ligurian berettino tin-glazed ware	1520 -1700	2
LONS	London stoneware	1670 -1926	1587
MAJO	Majolica	1850 -1900	44
MART1	Martincamp-type ware type I flask (buff earthenware)	1480 -1550	4
MART2	Martincamp-type ware type II flask (dark brown stoneware)	1500 -1600	16
MART3	Martincamp-type ware type III flask (red earthenware)	1600 -1650	12
METS	Metropolitan slipware	1630 -1700	171
MLTG	Montelupo polychrome maiolica	1500 -1700	11
MOCH	Mocha ware	1780 -1900	1
MY	Midlands yellow ware	1550 -1700	3



<b>Fabric code</b>	<b>Common name/expansion</b>	<b>Date range</b>	<b>No</b>
NDGT	North Devon gravel-tempered ware	1600 -1800	1
NHS	North Holland slipware	1570 -1750	2
NIMS	North Italian marbled slipware	1600 -1750	5
NIMS BICR	North Italian bichrome marbled slipware	1600 -1750	1
NIMS POLY	North Italian polychrome slipware	1600 -1750	4
NNTG	North Netherlands maiolica	1550 -1600	2
NORS	Normandy stoneware	1550 -1800	3
NOTS	Nottingham stoneware	1700 -1800	25
OLIV	Spanish olive jar	1550 -1750	1
PEAR	Pearl ware	1770 -1840	20
PEAR BW	Pearl ware with under-glaze blue painted decoration	1770 -1820	124
PEAR OTR	Pearl ware with over-glaze transfer-printed decoration	1770 -1800	1
PEAR POLY	Pearl ware with under-glaze polychrome painted decoration	1790 -1820	59
PEAR SLIP	Pearl ware with industrial slip decoration	1775 -1840	6
PEAR TR	Pearl ware with under-glaze transfer-printed decoration	1770 -1840	127
PEAR TR2	Pearl ware with type 2 blue transfer-printed decoration (stipple and line)	1807 -1840	1
PEAR TR3	Pearl ware with type 3 transfer-printed decoration (brown or black)	1810 -1840	12
PEN	'Peninsula House' ware	1650 -1700	2
PMBL	Post-medieval Essex black-glazed redware	1580 -1700	312
PMBR	London-area post-medieval bichrome redware	1480 -1600	7
PMCR	Post-medieval crucible	1480 -1900	2
PMFR	Post-medieval fine redware	1580 -1700	602
PMFRB	Post-medieval fine redware with brown glaze	1580 -1700	29
PMFRG	Post-medieval fine redware with green glaze	1580 -1700	29
PMR	London-area post-medieval redware	1580 -1900	2772
PMRE	London-area early post-medieval redware	1480 -1600	904
PMREC	London-area early post-medieval calcareous redware	1480 -1600	3
PMREM	London-area early post-medieval redware with metallic glaze	1480 -1600	40
PMRO	London-area early post-medieval redware with organic inclusions	1580 -1900	9
PMRST	London-area post-medieval slip-trailed redware	1600 -1800	2
PMSL	London-area post-medieval slip-decorated redware	1480 -1600	9
PMSR	London-area post-medieval slipped redware	1480 -1650	41
PMSRG	London-area post-medieval slipped redware with green glaze	1480 -1650	335
PMSRY	London-area post-medieval slipped redware with clear (yellow) glaze	1480 -1650	456
RAER	Raeren stoneware	1480 -1610	150
RBOR	Surrey-Hampshire border redware	1550 -1900	1181
RBORB	Surrey-Hampshire border redware with brown glaze	1580 -1800	228
RBORG	Surrey-Hampshire border redware with green glaze	1580 -1800	155
RBORSL	Surrey-Hampshire border redware with slip-trailed decoration	1580 -1800	44
REFR	Refined red earthenware	1740 -1800	8
REFW	Plain refined white earthenware	1805 -1900	259
REFW CHROM	Refined white earthenware with under-glaze painted decoration (chrome colours)	1830 -1900	4
REFW PNTD	refined whiteware with under-glaze painted decoration	1805 -1900	2
REFW SLIP	Refined white earthenware with industrial slip decoration	1805 -1900	18
REST ENG	Red stoneware with engine-turned decoration	1765 -1780	1
RESTG	Glazed red stoneware	1760 -1780	2
RFMS	Relief-moulded white stoneware	1800 -1900	2
ROCK	Rockingham mottled brown-glazed ware	1800 -1900	3
SIEGS	Siegburg salt-glazed stoneware	1500 -1630	7
SLRE	Staffordshire-type slip-trailed redware	1650 -1900	1
SMEAR	Smear-glazed white stoneware	1795 -1900	1
STBL	Staffordshire-type black-glazed ware	1740 -1780	4
STGW	Miscellaneous Spanish tin-glazed ware	1480 -1700	1
STMO	Staffordshire-type mottled brown-glazed ware	1650 -1800	17
STRE	Staffordshire-type redware	1600 -1800	7
STRSB	Staffordshire-type red-slipped glazed ware	1750 -1800	5
STSL	Combed slipware	1660 -1870	202
SUND	Sunderland-type coarseware	1800 -1900	59

<b>Fabric code</b>	<b>Common name/expansion</b>	<b>Date range</b>	<b>No</b>
SUND MOT	Sunderland-type coarseware with a mottled glaze	1775 -1850	5
SWSG	White salt-glazed stoneware	1720 -1780	374
SWSG COB	White salt-glazed stoneware with cobalt and incised decoration	1740 -1780	12
SWSG SCRIB	White salt-glazed stoneware with scratch blue decoration	1740 -1780	1
SWSL	Dipped white salt-glazed stoneware	1710 -1760	12
TGW	English tin-glazed ware	1570 -1846	652
TGW A	Tin-glazed ware with external lead glaze (Orton style A)	1612 -1650	53
TGW B	Tin-glazed ware with manganese-mottled glaze (Orton style B)	1630 -1680	23
TGW BISC	Biscuit-fired tin-glazed ware	1570 -1846	109
TGW BLUE	Tin-glazed ware with plain pale-blue glaze	1630 -1846	269
TGW C	Tin-glazed ware with plain white glaze (Orton style C)	1630 -1846	304
TGW D	Tin-glazed ware with external lead glaze/polychrome painted (Orton style D)	1630 -1680	352
TGW E	Tin-glazed ware with 'sgraffito' on a broad dark blue zone (Orton style E)	1570 -1615	6
TGW F	Tin-glazed ware with 'Chinaman among grasses' decoration (Orton style F)	1670 -1690	23
TGW G	Tin-glazed ware with 'Lambeth polychrome' decoration (Orton and Pearce style G)	1701 -1711	28
TGW H	Tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H)	1680 -1800	234
TGW J	Tin-glazed ware with manganese ground panel decoration	1735 -1770	1
TGW LATE	Late tin-glazed ware	1745 -1846	20
TGW SPNG	Tin-glazed ware with sponged decoration	1700 -1760	4
TPW	Transfer-printed refined whiteware	1780 -1900	260
TPW FLOW	Transfer-printed refined whiteware with 'flow blue' decoration	1830 -1900	10
TPW3	Brown or black transfer-printed refined whiteware (type 3)	1810 -1900	66
TPW4	Transfer-printed refined whiteware with new colour decoration (type 4)	1825 -1900	129
TPW5	Transfer-printed refined whiteware with three colour decoration (type 5)	1848 -1900	3
TPW6	Transfer-printed refined whiteware with under-glaze printed and over-glaze painted decoration (type 6)	1840 -1900	1
VERW	Derwood ware	1600 -1900	4
WERR	Werra slipware	1580 -1650	7
WESE	Weser slipware	1580 -1630	9
WEST	Westerwald stoneware	1590 -1900	27
WEST BIC	Westerwald stoneware biconic panel jug	1600 -1650	2
WEST CHP2	Westerwald stoneware chamber pot with flanged rim	1740 -1760	32
WEST PURP	Westerwald stoneware with purple and blue decoration	1665 -1750	3
WHIST	White stoneware	1790 -1900	1
YELL	Plain yellow ware	1820 -1900	86
YELL SLIP	Yellow ware with industrial slip decoration	1820 -1900	2

Table 4: Post-medieval wares.

A number of interesting, unusual or rare vessels are represented in the assemblage and have been recommended for illustration (see Table 6). Perhaps foremost amongst these in the post-medieval assemblage is a complete five-sided Border ware dish, recovered from a 17<sup>th</sup> century pit (feature [9997]). The vessel is olive-glazed and star-shaped with a shallow, straight-sided profile. No parallel is evident in the Border ware repertoire but a 17<sup>th</sup> century heart-shaped dish was recovered from excavations at Chaucer House, Tabard Street, adjacent to the Long Lane site and approximately 20-30 metres to the south-east of pit [9997] (Pearce 1999, 253-55).

Unusual shaped Border ware dishes are rarely encountered, although the industry is regarded as being quite experimental (J. Pearce *pers comm.*). The proximity of two such unique vessels, both dated to the 17<sup>th</sup> century, is of interest and unlikely to be coincidental. The function of both vessels is ambiguous although they are similar to lobed Border ware dishes from London that are thought to have been used as decorative serving vessels (*ibid.*). Another possibility is that the star-shaped dish once formed the centrepiece of a set of vessels. Documentary research may reveal more information regarding their presence and function.

## Distribution: Discussion of the pottery by phase

A breakdown of the assemblage by phase appears in Table 5. The post-Roman pottery recovered from Phases 2 to 8 is considered to be intrusive or represent contamination. The distribution and dating of the small group of pottery from Phase 9 will require further analysis to determine whether this too represents intrusive material or some of the earliest stratified post-Roman pottery on site.

Phase	Total sherd count	%
Unstratified	184	1%
Phases 2 - 8	238	1%
Phase 9	59	-
Phase 10	1865	9%
Phase 11	6423	30%
Phase 12	6018	29%
Phase 13	5411	26%
Phase 14	943	4%

Table 5: Total sherd count and MNV (Minimum number of vessels) by phase.

### **Phase 10: 10<sup>th</sup> to 15<sup>th</sup> centuries**

The main source of the pottery in this phase is from London (30% by sherd count), followed by Hertfordshire (20%) and then Surrey (10%) with smaller amounts from Surrey-Hampshire and the Thames Valley (13% each). However, medieval white earthenwares are more common (30% by sherd count), followed by greywares (24%) and then red earthenwares (21%). This proportion of wares reflects the taste for fashionable French white earthenware imports at the time as well as the use of greywares for the kitchen. The main fabric type during this phase is South Hertfordshire-type greyware as 227 sherds (12%), which together with London-type wares and Kingston ware (10% each by sherd count), reflect the activity between the late 12<sup>th</sup> and mid 14<sup>th</sup> centuries, whilst Coarse Surrey-Hampshire Border ware (12%) is the main pottery represented in this phase after c. 1350. Imported pottery only accounts for 3% by sherd count, 1% each from France, Germany and the Low Countries.

Functionally the pottery is mostly concerned with drink serving wares, namely jugs, then storage and food preparation or serving wares, but there are relatively few functional categories in this phase, compared to later periods.

Contexts [2955] and [10260] represent fairly large early assemblages dated to the late 12<sup>th</sup> century, the latter group including an unusual South-Hertfordshire greyware form. Other, later groups containing semi-complete forms include context [5418] dated to the early 14<sup>th</sup> century and context [12830] dated from c. 1430 to 1500. A near complete Late medieval Hertfordshire Glazed ware baluster jug from context [12594], decorated with wheatear stamps, represents a more unusual form within London.

### **Phase 11: Late 16<sup>th</sup> to mid 17<sup>th</sup> century**

London products represent the main source of pottery during this period (42% by sherd count), followed by wares from the Surrey-Hampshire borders (30%) and then by wares from Essex and Germany (9% each). The most common type of ware is red earthenware (39%), followed by white earthenware (30%) with slipwares (12%) and stonewares (8%) representing the next most frequent types. The main individual fabrics are Surrey-Hampshire border whitewares (23% by sherd count), Early post-medieval redware (12%) and its later counterpart, Post-medieval redware (11%). Imported wares account for 13% of the pottery in this phase.

Food preparation or serving wares, mostly bowls or dishes, represent the main functional category, followed by drink serving and cooking forms. A small group of industrial vessels are also evident. A few of these occur in a local brickearth fabric with organic temper (PMRO), represented in contexts [700] and [9567], and possibly include an alembic. A crucible (PMCR) with cullet also occurs in deposit [1077] and Local red earthenwares industrial forms are represented by a PMSRG base with a foot stand in [2615] and sugar cone moulds in contexts [4224] and [13309].

There are a number of sizeable well-dated late 16<sup>th</sup> century assemblages from this phase, more than one of which contains a significant quantity of imported, predominantly Dutch pottery ([13]; [922]; [1035]; [9341] and [9567]). There are also a number of large early 17<sup>th</sup> century assemblages that contain fewer imports but are more broadly representative of ceramic consumption during this period ([861]; [2615]; [9133] and [9878]). Context [655], provisionally phased to late 16<sup>th</sup> to early 17<sup>th</sup> century but including a few vessels dating towards the end of the 17<sup>th</sup> century, appears to represent a clearance group.

### ***Phase 12: Mid 17<sup>th</sup> to early 18<sup>th</sup> century***

Pottery from London continues to be the main source of ceramics in Phase 12, representing 58% by sherd count, followed by Surrey-Hampshire border wares, then fabrics from Essex (9%) and Germany (4%). Red earthenwares continue to be the main ware (33% by sherd count), followed by stonewares (27%), white earthenware (17%) and delftware (16%). Only 6% of the pottery is imported and follows a London trend for these wares becoming scarcer in the late 17<sup>th</sup> century. Unusually London stoneware is the most common individual pottery fabric in this phase as 1336 sherds (22%), followed by post-medieval redware (17%), Surrey-Hampshire whitewares and various styles of tin-glazed ware (both 16%). Usually the latter two wares are the more dominant pottery types in the archaeological record for this time, but the whiteware goes out of fashion after c. 1700.

Functionally the pottery is mostly concerned with food preparation or serving, followed by drink serving forms, cooking forms and then hygiene forms, including chamber pots. A small number of industrial vessels are also present mostly in the form of PMR sugar refining vessels found in contexts [140], [197], [424], [478], [501], [503], [772], [3862] and [8406]. Other industrial vessels of an uncertain form occur as PMR in deposit [452], a PMRO handle in [8277] and as an unidentified fabric in [478].

A number of feature assemblages dated to last decades of the 17<sup>th</sup> century have been identified, including three particularly large groups ([656], [772] and [9075]). Context [772] is provisionally dated from c. 1670 to 1700 but includes much material dated to c. 1650 and demonstrates a number of cross-joining vessels to context [861] in the previous phase. The pottery from deposit [9075], also dated from c. 1670 to 1700, includes a fairly high proportion of tygs and drinking forms, perhaps indicating the presence of an inn in the vicinity during this time.

Features dating to the early or mid 18<sup>th</sup> century, occur, or have at least been identified, slightly less frequently than those dated to the late 17<sup>th</sup> century. Large and interesting groups include contexts [105], [176], [215] and [478]. Indeed, the proportionally high London stoneware sherd count for this phase is primarily down to the large number of rounded bottles recovered from layer [176] and associated with the clay tobacco pipe kiln [105]. Many of these bottles, 54 in total (represented by 1267 sherds), are incised on the shoulder with the name 'J. Price', possibly representing a local publican. A very similar London stoneware bottle is illustrated in Oswald inscribed with 'John Price 1724' (1982). It is tempting to think that a link exists, particularly as the remaining pottery from the contexts would tie in with an early 18<sup>th</sup> century date range, but further documentary research is evidently required. Some of the bottles, both within these two groups and recovered from elsewhere on site, demonstrate slight variations in the inscription but all are marked under the glaze and were thus manufactured to order at the pottery.

### ***Phase 13: Mid 18<sup>th</sup> to 19<sup>th</sup> century***

There is a slight change in the relative significance of the varying pottery sources during this phase. Pottery from the London pot houses was still important accounting for 38% by sherd count, but wares from the Midlands increase from 2% in the previous phase to 28% in this one. This reflects the beginning of the nationalisation of ceramic production and consumption in the country, centred around a number of industries including those in Staffordshire. Red earthenwares account for 36% of the phase assemblage, with industrial finewares representing 23%, Surrey-Hampshire border wares 19%, delftware 15% and stonewares 14%. Imported pottery accounts for 4% by sherd count, mostly porcelain. The main fabric represented is post-medieval redware at 18% by sherd count, with Surrey-Hampshire border redware representing 16% and Developed Creamware 12%.

There is a noticeable change in the pottery functions, despite food preparation or serving wares still being important, tea wares and food consumption forms (plates, etc) become more prevalent. These functional categories reflect the changes in social habits and fashion as tea drinking and formalised dining became the norm. Hygiene and sanitary wares still remain important.

Industrial forms are also represented, mostly as sugar refining wares in PMR, found in contexts [236], [237], [273], [439], [7009], [8129], [12140] and [12820]. Other PMR industrial forms include two rare beakers, found in context [439] and possibly [758], and a brazier from [457]. A 'Peninsular House' ware crucible with a slag deposit was also recovered from deposit [7167] and a small number of unidentified industrial forms in a possible Kentish Wealden fabric from contexts [273] and [277].

An interesting London stoneware tankard was found in deposit [7009], stamped with a ram's head and the name 'ROWd ROBINSON', presumably the landlord of a local drinking establishment. Pottery groups with notable quantities of vessels associated with tea and drink serving and food consumption include [13051], dating from 1765 to 1780, [1552] and [12146], spot dated 1800-30, [8129], deposited between 1810-30 and [12116], dated from 1840-60. These assemblages may be associated with either coffee shops/dining rooms. Context [8129] was also notable for containing a large number, 76 in total, of small lids, predominantly from mustard pots but also from teapots and other small ceramic forms. The lids occur in a variety of Staffordshire fabrics, namely Creamware, but also Pearlware, Red stoneware, White salt-glazed stoneware, Black basalt ware, Staffordshire-type black-glazed ware, Blackware, and refined white earthenware. The occurrence of so many lids, apparently without the corresponding vessel, is unusual and requires further consideration.

Other good mid and late 18<sup>th</sup> and early 19<sup>th</sup> century groups include [117], [118], [273], [277], [404], [415], [439], [6026], [7009] and [12140].

#### ***Phase 14: Late 19<sup>th</sup> to early 20<sup>th</sup> century***

Most of the pottery in this phase can only be given a general British source as 94% by sherd count, while only 5% was made in London and less than 1% was made in the Midlands. Of the ware types, 70% are twice fired earthenwares (industrial finewares), 17% are porcelains, 10% are red earthenwares and only 1% is stoneware. Transfer-printed pottery in all fabrics represents the most frequent pottery type, accounting for 45% by sherd count, then hard-paste English porcelain (17%), followed by plain refined whiteware 13%. Local post-medieval redware accounts for just 3% and is mostly in the form of flowerpots. No imported wares are recorded in this phase.

By sherd count the most important functional group are the teawares (35%), followed by forms for food preparation and serving (19%), then other drink serving wares (14%) and food consumption shapes (13%).

Just two groups are provisionally dated to the very end of the 19<sup>th</sup> or early 20<sup>th</sup> century, contexts [9] and [224], representing fills of the same cellar. The pottery assemblage is comprised of multiple services of the same transfer-printed pattern ('Asiatic pheasant' and floral) and rather 'cheap' porcelain tea-services, all in varying colours. A date of 1884 to 1927 is provisionally suggested by the presence of a makers mark on the 'Asiatic pheasant' services (Poulson Brothers). Yellow ware vessels were also identified in the group

that are likely to have been manufactured prior to 1930. The cellar, however, is thought to have been back-filled with what may have been demolition rubble derived from WWII bomb damage.

It is possible the assemblage represents old or discontinued stock stored in the cellar, perhaps sold on infrequently when replacement plates or dishes were required. The Post Office Directories reveal that George Harding & Sons occupied an increasingly significant proportion of the Long Lane frontage that falls within the area of the site (and the cellar) from at least 1895 to 1914. Most interestingly, they appear to have been hardware merchants. The 'Asiatic pheasant' design is thought to have gone out of fashion after the Edwardian period and so perhaps the group really does represent the unsold stock of George Harding & Sons. Clearly more analysis and documentary investigation is required.

### **Discussion and recommendations**

By far the greatest proportion of the assemblage dates to the post-medieval period (85%), derived from a variety of features associated with activity centred largely around residential activity but including, and becoming increasingly representative of the small-scale industrial, retail and consumer services likely to have been operating in vicinity of site. The recovery of a small assemblage of early Saxon pottery is unusual and although apparently intrusive within Roman deposits, suggest the area of site may have been exploited for some purpose during this period. The medieval assemblage, although proportionally small is actually sizeable for the period, particularly in this part of London. Groups as early as the late 10<sup>th</sup> to 11<sup>th</sup> century are evident with continued activity demonstrated through to the 15<sup>th</sup> century and subsequently into the post-medieval period to the present day.

The post-medieval development of the immediate vicinity of site is well attested but the nature and extent of medieval activity is less clear. It was previously thought that the immediate area of site lay beyond the limit of medieval settlement with occupation focused to the north and west (see Archaeological and Historical Background). The size and condition of the medieval assemblage, however, may indicate otherwise including a number of large, well-dated feature assemblages and complete or semi-complete vessels. An analysis of the distribution and dating of this material is required to establish a clearer understanding of the nature of activity represented and how this may have developed over time. Indeed, the importance of the medieval and post-medieval assemblage relies not only upon its size in progressing an understanding of fabric and form development in the capital but also in providing large, sealed group assemblages crucial in building up a picture of the range and intensity of activity in this part of Southwark from the late 10<sup>th</sup> to the 20<sup>th</sup> century.

Any future publication work should be targeted towards answering specific research questions and focused on large, well-dated statistically viable feature assemblages and material of intrinsic interest. The groups not only need to be large but should demonstrate a high level of completeness with a proportionally low minimum number of vessels (MNV). They should also be selected in consultation with other finds specialists as a more holistic approach is desirable whereby all material classes are considered and quantified in conjunction to give a clearer idea of the land use and professions represented. This analysis should also be combined with targeted documentary research.

Groups provisionally recommended for targeted analysis are listed below along with any related research questions.

**Saxon:** The distribution of the small group of early Saxon pottery requires further consideration and needs to be placed in broader context with other contemporary finds in the vicinity.

**Medieval** ([2955], [5418], [10260], [12830]): An analysis of the distribution of the assemblage is necessary in order to establish the level and likely nature of activity throughout the medieval period, looking specifically for any functional zoning.

**Late 16<sup>th</sup> to mid 17<sup>th</sup> century** ([13], [655], [788], [861], [922], [1035], [2615], [9061], [9133], [9341], [9567], [9878]): Further research should focus upon the late 16<sup>th</sup> century feature assemblages containing relatively

high quantities of imported and particularly Dutch pottery. The presence of Dutch immigrants in the vicinity should be sought in the documentary evidence. The reference to a Jan Jonck's house, depicted on Long Lane in the area of site, on a 1540s map may not be coincidental. Targeted analysis of the larger early 17<sup>th</sup> century groups should also be undertaken in order to establish general developments in the consumption of pottery into the new century.

**Mid 17<sup>th</sup> to early 18<sup>th</sup> century** ([105], [176], [215], [478], [656], [772], [9075]): A number of possible feature assemblages dated to the late 17<sup>th</sup> and early 18<sup>th</sup> century may have derived from public houses or inn's, including the large group of stoneware bottles marked with the name 'Price'. The relative distribution of these groups should be plotted and documentary research undertaken, focused towards identifying contemporary establishments in the vicinity and through the victualling licences the names of any inn keepers or landlords.

**Mid 18<sup>th</sup> to late 19<sup>th</sup>/ early 20<sup>th</sup> century** ([9], [117], [118], [224], [273], [277], [404], [415], [439], [1552], [6026], [7009], [8129], [9910], [12116], [12140], [12146], [13051]): As during the previous phase possible public house or inn groups appear to be represented amongst the late 18<sup>th</sup> and 19<sup>th</sup> century assemblages in addition to possible coffee house or dining room assemblages. Further analysis of these groups and targeted documentary research into the presence of any such establishments in the vicinity is therefore recommended. The late 19<sup>th</sup> or early 20<sup>th</sup> century cellar assemblage ([9], [224]) will also require further quantification and research to determine if it is indeed likely to represent the stock of a hardware merchant operating from premises on the site. A fairly large group of late tin-glazed ointment and toothpaste pots, dating to the late 18<sup>th</sup> or early 19<sup>th</sup> century, were also recovered from site. Although these are unstratified the quantity may suggest that a dentist or pharmacy may have been located in the vicinity during this time. Again targeted documentary research, using both directories and census data, may help to prove if this was the case.

Unusual fabrics and forms, irrespective of phase or stratification will require further research. To this end consultation with possibly more than one external specialist will be required, including Lyn Blackmore and Jacqui Pearce at the Museum of London Specialist Services. The provisionally high proportion of fabrics possibly originating from Kent, more than normally detected on London sites, is of particular interest. These fabrics will require verification, probably by John Cotter or Lyn Blackmore, and the reason for their presence, perhaps linked to the sites proximity to the major route from London to Dover, discussed in more detail. The small assemblage of industrial vessels identified will also require further analysis and the presence of any associated industry in the vicinity sought in the documentary evidence.

A list of the vessels requiring either illustration or photography is presented below in Table 6. A total of 168 vessels are recommended for pictorial representation in publication as they either represent new or unusual forms or are part of an intrinsically interesting group. At least 50 of these are to be photographed in a group shot, reducing the number of illustrations to c. 118.

Fabric	Form	Number of vessels	Contexts
ANDAL	Jug	1	[7527]
BEAU1: BEAU POLY	Bowl, dishes, jar: Chafing dish	5	[10], [13], [788]
BORDG: BORDO: BORDY	Dish, tripod pipkin: Star dish: Handled jar	4	[374], [655], [772], [9996]
CEM.M1/4	Jar	1	[12596]
CHEA BAR	Barrel jug	2	[8709], [12830]
CHPO BW: CHPO MING: CHPO ROSE	Tea bowl: Vase: Coffee cup	3	[121], [9558]/[9567], [13051]
CUER	Dish	1	Unstratified
DUTR: DUTSL	Jar: Dish	2	[271], [788]
EMS	Jar	1	[10146]
EMSH	Bowl/ dish	1	[13205]
EMSS	Spouted pitcher	1	[5258]
ENPO HP	?Unusual form	1	[735]
FREC	Jugs, <i>Bartmannkrug</i>	3	[269], [788], [825]
GERSL?	Dish	1	[7009]

Fabric	Form	Number of vessels	Contexts
LMHG	Jug	1	[12594]
LOND: LOND HD: LOND ROU	Jar: Jug: Jug	3	[9134], [13195]
LONS	Bottles, flask, mug, tankard	58	[105], [172], [176], [205], [273], [7009]
METS	Bowl, dish	2	[1091], [11307]
MLTG	?Tulip vase	1	[12851]
MPUR	Butter pot	1	[9996]
NDGT	Bowl	1	[121]
PEAR TR	Plate	1	[7299]
PMBL	Jugs	2	[4146], [7341]
PMR	Dish, jars	6	[59]/[60], [390], [439], [479], [7009], [12140]
PMRE	Cauldron, costrel, dish, jars, lid	6	[13], [878], [4098], [9951], [10325]
PMRST	Jug	1	[179]
PMSRG: PMSRY	Bowl, cauldron: Dish	4	[13], [49], [878], [9669]
RAER	Jug	1	[13]
RBOR: RBORB: RBORSL	Bowl, brazier, dish: Pipkins, salt cellar: Dish	7	[205], [215], [439], [478], [551], [684], [12043]
REDP	Pitcher	1	[12598]
SAIN	Chafing dish	1	[526]
SHER	Cauldron, jugs	3	[2955], [8089], [11435]
SPOW	Jug	1	Unstratified
SSW	Bowls, jar	3	[1117], [12476], [12872]
STBL	Saucer	1	[13051]
STSL	Mug	1	[9910]
SWSG	Spittoon	1	[1552]
TGW: TGW BISC: TGW BLUE: TGW C: TGW D: TGW H: TGW LATE	Bowl, counter, storage jar, ointment pots, ?: Colander: Ointment pot: Cup: Dish: Ointment pot: Ointment pot	31	Unstratified, [121], [273], [404], [604], [9075], [9996], [12146], [13051]
WERR	Dish	1	[1142]
Un sourced vessels	Unknown forms, possibly industrial	2	[277], [700]

Table 6: List of vessels requiring illustration or photographing for the publication.

## References

Oswald, A., Hildyard, R. J. C., and Hughes, R. G., 1982. English brown stoneware, 1670-1900. Faber and Faber, London.

Pearce, J., 1999. The Pottery Industry of the Surrey/ Hampshire Borders in the 16<sup>th</sup> and 17<sup>th</sup> centuries in G.Egan and R.L. Michael (eds) *Old and New Worlds*. Oxbow Books, Oxford.

Wiggins, M., 2005, Analysis of the Medieval Pottery recovered from Tabard Square, Southwark, London. Unpublished MA Dissertation for university College London.

## Appendix 1



Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
0			52	970	1900	1770	1900	-
9	Trench 1	Prov 14	456	1350	1900	1850	1900	1884- 1927
10	Trench 3	Prov 11	73	900	1900	1800	1900	1580- 1630
11	Trench 3	Prov 13	10	1590	1900	1770	1860	1770- 1800
13	Trench 3	Prov 11	252	1080	1900	1580	1900	1580- 1600
18	Trench 3	Prov 13	10	1580	1900	1770	1860	1770- 1800
20	Trench 3	Prov 13	4	1700	1900	1770	1860	1770- 1860
22	Trench 3	Prov 13	1	1770	1860	1770	1860	1770- 1860
25	Trench 3	Prov 13	1	1800	1900	1800	1900	1800- 1900
31	Trench 3	Prov 13	1	1840	1900	1840	1900	1840- 1900
35	Trench 3	Prov 13	1	1760	1880	1760	1880	1760- 1880
40	Trench 3	Prov 13	1	1580	1800	1580	1800	1580- 1800
49	Trench 3	Prov 11	24	1240	1900	1580	1900	1580- 1600
51	Trench 3	Prov 12	22	1480	1900	1580	1900	1580- 1600
56	Trench 3	Prov 13	2	1770	1900	1840	1900	1840- 1900
57	Trench 3	Prov 11	7	1480	1800	1570	1800	1570- 1600
58	Trench 3	Prov 11	15	1270	1900	1630	1800	1630- 1700
59	Trench 3	Prov 11	26	1240	1900	1580	1900	1580- 1600
60	Trench 3	Prov 11	35	900	1900	1580	1900	1580- 1600
61	Trench 3	Prov 11	37	1270	1800	1620	1800	1620- 1650
62	Trench 3	Prov 11	4	1480	1900	1600	1650	1600- 1610
65	Trench 3	Prov 11	4	1550	1700	1580	1700	1580- 1700
67	Trench 3	Prov 11	6	1480	1700	1550	1700	1550- 1600
68	Trench 3	Prov 11	46	1300	1900	1600	1800	1600- 1610
81	Trench 3	Prov 11	17	1270	1750	1480	1750	1480- 1600
87	Trench 3	Prov 10	6	1080	1350	1080	1350	1080- 1350
90	Trench 3	Prov 11	2	1480	1650	1480	1650	1480- 1600
101	Trench 2	Prov 12	2	1580	1900	1580	1900	1580- 1900
104	Trench 2	Prov 12	17	1480	1900	1670	1900	1670- 1700
105	Trench 2	Prov 12	239	1580	1900	1670	1900	1670- 1750
107	Trench 2	Prov 12	4	1270	1800	1570	1800	1570- 1610
116	Trench 2	Prov 12	19	1480	1900	1630	1700	1630- 1650
117	Trench 2	Prov 13	80	1480	1900	1720	1780	1720- 1780
118	Trench 2	Prov 13	164	1550	1900	1720	1780	1750- 1780
120	Trench 2	Prov 13	6	1550	1900	1660	1870	1660- 1700
121	Trench 2	Prov 13	143	1500	1900	1720	1780	1730- 1770
126	Trench 2	Prov 12	5	1580	1900	1580	1900	1580- 1700
128	Trench 2	Prov 12	1	1670	1900	1670	1900	1670- 1900
140	Trench 2	Prov 12	7	1480	1900	1580	1900	1580- 1650
147	0	0	8	1580	1900	1740	1880	1740- 1880
172	Trench 2	Prov 12	9	1480	1900	1670	1900	1670- 1700
174	Trench 2	Prov 11	18	1300	1700	1550	1700	1550- 1600
175	Trench 2	Prov 12	2	1580	1780	1720	1780	1720- 1780
176	Trench 2	Prov 12	1044	1480	1900	1700	1800	1700- 1750
177	Trench 2	Prov 12	62	1270	1900	1720	1780	1720- 1780
178	Trench 2	Prov 11	9	1550	1900	1630	1680	1630- 1800
179	Trench 2	Prov 11	93	1480	1900	1630	1700	1630- 1650
184	Trench 2	Prov 12	3	1550	1710	1680	1710	1680- 1700
185	Trench 2	Prov 12	1	1580	1900	1580	1900	1580- 1900
192	Trench 2	Prov 12	1	1000	1150	1000	1150	1000- 1150
193	Trench 2	Prov 12	3	1550	1900	1670	1900	1670- 1700
194	Trench 2	Prov 12	7	1550	1900	1670	1900	1670- 1700
197	Trench 2	Prov 12	4	1580	1900	1580	1900	1580- 1800
199	Trench 2	Prov 12	67	1300	1900	1720	1780	1720- 1750
205	Trench 1	Prov 13	55	1550	1900	1701	1711	1730- 1800
215	Trench 1	Prov 12	141	1480	1900	1710	1760	1710- 1760
217	Trench 1	Prov 13	77	1550	1900	1850	1900	1850- 1900
224	Trench 1	Prov 14	487	1570	1900	1850	1900	1882- 1900
226	Trench 1	Prov 13	14	1300	1900	1780	1900	1780- 1880
232	Trench 1	Prov 13	1	1550	1700	1550	1700	1550- 1700
236	Trench 1	Prov 13	22	900	1900	1740	1760	1740- 1760

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
237	Trench 1	Prov 13	15	1580	1900	1660	1870	1660- 1870
241	Trench 1	Prov 13	37	1480	1870	1720	1780	1720- 1780
242	Trench 1	Prov 13	7	1570	1870	1660	1870	1700- 1800
244	Trench 1	Prov 12	5	1550	1900	1670	1900	1670- 1700
246	Trench 1	Prov 12	14	1570	1900	1700	1800	1700- 1800
258	Trench 1	Prov 13	26	1570	1900	1720	1780	1720- 1730
259	Trench 1	Prov 12	4	1525	1900	1580	1900	1580- 1725
261	Trench 1	Prov 11	4	1550	1800	1580	1800	1580- 1650
264	Trench 1	Prov 12	5	1550	1900	1600	1900	1600- 1700
267	Trench 1	Prov 13	18	1570	1900	1701	1711	1701- 1800
269	Trench 1	Prov 13	33	1550	1900	1825	1900	1825- 1900
271	Trench 1	Prov 12	21	1500	1900	1701	1711	1701- 1720
273	Trench 1	Prov 13	140	1480	1900	1790	1900	1790- 1800
275	Trench 1	Prov 13	1	1550	1700	1550	1700	1550- 1700
277	Trench 1	Prov 13	271	1550	1900	1740	1880	1740- 1760
279	Trench 1	Prov 13	11	1550	1900	1740	1760	1740- 1760
280	Trench 1	Prov 13	91	1525	1900	1720	1800	1720- 1730
281	Trench 1	Prov 12	10	1580	1800	1650	1800	1650- 1800
287	Trench 1	Prov 12	30	1480	1900	1670	1900	1690- 1700
289	Trench 1	Prov 11	4	1550	1900	1580	1900	1580- 1700
290	Trench 1	Prov 11	3	1480	1800	1570	1800	1570- 1650
292	Trench 1	Prov 12	9	1480	1900	1850	1900	1850- 1900
295	Trench 1	Prov 12	24	1550	1900	1680	1710	1680- 1710
296	Trench 1	Prov 13	2	1580	1900	1740	1880	1740- 1880
300	Trench 1	Prov 13	3	1660	1870	1720	1780	1720- 1780
354	Trench 1	Prov 13	73	1550	1900	1780	1900	1780- 1800
357	Trench 1	Prov 12	3	1550	1700	1580	1700	1580- 1700
364	Trench 1	Prov 12	4	1550	1800	1630	1800	1630- 1700
366	Trench 1	Prov 11	12	1480	1900	1612	1650	1612- 1650
368	Trench 1	Prov 13	8	1550	1900	1630	1800	1700- 1720
371	Trench 1	Prov 12	27	1550	1900	1670	1900	1670- 1700
373	Trench 1	Prov 12	52	1480	1900	1690	1800	1690- 1720
374	Trench 1	Prov 11	21	1480	1900	1580	1900	1580- 1600
377	Trench 1	Prov 12	13	1480	1900	1630	1680	1670- 1700
378	Trench 1	Prov 12	59	1300	1900	1800	1900	1800- 1900
379	Trench 1	Prov 12	1	1580	1700	1580	1700	1580- 1700
380	Trench 1	Prov 12	3	1550	1900	1580	1900	1580- 1700
384	Trench 1	Prov 12	13	1550	1900	1660	1870	1660- 1700
388	Trench 1	Prov 13	20	1550	1900	1740	1880	1740- 1800
390	Trench 1	Prov 12	14	1570	1900	1660	1870	1660- 1800
394	Trench 1	Prov 12	1	1660	1870	1660	1870	1660- 1870
396	Trench 1	Prov 12	1	1550	1700	1550	1700	1550- 1700
398	Trench 1	Prov 13	19	1580	1900	1840	1900	c. 1844
402	Trench 1	Prov 13	2	1580	1870	1660	1870	1660- 1800
404	Trench 1	Prov 13	210	1550	1900	1750	1770	1750- 1770
406	Trench 1	Prov 12	17	1550	1900	1690	1800	1690- 1710
407	Trench 1	Prov 12	6	1570	1900	1590	1900	1680- 1700
412	Trench 1	Prov 12	10	1300	1900	1630	1680	1680- 1700
415	Trench 1	Prov 12	23	1550	1900	1690	1800	1740- 1765
418	Trench 1	Prov 12	33	1480	1900	1670	1900	1670- 1700
420	Trench 1	Prov 12	2	1480	1800	1570	1800	1570- 1610
424	Trench 1	Prov 12	10	1570	1900	1670	1900	1670- 1700
429	Trench 1	Prov 12	16	1480	1900	1690	1800	1690- 1720
431	Trench 1	Prov 12	1	1630	1680	1630	1680	1630- 1680
432	Trench 1	Prov 12	28	1550	1900	1630	1800	1630- 1700
434	Trench 1	Prov 13	9	1580	1900	1770	1860	1770- 1820
437	Trench 1	Prov 13	2	1550	1900	1580	1900	1580- 1700
439	Trench 1	Prov 13	120	1550	1900	1840	1900	1840- 1860
443	Trench 1	Prov 13	28	1350	1900	1770	1860	1770- 1800
448	Trench 1	Prov 13	3	1570	1900	1630	1680	1630- 1680
450	Trench 1	Prov 11	6	1480	1900	1580	1900	1580- 1600
452	Trench 1	Prov 12	46	1480	1900	1701	1711	1701- 1710
457	Trench 1	Prov 13	51	1580	1900	1750	1800	1750- 1780

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
459	Trench 1	Prov 12	5	1570	1870	1660	1870	1660- 1800
463	Trench 1	Prov 12	38	1480	1900	1670	1900	1670- 1700
464	Trench 1	Prov 13	41	900	1900	1720	1780	1720- 1780
465	Trench 1	Prov 12	2	1580	1900	1580	1900	1580- 1800
466	Trench 1	Prov 13	6	1570	1900	1630	1800	1630- 1800
473	Trench 1	Prov 12	14	1480	1900	1690	1730	1690- 1730
474	Trench 1	Prov 11	11	1480	1900	1580	1900	1580- 1650
475	Trench 1	Prov 13	24	1512	1900	1720	1780	c. 1750
478	Trench 1	Prov 12	138	900	1900	1720	1780	1720- 1730
479	Trench 1	Prov 12	17	1550	1900	1701	1711	1701- 1720
481	Trench 1	Prov 11	5	1570	1900	1630	1680	1630- 1680
483	Trench 1	Prov 11	5	1480	1900	1580	1900	1580- 1600
484	Trench 1	Prov 12	131	1480	1900	1701	1711	1701- 1720
485	Trench 1	Prov 12	4	1550	1800	1580	1800	1580- 1700
501	Trench 2	Prov 12	5	1480	1900	1580	1900	1580- 1650
503	Trench 2	Prov 12	5	1580	1900	1670	1900	1670- 1900
508	Trench 2	Prov 12	6	1580	1900	1730	1780	1730- 1780
517	Trench 2	Prov 11	32	1270	1900	1600	1650	1600- 1610
518	Trench 2	Prov 12	8	1480	1700	1630	1700	1630- 1650
519	Trench 2	Prov 12	17	1350	1900	1670	1900	1670- 1700
520	Trench 2	Prov 12	1	1612	1650	1612	1650	1612- 1650
522	Trench 2	Prov 12	38	1350	1900	1670	1900	1670- 1700
523	Trench 2	Prov 12	9	1550	1900	1630	1700	1630- 1700
524	Trench 2	Prov 12	35	1080	1900	1630	1800	1630- 1650
526	Trench 2	Prov 11	18	1480	1900	1580	1900	1580- 1600
535	Trench 2	Prov 12	37	1480	1900	1750	1800	1750- 1800
537	Trench 2	Prov 11	12	1080	1900	1580	1900	1580- 1600
539	Trench 2	Prov 12	3	1550	1900	1580	1900	1580- 1700
540	Trench 2	Prov 12	9	1080	1900	1580	1900	1580- 1600
551	Trench 2	Prov 12	103	1300	1900	1750	1800	1750- 1800
601	Trench 1	Prov 12	1	1580	1800	1580	1800	1580- 1800
603	Trench 1	Prov 11	4	1480	1700	1550	1700	1550- 1600
604	Trench 1	Prov 11	1	1570	1800	1570	1800	1570- 1800
605	Trench 1	Prov 12	9	1550	1900	1670	1900	1670- 1700
610	Trench 1	Prov 12	60	1500	1900	1670	1690	1670- 1690
614	Trench 1	Prov 11	37	1300	1900	1630	1700	1630- 1650
618	Trench 1	Prov 11	37	1300	1900	1630	1700	1630- 1650
620	Trench 1	Prov 12	27	1480	1900	1580	1900	1700- 1720
625	Trench 1	Prov 12	25	1512	1900	1660	1870	1660- 1700
638	Trench 1	Prov 12	8	1480	1900	1590	1900	1590- 1650
639	Trench 1	Prov 12	30	1480	1900	1670	1900	1670- 1700
642	Trench 1	Prov 12	13	1300	1900	1701	1711	1701- 1800
644	Trench 1	Prov 12	27	1550	1900	1660	1870	1660- 1700
647	Trench 1	Prov 12	22	1550	1900	1670	1900	1670- 1690
649	Trench 1	Prov 12	3	1550	1900	1580	1900	1580- 1700
651	Trench 1	Prov 12	2	1480	1700	1550	1700	1550- 1650
652	Trench 1	Prov 12	10	1480	1900	1630	1680	1630- 1650
654	Trench 1	Prov 11	2	1300	1700	1550	1700	1550- 1650
655	Trench 1	Prov 11	282	1340	1900	1670	1690	1670- 1690
656	Trench 1	Prov 12	284	900	1900	1850	1900	1850- 1900
684	Trench 1	Prov 12	1	1580	1800	1580	1800	1580- 1800
700	Trench 1	Prov 11	39	900	1900	1630	1700	1630- 1700
711	Trench 1 WB	Prov 13	24	1300	1900	1630	1700	1630- 1650
714	Trench 1	Prov 11	7	1240	1900	1580	1900	1580- 1600
715	Trench 1	Prov 12	3	1400	1500	1400	1500	1400- 1500
735	0	0	41	1480	1900	1780	1900	1780- 1800
753	Area A	Prov 13	1	1670	1900	1670	1900	1670- 1690
754	Area A	Prov 13	16	1480	1900	1770	1860	1770- 1780
755	Area A	Prov 13	42	1570	1900	1760	1880	1760- 1770
756	Area A	Prov 13	5	1590	1900	1760	1880	1760- 1780
757	Area A	Prov 13	38	1570	1900	1775	1825	1775- 1800
758	Area A	Prov 13	52	1480	1900	1720	1780	1720- 1780
760	Area A	Prov 13	9	1240	1900	1700	1800	1700- 1800

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
761	Area A	Prov 12	5	1550	1900	1701	1711	1701- 1800
763	Area A	Prov 11	1	1570	1800	1570	1800	1570- 1800
765	Area A	Prov 10	59	900	1900	1570	1800	1240- 1270
772	Area A	Prov 12	604	1480	1900	1670	1900	1670- 1700
774	0	0	2	1270	1650	1300	1650	1300- 1500
776	Area A	Prov 11	11	1550	1900	1580	1900	1580- 1700
778	Area A	Prov 10	4	1170	1350	1170	1350	1170- 1350
779	Area A	Prov 10	2	1050	1150	1050	1150	1050- 1150
780	Area A	Prov 10	1	1170	1350	1170	1350	1170- 1350
782	Area A	Prov 11	23	1080	1650	1480	1610	1480- 1600
785	Area A	Prov 11	1	1550	1700	1550	1700	1550- 1700
786	Area A	Prov 11	5	1480	1900	1580	1900	1580- 1650
788	Area A	Prov 11	43	1300	1900	1580	1900	1580- 1630
789	Watching Brief	0	4	1080	1500	1270	1500	1270- 1350
802	Area A	Prov 10	5	1350	1500	1350	1500	1350- 1500
806	Area A	Prov 8	1	1140	1220	1140	1220	1140- 1220
807	Area A	Prov 10	19	1080	1500	1350	1500	1350- 1400
812	Area A	Prov 10	4	970	1500	1270	1500	1360- 1440
818	Area A	Prov 11	3	1080	1500	1340	1500	1340- 1500
820	Area A	Prov 11	66	1270	1900	1630	1700	1630- 1650
825	Area A	Prov 11	46	1480	1900	1580	1900	1580- 1700
831	Area A	Prov 11	10	1550	1900	1580	1900	1600- 1700
832	Area A	Prov 11	10	1480	1900	1580	1900	1580- 1700
836	Area A	Prov 11	16	1270	1700	1620	1700	1620- 1650
837	Area A	Prov 10	5	1050	1200	1080	1200	1080- 1150
838	Area A	Prov 10	12	1080	1900	1580	1900	1580- 1900
843	Area A	Prov 11	6	1480	1725	1675	1725	1675- 1700
844	Area A	Prov 11	16	1350	1900	1580	1900	1580- 1600
858	Area A	Prov 11	23	1270	1900	1600	1900	1580- 1630
861	Area A	Prov 11	247	1300	1900	1630	1900	1630- 1650
864	Area A	Prov 11	11	1480	1900	1580	1900	1580- 1650
866	Area A	Prov 11	6	1480	1650	1480	1650	1480- 1650
872	Area A	Prov 11	5	1270	1650	1400	1650	1400- 1500
873	Area A	Prov 10	11	1080	1650	1350	1650	1400- 1500
877	Area A	Prov 11	6	1270	1900	1580	1900	1580- 1700
878	Area A	Prov 11	87	1480	1900	1630	1680	1630- 1650
879	Area A	Prov 11	11	1480	1900	1580	1900	1580- 1600
880	Area A	Prov 10	7	1240	1650	1300	1650	1300- 1400
885	Area A	Prov 11	1	1480	1650	1480	1650	1480- 1650
889	Area A	Prov 11	4	1550	1700	1580	1700	1580- 1700
891	Area A	Prov 10	1	1340	1500	1340	1500	1340- 1500
893	Area A	Prov 10	8	1000	1350	1270	1350	1270- 1350
894	Area A	Prov 10	2	970	1150	1050	1150	1050- 1100
896	Area A	Prov 10	5	1000	1500	1340	1450	1340- 1450
898	Area A	Prov 10	3	1080	1500	1270	1500	1270- 1350
903	Area A	Prov 11	1	1480	1600	1480	1600	1480- 1600
912	Area B1	Prov 10	43	1050	1900	1670	1900	1670- 1700
916	Area A	Prov 13	24	1580	1900	1840	1900	1800- 1880
918	Area A	Prov 13	2	1670	1900	1670	1900	1670- 1800
921	Area A	Prov 12	18	1480	1900	1630	1900	1630- 1680
922	Area A	Prov 11	177	900	1900	1580	1900	1580- 1600
939	Area A	Prov 10	4	1240	1500	1400	1500	1400- 1500
948	Area A	Prov 7	1	1680	1710	1680	1710	1680- 1710
954	Area A	Prov 10	12	1080	1400	1240	1400	1230- 1350
966	Area A	Prov 10	1	1080	1350	1080	1350	1080- 1350
971	Area A	Prov 10						Post-Roman
973	Area B1	Prov 10	1	1000	1150	1000	1150	1000- 1150
993	Area A	Prov 11	1	1170	1350	1170	1350	1170- 1350
1003	Area A	Prov 11	6	1270	1800	1580	1800	1580- 1700
1005	Area A	Prov 10	29	1080	1400	1240	1400	1240- 1350
1017	Area A	Prov 6	3	970	1300	1140	1300	1140- 1300
1018	Area A	Prov 7	2	1270	1500	1400	1500	1400- 1500
1019	Area A	Prov 10	7	1050	1650	1480	1650	1480- 1550

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
1035	Area A	Prov 11	119	1080	1900	1580	1900	1580- 1600
1036	Area A	Prov 11	1	1050	1150	1050	1150	1050- 1150
1040	Area B2	Prov 12	46	1512	1900	1670	1690	1670- 1700
1042	Area B2	Prov 12	2	1300	1680	1630	1680	1630- 1650
1044	Area B2	Prov 12	91	1080	1900	1660	1900	1660- 1700
1053	Area B2	Prov 11	7	1550	1900	1612	1900	1625- 1630
1061	Area A	Prov 10	21	1080	1700	1580	1700	1580- 1600
1062	Area A	Prov 10	10	1050	1350	1170	1350	1170- 1350
1063	Area A	Prov 12	135	1270	1900	1630	1900	1630- 1680
1066	Area A	Prov 12	13	1080	1900	1630	1900	1630- 1700
1077	Area B2	Prov 11	31	1480	1900	1630	1900	1630- 1680
1091	Area B2	Prov 12	20	1480	1900	1630	1900	1630- 1650
1105	Area B2	Prov 12	22	1080	1900	1630	1900	1630- 1680
1107	Area B2	Prov 13	7	1550	1900	1800	1900	1800- 1900
1110	Area B2	Prov 11	2	1580	1900	1580	1900	1580- 1750
1115	Area A	Prov 8	1	1170	1350	1170	1350	1580- 1900
1117	Area B2	Prov 11	102	900	1900	1620	1700	1620- 1650
1118	Area A	Prov 10	2	1550	1800	1580	1800	1580- 1700
1121	Area B2	Prov 12	6	1480	1900	1630	1900	1630- 1700
1133	Area A	Prov 6	1	1240	1400	1240	1400	1230- 1400
1135	Area B2	Prov 12	19	1080	1900	1630	1800	1630- 1700
1140	Area A	Prov 12	22	1550	1900	1630	1900	1630- 1680
1142	Area B2	Prov 11	16	1480	1900	1620	1700	1620- 1650
1162	Area B2	Prov 9	2	1580	1900	1580	1900	1580- 1900
1237	Area B2	Prov 11	1	1480	1600	1480	1600	1480- 1600
1245	Area B2	Prov 11	7	1270	1900	1620	1700	1620- 1650
1268	Area B2	Prov 12	5	1050	1400	1240	1400	1240- 1350
1272	Area A	Prov 12	5	1480	1900	1580	1900	1580- 1750
1296	Area A	Prov 8	1	1480	1600	1480	1600	1480- 1600
1302	Area A	Prov 10	1	1170	1350	1170	1350	1170- 1350
1306	Area B2	Prov 10	12	900	1900	1550	1700	1240- 1270
1308	Area A	Prov 11	11	1170	1900	1580	1900	1580- 1600
1349	Area A	Prov 10	2	970	1100	970	1100	970- 1100
1353	Area A	Prov 11	3	1480	1700	1580	1700	1580- 1650
1363	Area A	Prov 11	7	1350	1700	1580	1700	1580- 1600
1365	0	0	6	970	1700	1550	1700	1550- 1600
1372	Area A	Prov 10	20	1080	1900	1580	1900	1400- 1500
1426	Area A	Prov 11	1	1300	1650	1300	1650	1300- 1650
1428	Area A	Prov 11	7	1400	1700	1550	1700	1550- 1610
1432	Area A	Prov 11	1	1550	1700	1550	1700	1550- 1650
1438	Area A	Prov 11	3	1080	1575	1525	1575	1525- 1575
1454	Area A	Prov 10	3	970	1500	1270	1500	1270- 1500
1458	Area B2	Prov 10	16	1000	1650	1400	1500	1400- 1500
1512	Area A	Prov 11	1	1240	1400	1240	1400	1240- 1400
1552	Area B1	Prov 13	388	1550	1900	1800	1900	1800- 1830
1701	Area A	Prov 10	15	900	1900	1400	1500	1400- 1500
1703	Area A	Prov 10	1	1050	1150	1050	1150	1050- 1150
1786	Area B2	Prov 10	1	970	1100	970	1100	970- 1100
1886	Area B2	Prov 12	5	1550	1900	1580	1900	1580- 1700
1908	Area A	Prov 10	4	1050	1150	1050	1150	1050- 1150
1994	Area B1	Prov 11	20	1240	1700	1550	1700	1550- 1600
2008	Area B2	Prov 9	6	900	1900	900	1900	900- 1900
2039	Area B1	Prov 11	8	1270	1800	1600	1650	1600- 1610
2181	Area A	Prov 10	1	1050	1150	1050	1150	1050- 1150
2251	Area A	Prov 3	6	1080	1700	1580	1700	1580- 1650
2291	Area A	Prov 11	1	1550	1700	1550	1700	1550- 1700
2292	Area A	Prov 11	4	1080	1500	1350	1500	1350- 1450
2294	Area A	Prov 11	10	900	1900	1580	1900	1580- 1610
2295	Area B2	Prov 9	7	1000	1900	1770	1820	1770- 1820
2357	Area A	Prov 8	1	1080	1350	1080	1350	1080- 1350
2530	Area B1	Prov 11	1	1080	1200	1080	1200	1080- 1200
2538	Area A	Prov 11	10	1170	1500	1270	1500	1270- 1350
2615	Area B1	Prov 11	122	900	1900	1630	1700	1630- 1650

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
2622	Area A	Prov 7	1	970	1100	970	1100	970- 1100
2667	Area B1	Prov 10	3	1050	1400	1240	1400	1240- 1400
2748	Area B2	Prov 6	1	1580	1900	1580	1900	1580- 1900
2859	Area B2	Prov 5	1	1140	1220	1140	1220	1140- 1220
2939	Area B1	Prov 5	7	1550	1800	1630	1680	1630- 1680
2955	Area A	Prov 10	135	970	1350	1170	1350	1170- 1200
2957	Area A	Prov 10	10	970	1350	1080	1350	1080- 1150
2962	Area B2	Prov 8	13	1550	1900	1790	1830	1790- 1820
2995	Area B1	Prov 8	5	1080	1350	1180	1350	1180- 1200
3022	Area B2	Prov 10	1	970	1100	970	1100	970- 1100
3176	Area B1	Prov 11	2	970	1900	1580	1900	1580- 1900
3177	Area B1	Prov 11	1	1270	1500	1270	1500	1270- 1500
3178	Area B1	Prov 10	36	1050	1350	1240	1350	1240- 1270
3189	Area B1	Prov 4	2	1050	1150	1050	1150	1050- 1150
3298	Area B1	Prov 3	1	1080	1200	1080	1200	1080- 1200
3299	Area B1	Prov 6	2	970	1100	970	1100	970- 1100
3481	Area A	Prov 12	3	1270	1900	1580	1900	1580- 1650
3540	Area B1	Prov 10	64	1050	1500	1350	1500	1350- 1450
3560	Area B1	Prov 10	15	1080	1550	1350	1550	1350- 1400
3579	Area A	Prov 10	1	1170	1350	1170	1350	1170- 1350
3588	Area B1	Prov 7	1	1580	1900	1580	1900	1580- 1900
3597	Area C1	Prov 11	13	1480	1800	1630	1800	1650- 1680
3599	Area C1	Prov 12	12	1240	1650	1480	1650	1480- 1600
3611	Area C1	Prov 12	5	1550	1800	1690	1800	1690- 1800
3618	Area B1	Prov 7	1	1270	1500	1270	1500	1270- 1500
3619	Area C1	Prov 11	8	1550	1900	1580	1900	1580- 1700
3620	Area C1	Prov 11	9	1080	1350	1080	1350	1080- 1200
3672	Area A	Prov 12	7	1480	1900	1580	1900	1580- 1600
3674	Area A	Prov 12	11	1480	1900	1580	1900	1580- 1650
3681	Area C1	Prov 12	62	1500	1900	1670	1900	1670- 1690
3682	Area C1	Prov 12	1	1580	1900	1580	1900	1650- 1900
3687	Area C1	Prov 11	11	1080	1900	1580	1900	1580- 1700
3699	Area C1	Prov 12	61	1480	1900	1670	1900	1670- 1800
3705	Area B1	Prov 8	3	970	1500	1250	1500	1250- 1500
3708	Area B1	Prov 10	4	1080	1350	1240	1350	1230- 1300
3721	Area C1	Prov 11	10	1480	1700	1580	1700	1580- 1650
3737	Area C1	Prov 10	4	1240	1350	1240	1350	1240- 1350
3739	Area C1	Prov 11	2	1550	1800	1570	1800	1570- 1630
3741	Area B1-D	Prov 10	1	1080	1350	1080	1350	1080- 1350
3742	Area B1	Prov 10	49	1050	1900	1670	1900	1250- 1350
3747	Area B1	Prov 6	1	1300	1650	1300	1650	1250- 1350
3750	Area C1	Prov 12	16	1480	1900	1690	1900	1580- 1700
3753	Area C1	Prov 11	1	1550	1700	1550	1700	1550- 1700
3765	Area C1	Prov 12	2	1580	1900	1580	1900	1580- 1750
3776	Area C1	Prov 10	4	1080	1350	1270	1350	1270- 1350
3780	Area C1	Prov 10	3	1080	1350	1240	1350	1230- 1300
3791	Area B1	Prov 5	5	970	1400	1240	1400	1240- 1350
3792	Area C1	Prov 12	25	1170	1900	1630	1900	1230- 1300
3815	Area C1	Prov 12	35	1550	1900	1670	1900	1670- 1690
3857	Area A	Prov 12	4	1550	1900	1580	1900	1580- 1700
3874	Area C1	Prov 10	4	1080	1600	1480	1600	1480- 1600
3875	Area C1	Prov 10	1	1140	1220	1140	1220	1140- 1220
3893	Area C1	Prov 10	22	1080	1350	1270	1350	1270- 1350
3919	Area B1	Prov 4	1	1550	1700	1550	1700	1550- 1700
3923	Area C1	Prov 11	8	1480	1700	1580	1700	1580- 1650
3933	Area B1	Prov 10	1	1080	1350	1080	1350	1080- 1350
3949	Area C2	Prov 13	2	1770	1860	1770	1860	1770- 1830
3965	Area B1	Prov 7	1	1580	1800	1580	1800	1580- 1800
3976	Area B1	Prov 7	3	1170	1700	1580	1700	1580- 1700
3991	Area C1	Prov 10	2	1240	1400	1240	1400	1240- 1400
4096	Area B1	Prov 11	12	1550	1900	1630	1700	1630- 1700
4098	Area B1	Prov 11	74	1300	1900	1630	1700	1630- 1650
4116	Area B2	Prov 10	12	1050	1900	1670	1900	1270- 1350

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
4117	Area B2	Prov 10	1	1170	1350	1170	1350	1170- 1350
4118	Area B2	Prov 10	7	1080	1400	1240	1400	1240- 1350
4146	Area B2	Prov 11	6	1580	1700	1580	1700	1580- 1700
4150	Area B2	Prov 11	1	1580	1900	1580	1900	1580- 1900
4224	Area B1	Prov 11	45	1050	1900	1670	1900	1670- 1800
4325	Area B1	Prov 11	2	1500	1580	1500	1580	1500- 1580
4384	Area B1	Prov 10	1	1170	1350	1170	1350	1170- 1350
4426	Area B1	Prov 11	20	1300	1900	1580	1900	1580- 1600
4427	Area B1	Prov 11	1	1050	1150	1050	1150	1050- 1150
4468	Area B1	Prov 11	10	1480	1700	1550	1700	1550- 1600
4486	Area B1	Prov 7	1	1080	1350	1080	1350	1080- 1350
4493	Area B1	Prov 11	20	1080	1700	1580	1700	1580- 1600
4591	Area B1	Prov 8	2	970	1220	1140	1220	1140- 1220
4769	Area C1	Prov 10	1	1000	1150	1000	1150	1000- 1150
4776	Area C1	Prov 9	1	1480	1650	1480	1650	1480- 1650
4809	Area C1	Prov 10	3	1050	1350	1170	1350	1170- 1350
4810	Area C1	Prov 10	1	1050	1150	1050	1150	1050- 1150
4866	Area B1	Prov 2	10	1500	1900	1760	1900	1760- 1880
4880	Area C1	Prov 8	2	1240	1900	1670	1900	1670- 1900
4984	Area C1	Prov 10	1	1300	1650	1300	1650	1300- 1650
4993	Area C1	Prov 10	18	1080	1400	1270	1400	1270- 1350
5026	Area C2	Prov 12	21	1550	1800	1670	1800	1670- 1690
5033	Area C2	Prov 11	42	1550	1900	1630	1900	1650- 1700
5036	Area C2	Prov 11	22	1550	1900	1630	1900	1630- 1680
5051	Area C2	Prov 11	3	1300	1650	1480	1650	1480- 1500
5060	Area C2	Prov 12	20	1170	1900	1690	1730	1690- 1730
5062	Area C2	Prov 11	3	1080	1700	1550	1700	1550- 1700
5064	Area C2	Prov 10	6	970	1150	1050	1150	1050- 1100
5080	Area C2	Prov 12	8	1550	1900	1690	1900	1690- 1700
5082	Area C2	Prov 12	49	1480	1900	1670	1900	1670- 1690
5096	Area C2	Prov 12	14	1480	1900	1630	1900	1630- 1700
5114	Area C2	Prov 10	6	970	1350	1080	1350	1080- 1350
5116	Area C2	Prov 10	8	970	1350	1170	1350	1170- 1220
5123	Area C2	Prov 10	8	1080	1500	1270	1500	1270- 1350
5175	Area C2	Prov 10	8	1240	1500	1270	1500	1270- 1400
5177	Area C2	Prov 11	27	1300	1900	1630	1900	1630- 1680
5179	Area C2	Prov 10	6	1050	1400	1240	1400	1230- 1350
5181	Area C2	Prov 10	5	900	1900	1300	1650	1300- 1350
5186	Area C2	Prov 12	3	1580	1900	1580	1900	1580- 1700
5256	Area C2	Prov 5	1	1830	1900	1830	1900	1840- 1900
5258	Area C2	Prov 10	31	1000	1150	1000	1150	1000- 1150
5270	Area C2	Prov 10	5	970	1350	1240	1300	1240- 1300
5275	Area C2	Prov 10	29	970	1500	1270	1500	1270- 1350
5276	Area C2	Prov 8	1	1580	1800	1580	1800	1580- 1800
5359	Area C2	Prov 10	1	970	1100	970	1100	970- 1100
5403	Area D	Prov 10	2	1080	1350	1080	1350	1230- 1350
5418	Area D	Prov 10	109	1170	1400	1240	1400	1300- 1350
5437	0	0	1	1240	1350	1240	1350	1240- 1350
5444	Area D	Prov 8	2	400	1350	1170	1350	1170- 1350
5604	Area C2	Prov 5	3	1480	1700	1550	1700	1550- 1650
5766	Area D	Prov 10	9	1000	1600	1400	1600	1400- 1500
5781	Area D	Prov 10	1	1400	1500	1400	1500	1400- 1500
5812	Area C2	Prov 10	13	1080	1350	1140	1220	1140- 1220
5819	Area C2	Prov 10	2	1080	1220	1140	1220	1140- 1200
5832	Area D	Prov 10	6	900	1400	1240	1400	1240- 1250
5833	Area C2	Prov 10	3	1170	1350	1170	1350	1170- 1350
5851	Area C2	Prov 10	1	1170	1350	1170	1350	1170- 1350
5866	Area C2	Prov 5	1	1140	1220	1140	1220	1140- 1220
5890	Area C2	Prov 10	37	1050	1400	1270	1400	1270- 1350
5924	Area D	Prov 10	1	1270	1500	1270	1500	1270- 1350
5926	Area C1	Prov 10	1	1080	1200	1080	1200	1080- 1200
5978	Area C1	Prov 6	1	1630	1680	1630	1680	1630- 1680
5980	Area D	Prov 10	1	1270	1500	1270	1500	1270- 1500

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
5995	Area D	Prov 10	1	1300	1650	1300	1650	1300- 1650
5996	Area D	Prov 11	55	1500	1900	1630	1900	1630- 1680
6010	Area D	Prov 13	5	1760	1900	1830	1900	1830- 1900
6019	Area D	Prov 11	10	1170	1900	1580	1900	1580- 1600
6021	Area D	Prov 11	12	1300	1700	1550	1700	1550- 1600
6026	Area D	Prov 13	465	1050	1900	1720	1900	1720- 1760
6028	Area D	Prov 11	20	1550	1900	1630	1900	1630- 1680
6054	Area D	Prov 11	4	1400	1600	1480	1600	1480- 1500
6058	Area D	Prov 11	17	1300	1800	1580	1800	1580- 1650
6059	Area D	Prov 11	6	1550	1800	1580	1800	1580- 1700
6061	Area D	Prov 11	2	1480	1700	1550	1700	1550- 1650
6074	Area D	Prov 11	56	1550	1900	1580	1900	1580- 1700
6078	Area C2	Prov 5	1	1550	1700	1550	1700	1550- 1700
6081	Area D	Prov 11	12	1480	1900	1580	1900	1620- 1650
6102	Area D	Prov 11	10	1270	1700	1550	1700	1580- 1600
6103	Area D	Prov 11	4	1480	1650	1480	1650	1480- 1600
6104	Area D	Prov 11	3	1480	1700	1580	1700	1580- 1600
6108	Area D	Prov 11	7	900	1900	1580	1900	1580- 1600
6111	Area D	Prov 11	2	1480	1550	1480	1550	1480- 1550
6129	Area D	Prov 11	8	1300	1700	1550	1700	1550- 1600
6134	Area D	Prov 11	17	1480	1800	1580	1800	1580- 1600
6138	Area D	Prov 11	20	900	1900	1630	1900	1630- 1680
6141	Area D	Prov 11	11	1480	1700	1580	1700	1580- 1600
6142	Area D	Prov 11	2	1300	1900	1580	1900	1580- 1650
6147	Area D	Prov 11	5	1080	1700	1550	1700	1550- 1700
6149	Area D	Prov 11	20	1500	1700	1550	1700	1550- 1580
6152	Area C2	Prov 5	1	1080	1350	1080	1350	1080- 1350
6184	Area D	Prov 11	3	1480	1700	1550	1700	1550- 1600
6199	Area D	Prov 11	1	1550	1700	1550	1700	1550- 1700
6201	Area D	Prov 11	15	1240	1800	1570	1800	1550- 1600
6205	Area D	Prov 11	1	1570	1800	1570	1800	1570- 1630
6219	Area D	Prov 4	1	1080	1200	1080	1200	1080- 1200
6222	Area C1	Prov 5	1	1170	1350	1170	1350	1170- 1350
6224	Area D	Prov 11	1	1550	1700	1550	1700	1550- 1700
6237	Area C2	Prov 5	2	1170	1700	1550	1700	1550- 1700
6285	Area D	Prov 11	2	1580	1700	1580	1700	1580- 1700
6293	Area D	Prov 11	9	1080	1600	1480	1600	1480- 1550
6300	Area D	Prov 11	4	1270	1900	1580	1900	1300- 1500
6307	Area C1	Prov 5	1	1550	1700	1550	1700	1550- 1700
6312	Area D	Prov 11	6	1480	1700	1550	1700	1550- 1600
6327	Area D	Prov 11	2	1480	1650	1480	1650	1480- 1650
6416	Area D	Prov 11	28	1480	1700	1550	1700	1550- 1600
6423	Area D	Prov 11	15	1270	1700	1550	1700	1550- 1600
6431	Area D	Prov 11	9	1270	1600	1480	1600	1480- 1600
6439	Area D	Prov 11	18	1480	1800	1580	1800	1580- 1650
6459	Area D	Prov 11	16	1270	1700	1580	1700	1580- 1650
6478	Area C2	Prov 5	1	1170	1350	1170	1350	1170- 1350
6481	Area D	Prov 11	34	1080	1800	1580	1800	1580- 1700
6484	Area C2	Prov 5	8	1300	1900	1580	1900	1580- 1650
6581	Area C1	Prov 5	11	1270	1900	1620	1700	1620- 1650
6610	Area D	Prov 11	2	1270	1500	1350	1500	1350- 1500
6616	Area D	Prov 11	2	1550	1700	1550	1700	1550- 1700
6740	Area D	Prov 11	1	1480	1650	1480	1650	1480- 1650
6742	Area D	Prov 11	3	1480	1600	1480	1600	1480- 1600
6744	Area D	Prov 11	1	1480	1650	1480	1650	1480- 1650
6747	Area C2	Prov 4	1	970	1100	970	1100	970- 1100
6816	Area D	Prov 11	84	1240	1900	1580	1900	1580- 1600
6820	Area D	Prov 11	5	1050	1400	1200	1400	1200- 1350
6854	Area D	Prov 11	27	1080	1900	1600	1650	1600- 1650
6859	Area D	Prov 11	2	1480	1600	1480	1600	1480- 1550
6897	Area D	Prov 11	3	1300	1700	1550	1700	1550- 1600
6928	Area E1	Prov 13	9	1580	1900	1720	1900	1720- 1780
6930	Area E1	Prov 13	17	1270	1900	1800	1900	1800- 1880



Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
6931	Area E1	Prov 13	15	1480	1900	1760	1900	1760- 1780
7009	Area E1	Prov 13	143	1480	1900	1745	1900	1760- 1770
7012	Area C2	Prov 5	1	1550	1700	1550	1700	1550- 1700
7022	Area E1	Prov 11	15	1550	1900	1580	1900	1610- 1650
7036	Area E1	Prov 11	3	1580	1900	1580	1900	1580- 1800
7054	Area E1	Prov 11	53	1270	1900	1620	1900	1620- 1650
7055	Area E1	Prov 11	75	900	1900	1580	1900	1580- 1630
7056	Area E1	Prov 11	1	1240	1400	1240	1400	1240- 1400
7118	Area D	Prov 5	25	900	1480	970	1480	Contamination
7158	Area E2	Prov 10	5	1080	1400	1240	1400	1240- 1350
7165	F Eval W Area F1	Prov 10	3	1080	1350	1170	1350	1170- 1350
7167	F Eval W Area F1	Prov 13	12	1550	1900	1800	1900	1800- 1870
7171	Area E1	Prov 11	3	1240	1700	1550	1700	1550- 1700
7193	F Eval W Area F1	Prov 12	3	1400	1600	1480	1600	1480- 1600
7195	F Eval W Area F1	Prov 10	2	1270	1500	1270	1500	1270- 1500
7250	F Eval W Area F1	Prov 12	1	1480	1600	1480	1600	1480- 1600
7260	Area E1	Prov 10	4	1050	1350	1170	1350	1170- 1200
7262	Area E1	Prov 10	12	970	1350	1080	1350	1080- 1100
7264	Area E1	Prov 11	62	1300	1900	1580	1900	1580- 1600
7265	Area E1	Prov 11	1	1550	1580	1550	1580	1550- 1580
7297	Area E1	Prov 12	25	1500	1900	1650	1900	1650- 1680
7299	F Eval E	0	10	1580	1880	1790	1880	1790- 1830
7304	Area E1	Prov 11	19	1480	1700	1550	1700	1550- 1600
7305	Area E1	Prov 11	12	1480	1700	1620	1700	1620- 1700
7337	F Eval W Area F1	Prov 11	25	900	1900	1580	1900	1580- 1600
7341	Area E1	Prov 11	64	1300	1900	1580	1900	1580- 1630
7383	Area E1	Prov 11	2	1480	1700	1550	1700	1550- 1600
7435	F Eval W	0	8	1080	1650	1480	1650	1480- 1500
7436	F Eval W	0	7	1480	1600	1480	1600	1480- 1550
7527	Area E1	Prov 11	41	900	1900	1720	1780	1580- 1600
7528	0	0	16	1300	1900	1580	1900	1580- 1650
7569	Area E1	Prov 11	1	1580	1900	1580	1900	1580- 1700
7593	Area E1	Prov 11	26	900	1900	1580	1900	1580- 1650
7618	Area E1	Prov 11	1	1250	1650	1250	1650	1250- 1480
7621	Area E2-E1	Prov 11	189	1050	1900	1580	1900	1580- 1700
7695	Area E1	Prov 10	9	1240	1500	1270	1500	1270- 1400
7729	0	0	3	1480	1700	1550	1700	1550- 1650
7737	Area E2	Prov 6	22	1300	1900	1580	1900	1580- 1600
7825	Area C2	Prov 4	1	1550	1700	1550	1700	1550- 1700
7826	Area E1	Prov 11	1	1550	1700	1550	1700	1550- 1700
7875	Area E2	Prov 8	1	1050	1150	1050	1150	1050- 1150
7888	Area E1	Prov 10	1	1000	1150	1000	1150	1000- 1150
7907	Area E1	Prov 10	4	1000	1400	1240	1400	1240- 1300
7932	Area E1	Prov 10	1	1250	1650	1250	1650	1250- 1480
8018	Area E1	Prov 10	1	970	1100	970	1100	970- 1100
8027	Area E1	Prov 10	1	970	1100	970	1100	970- 1100
8029	Area E1	Prov 10	1	970	1100	970	1100	970- 1100
8066	Area E2	Prov 11	36	1480	1900	1630	1900	1630- 1680
8070	Area E1	Prov 10	6	1080	1500	1270	1500	1270- 1350
8082	Area C1	Prov 3	1	1050	1150	1050	1150	1050- 1150
8088	Area E1	Prov 11	18	900	1900	1570	1800	1570- 1650
8089	Area E1	Prov 11	12	1170	1610	1480	1610	1480- 1500
8119	Area E2-E1	Prov 10	1	1270	1500	1270	1500	1270- 1500
8123	Area E1	Prov 11	1	1580	1900	1580	1900	1580- 1900
8129	Area E2-E3	Prov 13	417	900	1900	1848	1900	1810- 1830
8145	Area E1	Prov 8	4	900	1900	1350	1500	1350- 1500
8154	Area E1	Prov 10	8	900	1250	1050	1150	1050- 1150
8177	Area E2	Prov 6	1	1000	1150	1000	1150	1000- 1150
8204	Area E2	Prov 11	5	1480	1800	1570	1800	1570- 1610
8231	Area E3	Prov 12	13	1550	1900	1580	1900	1580- 1700
8248	Area E2	Prov 11	47	1270	1900	1580	1900	1580- 1600
8250	Area E3	Prov 12	4	1550	1900	1580	1900	1580- 1700
8270	Area E1	Prov 8	4	1580	1700	1630	1700	1630- 1700

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
8276	Area E3	Prov 12	1	1580	1700	1580	1700	1580- 1700
8277	Area E3	Prov 12	48	1480	1900	1630	1900	1630- 1680
8336	Area D	Prov 11	2	1580	1800	1580	1800	1580- 1700
8342	Area D	Prov 11	4	1240	1500	1270	1500	1270- 1350
8380	Area E1	Prov 3	2	900	1900	1300	1650	1400- 1600
8384	Area E2	Prov 11	17	1480	1900	1630	1900	1630- 1700
8393	Area E2	Prov 8	1	1570	1800	1570	1800	1570- 1800
8406	Area E2	Prov 12	6	1580	1900	1580	1900	1650- 1900
8430	Area E3	Prov 11	14	1480	1900	1630	1900	1630- 1700
8446	Area E2-E3	Prov 11	5	1270	1700	1550	1700	1550- 1600
8449	Area E3	Prov 13	39	1550	1900	1780	1900	1720- 1780
8452	Area E3	Prov 11	61	1350	1900	1670	1900	1670- 1700
8466	Area E3	Prov 11	2	1240	1500	1270	1500	1270- 1400
8468	Area E1	Prov 10	1	970	1100	970	1100	970- 1100
8473	Area E3	Prov 12	5	1550	1900	1630	1900	1630- 1680
8475	Area E3	Prov 12	50	1480	1900	1670	1900	1670- 1690
8478	Area E1	Prov 10	1	900	1900	900	1900	1480- 1900
8488	Area E3	Prov 11	9	1480	1900	1630	1900	1630- 1650
8588	Area E3	Prov 12	12	1512	1900	1690	1900	1700- 1720
8595	Area E3	Prov 11	1	1580	1900	1580	1900	1580- 1900
8642	Area E3	Prov 11	9	1480	1900	1630	1900	1630- 1650
8645	Area E3	Prov 12	45	1480	1900	1690	1900	1700- 1720
8654	Area E2	Prov 11	15	1480	1700	1550	1700	1550- 1600
8658	Area E3	Prov 12	2	1580	1700	1630	1700	1630- 1700
8677	Area E1	Prov 10	11	1240	1650	1350	1500	1350- 1500
8679	Area E2-E3	Prov 11	24	1550	1900	1630	1900	1630- 1680
8689	Area E2	Prov 10	4	1000	1220	1140	1220	1140- 1150
8691	Area E2	Prov 10	2	970	1150	1050	1150	1050- 1100
8698	Area E3	Prov 11	4	1480	1800	1630	1800	1630- 1650
8699	Area E3	Prov 11	2	1300	1900	1580	1900	1580- 1650
8700	Area E3	Prov 11	15	1270	1900	1630	1900	1630- 1700
8709	Area E1	Prov 10	54	1080	1500	1430	1500	1430- 1500
8736	Area E2	Prov 9	1	1580	1900	1580	1900	1580- 1900
8738	Area E2	Prov 11	7	1480	1700	1550	1700	1550- 1600
8740	Area E3	Prov 11	8	1570	1900	1630	1900	1630- 1700
8743	Area E1	Prov 8	1	1580	1700	1580	1700	1580- 1700
8784	Area E3	Prov 7	1	1480	1600	1480	1600	1480- 1600
8812	Area E2-E3	Prov 11	37	1480	1900	1580	1900	1580- 1650
8813	Area E2-E3	Prov 11	13	1480	1900	1580	1900	1580- 1650
8843	Area E3	Prov 12	17	1240	1900	1580	1900	1580- 1650
8850	Area E3	Prov 12	19	1550	1900	1630	1900	1630- 1700
8852	Area E3	Prov 12	13	1512	1900	1670	1900	1670- 1790
8854	Area E3	Prov 12	10	1580	1900	1660	1900	1670- 1800
8856	Area E3	Prov 12	15	1480	1900	1630	1900	1630- 1700
8866	Area E3	Prov 12	2	1550	1700	1550	1700	1550- 1700
8872	Area E3	Prov 11	3	1550	1700	1550	1700	1550- 1700
8874	Area E3	Prov 11	1	1480	1600	1480	1600	1480- 1600
8878	Area E3	Prov 11	4	1550	1900	1580	1900	1580- 1700
8886	Area E3	Prov 12	5	1480	1700	1550	1700	1550- 1600
8897	Area E1	Prov 11	1	1580	1700	1580	1700	1580- 1700
8903	Area E3	Prov 11	2	1630	1680	1630	1680	1630- 1680
8908	Area E3	Prov 11	2	1580	1800	1580	1800	1580- 1800
8910	Area E3	Prov 12	42	1300	1900	1670	1900	1700- 1800
8914	Area E4	Prov 11	18	1480	1900	1580	1900	1580- 1650
8916	Area E3	Prov 11	8	1550	1900	1630	1900	1630- 1680
8923	Area E4	Prov 12	7	1550	1900	1580	1900	1580- 1650
8936	Area E4	Prov 11	3	1480	1700	1550	1700	1550- 1650
8938	Area E3	Prov 11	5	1300	1800	1630	1800	1630- 1650
8945	Area E3	Prov 11	18	1480	1900	1580	1900	1580- 1600
8953	Area E3	Prov 12	10	1300	1900	1580	1900	1580- 1650
8956	Area E3	Prov 11	25	1480	1900	1580	1900	1580- 1650
8960	Area E4	Prov 12	3	1480	1650	1480	1650	1480- 1650
8976	Area E3	Prov 11	68	1480	1900	1580	1900	1580- 1600

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
8987	Area E3	Prov 12	26	1300	1900	1580	1900	1620- 1650
8997	Area E3	Prov 11	31	1300	1900	1580	1900	1580- 1600
8999	Area E4	Prov 11	12	1480	1900	1580	1900	1580- 1600
9006	Area E3	Prov 11	58	1170	1900	1580	1900	1580- 1600
9024	Area E4	Prov 12	49	1300	1900	1630	1900	1630- 1650
9051	Area E3	Prov 11	6	1080	1900	1580	1900	1580- 1700
9053	Area E4	Prov 11	55	1240	1900	1630	1680	1630- 1650
9061	Area E3-E4	Prov 11	122	1270	1900	1580	1900	1580- 1620
9067	Area E3	Prov 9	3	1270	1500	1270	1500	1270- 1500
9072	Area E3-E4	Prov 11	50	1300	1800	1580	1800	1580- 1620
9075	Area E4	Prov 12	511	1270	1900	1780	1900	1670- 1700
9076	Area E4	Prov 12	22	1480	1700	1580	1700	1580- 1650
9087	Area E3	Prov 11	2	1300	1650	1480	1650	1480- 1650
9102	Area E3	Prov 13	45	1080	1900	1780	1900	1780- 1820
9125	Area E4	Prov 12	6	1480	1700	1550	1700	1550- 1600
9126	Area E1	Prov 7	1	1300	1650	1300	1650	1300- 1650
9133	Area E3	Prov 11	115	1240	1900	1620	1700	1620- 1650
9134	Area E4	Prov 10	27	1080	1350	1180	1270	1180- 1220
9146	Area E4	Prov 12	2	1300	1900	1600	1900	1600- 1650
9148	Area E4	Prov 12	3	1480	1700	1550	1700	1550- 1600
9150	Area E4	Prov 12	2	1270	1600	1400	1600	1400- 1500
9163	Area E3	Prov 11	1	1270	1500	1270	1500	1270- 1500
9165	Area E4	Prov 12	1	970	1100	970	1100	970- 1100
9186	Area E3	Prov 11	59	1480	1900	1580	1900	1580- 1650
9196	Area E3	Prov 11	6	1300	1900	1580	1900	1580- 1600
9202	Area E4	Prov 11	23	1240	1900	1580	1900	1580- 1610
9203	Area E4	Prov 11	1	1480	1600	1480	1600	1480- 1600
9209	Area E3	Prov 11	6	1480	1900	1580	1900	1580- 1600
9214	Area E3	Prov 11	2	1240	1600	1400	1600	1400- 1600
9254	Area E4	Prov 12	10	1480	1700	1550	1700	1550- 1600
9256	Area E4	Prov 12	8	1480	1900	1580	1900	1580- 1600
9287	Area E3	Prov 11	3	1400	1600	1480	1600	1480- 1500
9289	Area E3	Prov 11	7	1270	1700	1550	1700	1550- 1600
9291	Area E2-E3	Prov 9	1	1170	1350	1170	1350	1170- 1350
9292	Area E4	Prov 11	64	1300	1800	1580	1800	1610- 1650
9295	Area E4	Prov 11	30	1480	1800	1570	1800	1570- 1600
9300	Area E4	Prov 12	5	1480	1700	1550	1700	1550- 1650
9311	Area E3	Prov 12	6	1550	1900	1630	1900	1630- 1800
9313	Area E4	Prov 11	3	1550	1700	1550	1700	1550- 1700
9314	Area E4	Prov 11	1	1550	1700	1550	1700	1550- 1700
9331	Area E1	Prov 6	3	1080	1350	1080	1350	1080- 1350
9338	Area E4	Prov 6	1	1580	1900	1580	1900	1580- 1900
9341	Area E3	Prov 11	198	1300	1800	1580	1800	1580- 1600
9343	Area E4	Prov 11	11	1480	1700	1550	1700	1550- 1600
9350	Area E3	Prov 11	12	1480	1700	1550	1700	1550- 1600
9383	Area E3	Prov 11	4	1480	1700	1550	1700	1550- 1600
9406	Area E3	Prov 11	1	1080	1350	1080	1350	1080- 1350
9410	Area E4	Prov 11	4	1480	1900	1550	1900	1550- 1600
9416	Area E2	Prov 11	1	1550	1700	1550	1700	1550- 1700
9541	Area E3	Prov 11	2	1570	1900	1580	1900	1580- 1700
9555	Area E3	Prov 11	1	970	1100	970	1100	970- 1100
9558	Area E4	Prov 11	19	1480	1700	1570	1700	1580- 1600
9563	Area E4	Prov 11	27	1270	1900	1580	1900	1580- 1650
9565	Area E4	Prov 11	56	1300	1900	1580	1900	1580- 1600
9567	Area E4	Prov 11	133	1300	1900	1580	1900	1580- 1600
9571	Area E3	Prov 12	2	1500	1800	1512	1800	1600- 1800
9600	Area E4	Prov 8	1	1000	1150	1000	1150	1000- 1150
9604	Area E4	Prov 11	1	1480	1650	1480	1650	1480- 1650
9614	Area E4	Prov 11	1	1480	1600	1480	1600	1550- 1600
9625	Area E3	Prov 7	1	1080	1350	1080	1350	1080- 1350
9628	Area E4	Prov 11	1	1550	1700	1550	1700	1550- 1700
9669	Area E4	Prov 11	4	1480	1700	1550	1700	1550- 1600
9679	Area E3	Prov 8	1	1480	1600	1480	1600	1480- 1600

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
9685	Area E3	Prov 11	40	1480	1700	1550	1700	1550- 1600
9719	0	0	2	1550	1700	1550	1700	1550- 1700
9720	0	0	12	1300	1900	1580	1900	1580- 1600
9738	Area E3	Prov 10	7	1080	1500	1340	1500	1340- 1500
9740	0	0	1	1480	1650	1480	1650	1480- 1650
9781	Area E3	Prov 10	1	1000	1150	1000	1150	1000- 1150
9788	Area E3	Prov 7	1	1270	1500	1270	1500	1270- 1500
9791	Area E4	Prov 11	1	1550	1700	1550	1700	1550- 1700
9807	Area F1	Prov 13	73	1480	1900	1701	1900	1701- 1710
9833	Area E2	Prov 7	4	1580	1900	1580	1900	1580- 1900
9857	Area E4	Prov 11	14	1550	1900	1580	1900	1580- 1700
9862	Area F1	Prov 12	2	1580	1700	1630	1700	1630- 1680
9878	Area F1	Prov 11	134	1480	1900	1720	1900	1630- 1650
9882	Area F1	Prov 12	3	1580	1900	1580	1900	1660- 1750
9886	Area F1	Prov 11	2	1300	1800	1512	1800	1550- 1600
9910	Area F1	Prov 13	416	1550	1900	1780	1900	1780- 1800
9937	Area F1	Prov 13	16	1080	1900	1700	1800	1700- 1800
9945	Area F1	Prov 11	49	1550	1900	1840	1900	1630- 1680
9946	Area E4	Prov 11	4	1480	1800	1580	1800	1580- 1650
9950	Area E4	Prov 11	5	1300	1700	1550	1700	1550- 1650
9951	Area E4	Prov 11	26	1300	1800	1580	1800	1580- 1600
9954	Area F1	Prov 11	8	1480	1800	1580	1800	1580- 1650
9958	Area F1	Prov 11	3	1480	1700	1550	1700	1550- 1600
9976	Area E1	Prov 4	1	1690	1800	1690	1800	1690- 1700
9990	Area F1	Prov 13	14	1580	1900	1630	1900	1630- 1700
9994	Area F1	Prov 11	4	1550	1700	1630	1700	1630- 1700
9996	Area F1	Prov 11	51	1480	1900	1630	1800	1630- 1650
10000	Area E4	Prov 11	10	1300	1725	1580	1725	1580- 1610
10026	Area F1	Prov 11	10	1550	1900	1630	1900	1630- 1700
10038	Area F1	Prov 11	31	1550	1900	1630	1900	1630- 1650
10046	Area E2-E3	Prov 11	4	1300	1800	1570	1800	1570- 1650
10050	Area F1	Prov 10	1	1080	1350	1080	1350	1080- 1350
10077	Area F1	Prov 11	1	1480	1600	1480	1600	1480- 1600
10085	Area E4	Prov 11	5	1480	1700	1580	1700	1580- 1650
10086	Area E4	Prov 11	6	1270	1700	1550	1700	1550- 1610
10087	Area E4	Prov 11	1	1480	1600	1480	1600	1480- 1600
10089	Area F1	Prov 11	8	1080	1900	1580	1900	1580- 1700
10120	Area F1	Prov 11	2	1080	1400	1240	1400	1240- 1350
10125	Area E4	Prov 11	1	1080	1350	1080	1350	1080- 1350
10146	Area E1	Prov 10	25	970	1100	970	1100	1000- 1100
10149	Area F1	Prov 10	1	1240	1400	1240	1400	1240- 1400
10151	Area F1	Prov 10	2	1270	1500	1270	1500	1270- 1500
10152	Area E2	Prov 6	2	1080	1400	1200	1400	1200- 1400
10171	Area F1	Prov 11	1	1300	1500	1300	1500	1300- 1500
10176	Area E1	Prov 4	1	970	1100	970	1100	970- 1100
10180	Area F1	Prov 11	10	1480	1700	1550	1700	1550- 1600
10182	Area F1	Prov 11	22	1480	1700	1550	1700	1550- 1600
10191	Area F1	Prov 6	2	1480	1700	1580	1700	1580- 1700
10207	Area F1	Prov 10	8	1050	1350	1140	1220	1140- 1150
10226	Area F1	Prov 10	11	1080	1500	1270	1500	1270- 1350
10234	Area F1	Prov 10	2	1080	1200	1080	1200	1080- 1200
10237	Area F1	Prov 10	50	900	1480	1290	1480	1290- 1350
10239	Area F1	Prov 10	15	1080	1500	1400	1500	1400- 1500
10251	Area E3	Prov 6	13	1300	1900	1630	1900	1630- 1650
10260	Area F1	Prov 10	77	970	1820	1770	1820	1170- 1200
10266	Area E4	Prov 10	1	1340	1500	1340	1500	1340- 1500
10287	Area F1	Prov 11	25	1170	1650	1480	1650	1480- 1550
10290	Area F1	Prov 10	13	1080	1550	1480	1550	1480- 1500
10302	Area F1	Prov 10	2	900	1500	1270	1500	1270- 1500
10317	Area F1	Prov 6	2	1080	1400	1240	1400	1240- 1400
10320	Area E4	Prov 5	1	1000	1150	1000	1150	1000- 1150
10325	Area E4	Prov 11	1	1480	1600	1480	1600	1480- 1600
10327	Area E4	Prov 11	20	1300	1900	1550	1900	1550- 1580

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
10331	Area F1	Prov 12	1	1400	1600	1400	1600	1400- 1600
10337	Area F1	Prov 10	2	1080	1350	1240	1350	1240- 1350
10338	Area E4	Prov 11	47	1240	1900	1580	1900	1580- 1650
10417	Area E1	Prov 5	1	1080	1350	1080	1350	1080- 1350
10467	Area F1	Prov 11	9	1400	1725	1525	1725	1550- 1600
10501	Area E3-E4	Prov 9	3	1050	1550	1450	1550	1450- 1550
10508	Area E3	Prov 4	1	1050	1150	1050	1150	1050- 1150
10519	Area F1	Prov 12	25	1140	1900	1580	1900	1580- 1610
10521	Area F1	Prov 11	1	1580	1700	1580	1700	1580- 1700
10551	Area E1	Prov 4	1	1240	1400	1240	1400	1240- 1400
10559	Area E3-E4	Prov 10	3	1240	1400	1280	1350	1280- 1350
10620	Area F1	Prov 10	3	1050	1220	1140	1220	1140- 1150
10718	Area E3	Prov 10	3	900	1900	1300	1650	1300- 1650
11113	Area E1	Prov 3	1	1080	1200	1080	1200	1080- 1200
11166	Area E1	Prov 3	1	900	1480	900	1480	900- 1480
11195	Area E1	Prov 12	2	1580	1800	1690	1800	1690- 1700
11202	Area F1	Prov 11	1	1550	1750	1550	1750	1550- 1750
11209	Area F1	Prov 11	21	1270	1650	1480	1650	1480- 1550
11211	Area F1	Prov 10	3	1480	1600	1480	1600	1480- 1600
11222	Area F1	Prov 10	3	1050	1350	1270	1350	1270- 1350
11226	Area F1	Prov 11	4	1480	1650	1480	1650	1480- 1600
11236	Area F2/G2	Prov 12	1	1660	1870	1660	1870	1660- 1870
11239	Area F2/G2	Prov 12	2	1550	1700	1630	1700	1630- 1680
11240	Area F1	Prov 12	19	1580	1900	1630	1900	1700- 1800
11241	Area F1	Prov 12	3	1000	1900	1580	1900	1580- 1700
11282	Area F1	Prov 10	3	1000	1220	1140	1220	1140- 1150
11292	Area F2/G2	Prov 13	13	1480	1900	1780	1900	1780- 1800
11302	Area F1 Area F2/G2	Prov 11	23	970	1350	1170	1350	1170- 1200
11303	Area F1	Prov 10	5	970	1350	1140	1220	1140- 1200
11307	Area F1	Prov 11	15	1480	1900	1630	1900	1630- 1650
11310	Area F1	Prov 10	6	1400	1600	1480	1600	1480- 1600
11322	Area F1	Prov 10	11	970	1600	1480	1600	1480- 1500
11325	Area F1	Prov 9	1	1140	1300	1140	1300	1140- 1300
11337	Area F1	Prov 11	8	1300	1700	1550	1700	1550- 1600
11342	Area F1	Prov 10	1	1080	1200	1080	1200	1080- 1200
11355	Area F1	Prov 11	38	1240	1400	1240	1400	1240- 1400
11363	Area F2/G2 Area F1	Prov 11	13	1480	1900	1580	1900	1580- 1700
11365	Area F1	Prov 12	8	1080	1400	1240	1400	1240- 1350
11370	Area F2/G2	Prov 13	29	1480	1900	1720	1780	1720- 1780
11372	Area F2/G2	Prov 13	2	1550	1800	1580	1800	1580- 1700
11379	Area F2/G2	Prov 10	1	1270	1500	1270	1500	1270- 1500
11385	Area F1	Prov 11	3	1480	1610	1480	1610	1480- 1550
11390	Area F2/G2	Prov 10	1	1350	1500	1350	1500	1350- 1500
11415	Area F1	Prov 9	1	1450	1550	1450	1550	1450- 1550
11418	Area F1	Prov 10	3	1080	1500	1270	1500	1270- 1350
11435	Area F2/G2	Prov 10	27	970	1350	1170	1350	1170- 1350
11446	Area F2/G2	Prov 10	2	1080	1350	1170	1350	1170- 1350
11450	Area F1	Prov 10	3	1140	1500	1270	1500	1270- 1350
11454	Area F2/G2	Prov 10	6	1050	1350	1170	1350	1170- 1220
11463	Area F1	Prov 11	6	1170	1600	1480	1600	1480- 1600
11465	Area F1	Prov 4	4	450	1220	1140	1220	1140- 1220
11467	Area F2/G2	Prov 11	3	1240	1650	1500	1650	1500- 1630
11468	Area F2/G2	Prov 10	15	1080	1700	1580	1700	1580- 1700
11471	Area F1	Prov 9	3	1080	1400	1240	1400	1240- 1400
11481	Area F1	Prov 10	1	1080	1350	1080	1350	1080- 1350
11484	Area F2/G2	Prov 10	1	1140	1220	1140	1220	1140- 1220
11486	Area F1	Prov 10	16	900	1480	1170	1350	1170- 1220
11488	Area F2/G2	Prov 10	11	1080	1400	1240	1400	1240- 1270
11494	0	0	2	450	1350	1170	1350	1170- 1350
11505	Area F2/G2 Area F1	Prov 9	1	1080	1350	1080	1350	1080- 1350
11508	Area F1	Prov 11	3	1480	1900	1580	1900	1580- 1700
11512	Area F1	Prov 4	4	1080	1350	1170	1350	1170- 1200
11523	Area F2/G2 Area F1	Prov 9	1	1080	1200	1080	1200	1080- 1200

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
11527	Area F2/G2	Prov 10	5	1080	1350	1170	1350	1170- 1200
11533	Area F2/G2	Prov 10	2	1170	1350	1170	1350	1170- 1350
11534	Area F2/G2	Prov 10	1	1240	1350	1240	1350	1240- 1350
11539	Area F1	Prov 9	10	1080	1725	1525	1725	1525- 1550
11546	Area F2/G2 Area F1	Prov 10	1	1080	1350	1080	1350	1080- 1350
11565	Area F1	Prov 5	1	1140	1220	1140	1220	1140- 1220
11569	Area F1	Prov 10	10	1080	1500	1350	1500	1350- 1400
11571	Area F2/G2	Prov 10	6	1000	1220	1140	1220	1140- 1150
11573	Area F1	Prov 4	2	1050	1500	1400	1500	1400- 1500
11574	Area F2/G2 Area F1	Prov 10	1	1080	1350	1080	1350	1080- 1350
11645	Area F1	Prov 10	4	1080	1400	1240	1400	1240- 1350
11665	Area F2/G2	Prov 6	2	450	1150	1050	1150	1050- 1150
11694	Area F1	Prov 10	1	1300	1650	1300	1650	1300- 1650
11698	Area F2/G2	Prov 9	2	1140	1220	1140	1220	1140- 1200
11708	Area F2/G2	Prov 10	2	1170	1350	1170	1350	1170- 1350
11745	Area F2/G2	Prov 11	6	1300	1650	1550	1650	1550- 1600
11763	Area F2/G2	Prov 11	3	1480	1700	1550	1700	1550- 1600
11765	Area F1	Prov 4	5	970	1100	970	1100	970- 1100
11780	Area F2/G2	Prov 10	1	1140	1220	1140	1220	1140- 1220
11792	Area F2/G2	Prov 11	5	1170	1800	1570	1800	1570- 1800
11817	Area F2/G2	Prov 11	1	1400	1500	1400	1500	1400- 1500
11819	Area F2/G2	Prov 11	2	1550	1900	1580	1900	1580- 1600
11820	Area F2/G2	Prov 11	4	1480	1700	1550	1700	1550- 1600
11851	Area F2/G2	Prov 10	2	1080	1350	1170	1350	1170- 1350
11853	Area F2/G2	Prov 10	14	970	1350	1170	1350	1170- 1220
11857	Area F2/G2	Prov 11	7	1080	1900	1580	1900	1580- 1650
11859	Area F2/G2	Prov 10	1	1170	1350	1170	1350	1170- 1350
11898	Area F2/G2	Prov 11	3	1480	1700	1550	1700	1550- 1600
11901	0	0	1	1080	1350	1080	1350	1140- 1200
11913	0	0	2	1080	1350	1170	1350	1170- 1200
11926	Area F2/G2	Prov 10	3	970	1350	1170	1350	1170- 1350
11928	Area F2/G2	Prov 10	9	1050	1500	1270	1500	1270- 1350
11929	Area F2/G2	Prov 11	3	1270	1650	1400	1650	1400- 1500
11963	Area F2/G2	Prov 11	12	1170	1900	1580	1900	1580- 1610
11967	Area F1	Prov 6	2	1000	1220	1140	1220	1140- 1150
11982	Area F1	N/A	2	1480	1650	1480	1650	1550- 1600
12005	Area F2/G2	Prov 5	1	1400	1600	1400	1600	1400- 1600
12010	Area F1	Prov 6	1	1170	1350	1170	1350	1170- 1350
12012	Area F2/G2	Prov 9	1	1580	1900	1580	1900	1580- 1900
12016	Area F2/G2	Prov 11	12	1300	1650	1480	1650	1480- 1610
12037	Area F2/G2	Prov 11	3	1300	1650	1480	1650	1480- 1500
12043	Area G1	Prov 13	59	1550	1900	1730	1900	1730- 1780
12059	Area F2/G2	Prov 10	1	1080	1350	1080	1350	1080- 1350
12060	Area G1	Prov 13	1	1720	1780	1720	1780	1720- 1780
12068	Area F2/G2	Prov 10	2	1140	1220	1140	1220	1140- 1220
12078	Area G1	Prov 11	1	1280	1350	1280	1350	1280- 1350
12082	Area G1	Prov 13	12	1512	1900	1830	1900	1840- 1900
12096	Area G1	Prov 12	15	1240	1900	1670	1900	1670- 1690
12097	Area G1	Prov 12	62	1270	1900	1630	1900	1630- 1650
12100	Area G1	Prov 12	63	900	1900	1690	1900	1690- 1710
12116	Area G1	Prov 13	255	1580	1900	1840	1900	1840- 1860
12140	Area G1	Prov 13	119	1400	1900	1810	1860	1810- 1820
12146	Area G1	Prov 13	323	1570	1900	1800	1900	1800- 1830
12157	Area G1	Prov 11	2	1080	1700	1550	1700	1550- 1700
12166	Area G1	Prov 12	47	1480	1900	1690	1900	1690- 1700
12168	Area G1	Prov 12	6	1580	1900	1630	1900	1630- 1680
12170	Area G1	Prov 11	3	1300	1900	1580	1900	1580- 1650
12174	Area F2/G2	Prov 10	1	1170	1350	1170	1350	1170- 1350
12178	Area G1	Prov 11	1	1000	1150	1000	1150	1000- 1150
12186	Area G1	Prov 9	1	970	1100	970	1100	970- 1100
12188	Area G1	Prov 12	63	1480	1900	1690	1900	1690- 1700
12189	Area G1	Prov 11	1	1240	1400	1240	1400	1240- 1400
12197	Area G1	Prov 11	1	970	1100	970	1100	970- 1100

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
12200	Area G1	Prov 10	4	970	1150	1050	1150	1050- 1100
12201	Area G1	Prov 9	2	1000	1650	1250	1650	1250- 1650
12225	Area G1	Prov 9	2	1050	1300	1140	1300	1140- 1150
12241	Area G1	Prov 10	2	1000	1150	1050	1150	1050- 1150
12243	Area G1	Prov 11	4	900	1900	1480	1900	1480- 1600
12285	Area F1	Prov 7	4	1080	1700	1500	1700	1500- 1600
12317	Area G1	Prov 11	6	1270	1650	1550	1650	1550- 1580
12326	Area F2/G2	Prov 8	1	1200	1400	1200	1400	1200- 1400
12353	Area F2/G2	Prov 11	2	1300	1700	1550	1700	1550- 1650
12360	Area F2/G2	Prov 10	1	1240	1400	1240	1400	1240- 1400
12379	Area G1	Prov 11	3	1270	1500	1400	1500	1400- 1500
12442	Area F2/G2	Prov 8	1	1140	1350	1170	1350	1140- 1350
12447	Area F2/G2	Prov 7	1	1140	1220	1140	1220	1140- 1220
12475	Area F2/G2	Prov 10	5	1080	1350	1170	1350	1170- 1220
12476	Area F2/G2	Prov 10	3	970	1220	1140	1220	1140- 1220
12502	Area F2/G2	Prov 3	12	1050	1350	1170	1350	1170- 1350
12513	Area G1	Prov 11	7	1270	1650	1500	1600	1500- 1600
12515	Area G1	Prov 11	3	1480	1650	1480	1650	1480- 1600
12517	Area G1	Prov 11	1	1580	1900	1580	1900	1580- 1700
12519	Area G1	Prov 11	8	1270	1700	1550	1700	1550- 1600
12523	Area G1	Prov 7	1	1270	1500	1270	1500	1270- 1500
12525	Area G1	Prov 10	3	970	1150	1000	1150	1000- 1100
12570	Area G1	Prov 10	6	1270	1500	1280	1500	1270- 1500
12574	Area G1	Prov 10	6	900	1350	1170	1350	1170- 1220
12582	Area G1	Prov 10	3	1080	1350	1170	1350	1170- 1200
12583	Area G1	Prov 10	2	1140	1300	1150	1300	1150- 1220
12585	Area G1	Prov 9	2	1140	1220	1140	1220	1140- 1220
12587	Area G1	Prov 9	6	1180	1725	1525	1725	1525- 1600
12588	Area G1	Prov 10	3	1150	1500	1270	1500	1270- 1300
12590	Area F2/G2	Prov 6	1	900	1480	900	1480	900- 1480
12592	Area G1	Prov 10	20	1050	1800	1580	1800	1580- 1700
12594	Area G1	Prov 10	1	1340	1450	1340	1450	1340- 1450
12596	Area G1	Prov 10	33	970	1350	1170	1350	1170- 1220
12598	Area G1	Prov 10	4	900	1250	900	1250	900- 1250
12603	Area G1	Prov 10	2	1270	1500	1270	1500	1270- 1500
12618	Area F2/G2	Prov 12	1	1400	1500	1400	1500	1400- 1500
12621	Area F2/G2	Prov 11	5	900	1900	1480	1900	1480- 1500
12629	Area G1	Prov 10	3	1080	1350	1150	1300	1150- 1300
12631	Area F2/G2	Prov 11	1	1480	1600	1480	1600	1480- 1600
12632	Area F2/G2	Prov 11	2	1480	1600	1480	1600	1480- 1600
12635	Area F2/G2	Prov 10	1	1340	1500	1340	1500	1340- 1500
12637	Area F2/G2	Prov 13	5	1670	1900	1800	1900	1800- 1850
12641	Area F2/G2	Prov 12	1	1550	1700	1550	1700	1550- 1700
12642	Area F2/G2	Prov 10	2	1350	1500	1400	1500	1400- 1500
12645	Area F2/G2	Prov 10	1	1350	1500	1350	1500	1380- 1500
12673	Area G1	Prov 10	10	1080	1350	1140	1220	1140- 1220
12691	Area F2/G2	Prov 4	1	1350	1500	1350	1500	1380- 1400
12704	Area G1	Prov 10	7	1050	1350	1080	1350	1080- 1150
12705	Area G1	Prov 12	27	1550	1900	1630	1900	1630- 1680
12707	Area G1	Prov 10	14	900	1250	1140	1220	1140- 1150
12729	Area G1	Prov 10	3	1140	1350	1170	1350	1170- 1220
12742	Area G1	Prov 10	2	1170	1350	1170	1350	1170- 1350
12750	Area G1	Prov 7	1	1630	1680	1630	1680	1630- 1680
12756	Area G1	Prov 10	16	1240	1500	1350	1500	1350- 1400
12760	Area G1	Prov 12	4	1550	1900	1630	1900	1630- 1680
12782	Area G1	Prov 10	5	1270	1630	1500	1630	1500- 1630
12795	Area G1	Prov 10	2	1340	1500	1340	1500	1340- 1500
12800	Area F1	Prov 10	1	1080	1350	1080	1350	1080- 1350
12820	Area G1	Prov 13	92	1580	1900	1830	1900	1835- 1860
12828	Area F1	Prov 10	5	1080	1400	1240	1400	1240- 1350
12830	Area G1	Prov 10	109	1170	1650	1430	1500	1430- 1500
12851	Area G1	Prov 11	14	900	1900	1580	1900	1580- 1700
12872	Area G1	Prov 10	1	1140	1220	1140	1220	1140- 1220

Context	Trench	Phase	Total SC	Date range of the pottery		Latest dated pottery type		Spot date
12882	Area G1	Prov 9	1	1350	1500	1350	1500	1350- 1500
12916	Area G1	Prov 4	1	900	1500	900	1500	900- 1500
12946	Area G3	Prov 10	2	1080	1350	1080	1350	1080- 1200
13018	Area G3	Prov 12	47	1550	1900	1735	1900	1735- 1770
13020	Area G1	Prov 10	7	1140	1500	1300	1500	1300- 1400
13023	Area G1	Prov 11	2	1240	1600	1480	1600	1480- 1600
13033	Area G3	Prov 11	13	1480	1700	1620	1700	1620- 1650
13034	Area G3	Prov 11	9	1500	1700	1580	1700	1620- 1650
13051	Area G3	Prov 13	353	1480	1900	1840	1900	1765- 1780
13103	Area G3	Prov 12	7	1570	1900	1580	1900	1740- 1780
13104	Area G3	Prov 12	12	1570	1900	1720	1900	1720- 1780
13111	Area G3	Prov 13	15	1580	1900	1780	1900	1780- 1820
13128	Area G3	Prov 11	2	1550	1800	1580	1800	1580 -1700
13154	Area G1	Prov 4	1	1200	1400	1200	1400	1200- 1400
13195	Area F2/G2	Prov 10	3	1080	1350	1240	1350	1240- 1350
13205	Area F1	Prov 10	1	1050	1150	1050	1150	1050- 1150
13222	Area G3	Prov 10	2	1140	1350	1170	1350	1170- 1220
13256	Area G1	Prov 7	1	900	1480	900	1480	900- 1480
13309	Area F2/G2	Prov 11	2	1580	1900	1670	1900	1700- 1800
13319	Area F2/G2	Prov 3	1	1080	1200	1080	1200	1080- 1200
13325	Area F2/G2	Prov 11	4	1580	1900	1670	1900	1670- 1800
13326	Area F2/G2	Prov 11	6	1480	1800	1580	1800	1580- 1700
13337	Area G1	Prov 10	6	1000	1350	1140	1220	1140- 1150
13343	Area F2/G2 Area G1	Prov 10	2	1080	1220	1140	1220	1140- 1200
13373	Area G3	Prov 10	1	1170	1350	1170	1350	1170- 1350
13374	Area G3	Prov 10	1	1140	1220	1140	1220	1140- 1220
13376	Area G3	Prov 6	1	1525	1725	1525	1725	1525- 1725
13390	Area G1	Prov 9	1	1050	1150	1050	1150	1050- 1150
13467	Area G1	Prov 10	1	1140	1220	1140	1220	1140- 1220
13474	Area G3	Prov 11	1	1580	1900	1580	1900	1580- 1900
13498	Area G1	Prov 10	7	970	1500	1270	1500	1270- 1350
13499	Area G1	Prov 10	2	1140	1300	1150	1300	1150- 1220
13558	Area G1	Prov 10	1	1300	1650	1300	1650	1300- 1650

**Table 7: Dating table listing all contexts containing pottery. SC = Sherd count.**





## **APPENDIX 3: CLAY TOBACCO PIPES, MUFFLE, KILN FURNITURE AND HAIR CURLER ASSESSMENT**

**By Chris Jarrett**

### **Introduction**

A large sized assemblage of clay tobacco pipes was recovered from the site (20 boxes). Most fragments are in a fairly good condition, indicating that they had not been subject to much redeposition or were deposited soon after breakage. Clay tobacco pipes occur in 291 contexts, all as small to very large groups (under 30 fragments to multiple boxes).

All the clay tobacco pipes (5027 fragments including 19 that are unstratified) were recorded in an ACCESS database. They were classified using Atkinson and Oswald's (1969) typology, prefixed (AO), and 18<sup>th</sup>-century examples by Oswald's (1975) typology, prefixed OS. The pipes were further coded by decoration and quantified by fragment count. The degree of milling on 17<sup>th</sup>-century examples has been noted and recorded in quarters, besides the quality of finish. The tobacco pipes are discussed by their types and distribution.

Muffle is the inner wall of a clay tobacco pipe kiln. The muffle (three boxes, weighing 21.777kg) was present as a small amount, all of which was stratified. The condition of the muffle was fragmentary and ranged from small to large fragments. It was derived from four contexts, two of which were associated with the demolition of a clay tobacco pipe kiln and consisted of 331 fragments. The muffle was recorded in an Excel spreadsheet. Clay tobacco pipe kiln furniture occurred as a small quantity of material recovered from the excavation (one box). There were a total of six fragments representing individual items found in five contexts. The condition of this material was largely fragmentary. This material was recorded in an Access database.

A single hair curler was recovered from the site in a fragmentary condition. It is classified according to Le Cheminant's (1982) typology and recorded in an Access database.

### ***The clay tobacco pipe types***

The clay tobacco pipe types range in date to between 1580-1910. Unless the makers of the marked pipes can be accurately determined from the marked pipes, then reference to Oswald (1975) should be made for possible manufacturers. Where multiple occurrences of maker marked bowls are recorded the number of items are usually stated in brackets, otherwise they are singular examples. A number of clay tobacco pipe makers were located in alleyways off Tabard Street, formerly Kent Street, from the 18<sup>th</sup> century (Tatman 1994).

1580-1610

AO1: one bowl; not marked.

1610-1640

AO4: three examples; not marked.

AO5: eighteen examples. Three bowls have circular stamps on the underside of the heel, firstly with an open star; secondly with I P in relief and a third stamp has the initials I R.

AO6: two bowls.

1640-1660

AO9: 44 bowls; none are maker marked.

AO10: seventeen bowls; none are maker marked.

1640-1670

AO11: one bowl; not maker marked.

AO12: two bowls; none are maker marked.

1660-1680

AO13: thirteen examples. One bowl, possibly non-local in source, has a circular heel stamp with the letter C or G.

AO14: three bowls, but two examples maybe modified AO15 types with the spurs shortened.

AO15: 511 bowls; none are maker marked.

AO18: 76 bowls; none are maker marked.

1680-1710

The AO19, AO20 and AO22 bowls were produced in kiln [105] (see distribution below).

AO19: 136 spurred bowls. None are maker marked and only one AO19 bowl is decorated with a band of rouletting or milling.

AO20: 120 bowls found in numerous contexts where they are either contemporary or residual. Two bowls have different circular stamps found on the underside of the heel. Firstly with the initials I B in relief (see Oswald 1975, 131, for possible makers). The second stamp has the initials S M in relief but no maker is as yet known for this pipe in London.

AO21: 33 bowls. Of note is a variant with a slightly splayed heel besides five bowls, all from context [3681], have the initials GR.

AO22: 188 bowls. A circular stamp with the initials W H in relief is found on two AO22 bowls and recorded in contexts [518] and [3681]. Only one bowl has initials on the heel and this is G ?W, the family name being illegible.

1700-1770

AO25: 40 bowls are assigned to this category, as they are too fragmentary to be classified under Oswald's 1975 system. Initialled examples are ?B ?, I A, H B, W B, I B or S, ? C, A G, N G, I H, R M as well as I S. Most of these initials are repeated in the more clearly defined 18<sup>th</sup>-century types but those that are not recorded on OS10, OS11 and OS12 bowls are single examples of N G (probably a Lambeth pipe maker from their numerous presence at Lambeth Bridge House: LMD97), I H and RM.

1700-1740

OS10: 158 examples and fairly numerous in different contexts. One stamped example from context [194] has a circular incuse stamp on the back of the bowl with the letters W L. Two examples have only crowns on each side of the heel. Bowls with initialled heels are: ? ? (four examples), I ? and another example with crowns above the initials, W ?, one each with or without crowns above the initials, ?C, W ?P, I A (four or possibly five examples), A A/Q, ? B, ?W B, M B (four examples), W B (two examples), ? C, B C (eight examples, particularly from [551], I C, I D, A G: one example with stars above the initials, W M, R O with crowns above the initials (two examples), S P, I R, with crowns above the initials, M R, with crowns above the letters, ? S, M S and I W.

1730-1760

OS 11: three bowls are identified with these wide rims. Two are plain and the other is marked W B.

1730-1780

OS12: 67 bowls found in numerous contexts. There are several marked bowls, some of these with decorative armorials listed below, one example which has the Hanoverian coat of arms is damaged and occurs in context [12820]. The marked bowls are ?T, ? ? (three examples where the lettering is illegible), I B (two possibly three bowls and one has crowned initials), W B, B C (four examples), W D (three examples), R P, E R, T R, ?L S or possibly I S, H S, I S (one, possibly two bowls), S S, T/I S, W S and W W.

Bowls marked H B occur as six, possibly seven bowls and these are probably the product of Henry Blundell, 1745-64, Unicorn Alley, Borough, located opposite the site on the other side of Tabard Street. A number of armorial bowls are attributed to Blundell as the Arms of the Watermen and one example came from context [9910]. There are also three different types of HB marked Hanoverian coat of Arms bowls which occur as a total of four bowls.

1730-1780

OS22: 12 bowls, with eight plain examples. There are two armorial bowls both from context [404] one with the Hanoverian coat of arms which is not maker marked while another with its spur missing depicts the coat of Arms of George III (1760-1820). There are two maker marked bowls. The first is initialled I A is decorated with the Prince of Wales Feathers in a circular border with a crown above it. This bowl was almost certainly made by John Adds, 1761, Strand. The second bowl is marked W D.

1740-1780

AO26: six fragments of these spurred 18<sup>th</sup>-century bowls, one example has the forename I, while another has the family name B surviving. More complete examples of these bowls are classified as OS22 and OS23 bowls.

1760-1800

OS23: a total of 21 bowls are recorded. The unmarked decorative bowls are a Prince of Wales Feathers example with a Tulip on the front of the bowl, the spur is missing ; two rare occurrences of 'Kick Him Jenny' from deposits [6026] and [9937], small find <2100>. This bowl depicts in relief a girl on the left side and the devil on the right side with bottles and a tulip on the front. It is an interesting example of propaganda for the emergence of a temperance movement in the late 18<sup>th</sup> century lambasting the evil temptation of alcohol. One other bowl from context [1552] has stars on each side of the heel. The marked bowls are I C, W C with the C reversed and I G (three bowls). Another bowl made by Henry Blundell is a variant of the Waterman's Arms and has a gadroon on the front of the bowl.

1780-1830

AO27: 58 bowls. The evidence from makers' names on this site and others would suggest that this type of bowl continues in production until c.1830, rather than Atkinson and Oswald's (1969, 179) 1820 terminal date. Identifying marks include two bowls with just stars on the heel, while another bowl has a flower-like emblem on the heel. The marked bowls are: I ? with ribs of equal size, ? B decorated with fluting of alternating sizes, H B, ? C with a leaf border on the front of the bowl and W C (one bowl with fluting of different sizes and oak leaf borders and drapes and tassels around the rim). S L, one bowl found in context [273] and possibly for Samuel Lewis, 1774-1805, who worked in a number of London locations including Southwark and Horsley Down, Bermondsey, I M (one, possibly two bowls), I N, W R (two bowls) and W W.

There are a number of bowls where it is more certain who the maker was. One bowl from context [8129] has a circular incuse stamp on the back of the bowl with 'SMITH' surrounded by scrolls. This maker is not known locally. I and J W marked bowls occur as three examples and are decorated with even fluting and stars on the heels, while in relief on the stem is written 'WILLIAMS, KENT STREET'. This refers to John Williams, 1828-42, Kent St. Borough.

A single W W marked bowl is probably for William Williams, Kent St, 1823-64, Borough.

There are eleven plain I I marked bowls besides an additional bowl with elaborate fluted decoration. I J initials occur on a total of eighteen bowls present and eight are plain, seven have fluting of different sizes with oak leaf borders, besides another similar variant but with drapes around the rim. Additionally two bowls have a circular stamp with 'JEWSTER KENT STREET'. The I I and I J marked bowls are all likely to have been made by John Jewster, 1805-62. Another maker is I B (three bowls, one of which is plain, but two bowls have incuse stamps with 'BLUNDELL' and a scroll). There are at present no known pipe makers with this name for this time, but this probably refers to a descendent of Henry Blundell. Other marked AO27 bowls are T B, W B (two bowls, one plain and the other decorated with a leaf border on the front of the bowl and fluting of different sizes).

1820-1840

AO 28: twelve bowls. Those without maker marks include a tall plain example from context [1552] where the initials may have been deliberately removed or blurred. There is also an example with its spur missing but with leaf borders and another bowl with shields on the heel and an acorn and oak leaf border on the front of the bowl. The marked bowls are; W B (with oak leaf and grass border on the front of the bowl), T M and H S with a slightly slanting rim. Bowls where it is more certain of who made them are I J (two examples) with different stamps on the back of the bowls, first with 'JEWSTER' and scrolls and second 'JEWSTER KENT STREET' wrapped around a triangle and star symbol. John Jewster, 1805-62, Borough, from context [12116]. Another bowl with a stamp 'LEWIS' above crossed pipes has the initials T L on the heel and refers to Thomas Lewis, 1823-32, Horsley Down, Bermondsey. The final AO28 bowl discussed is marked W W and has oak leaf border on the front of the bowl, possibly for William Williams, 1823-64, Kent Street, Borough.

1840-1880

AO29: three bowls with the characteristic sloping rim; all are initialled, either I B (two bowls) or S B which is small in size.

1850-1910

AO30: two bowls; one bowl is plain while the other is decorated with leaf borders and scales.  
AO33: one bowl of an Irish type which is initialled H S.

Non-local bowls

There are two non-local bowls whose sources need further research. The first bowl found in deposit [945] is dated c.1660-1680 and has a splayed heel, rounded bowl and a straight back. The second bowl, from deposit [918], unfortunately has its rim missing but the bowl is nearly upright, the heel angled and probably dates to the end of the 17<sup>th</sup>-century.

### **Kiln furniture**

There are two setters recovered from the site, firstly in Phase 12 as a small dumbbell shape from deposit [107] associated with kiln [105] and secondly as a fragment of a crescent shaped object from context [551]. Another fragment of an uncertain kiln furniture type comes from context [60], Phase 11. A pipe clay brick, measuring 52mm x 70mm x 60mm deep was recovered from context [457], Phase 13. A possible pipe clay tile encased in muffle was recovered from context [108] which was associated with the Phase 12 pipe kiln [105] and may have been a structural element for that oven. A fragment of a possible prop with a central hollow, which would have been placed in the centre of the kiln, was also found in context [108].

### **Muffle**

The majority of the muffle came from contexts [107] and [108] which were associated with the demolition of the Phase 12 clay tobacco pipe kiln. The muffle from these two contexts consisted of a total of 329 fragments, weighing 21.405kg. Some fragments have a slag-like or kiln self-glaze resulting from firing. The majority of the muffle contains clay tobacco pipe stems (to give the muffle kiln structure rigidity) all

aligned in the same direction, usually with the distance between the stems measuring between 10-25mm, but also recorded up to 50mm. Other fragments have the clay pipe stems laid in layers, but perpendicular to each other and very occasionally stems are at a diagonal. Occasionally clay tobacco pipe bowls of types AO19 and AO22, or their impressions, were found and date the muffle to between 1680 and 1710. Fragment of roof tile and pottery, to give rigidity, were also found in the muffle. Single fragments of muffle were also recovered from deposits [199] and [518], both of which were fills of cut features located in Trench 2 close to the kiln.

### The Hair Curler

A single pipe clay hair curler (small find <152>) was recovered from Phase 13, fill [758] in the timber barrel [759] within construction cut [784]. The hair curler is of Le Cheminant's Type 10, dated c.1750, with a bevelled profile to the dumbbell shape, but is a smaller variant. The one end that survives intact has a small incuse stamp of a three pronged crowns above the initials I B. This stamp has been previously noted and is uncommon (Le Cheminant 1982), but probably refers to a clay tobacco pipe maker who also specialised in making hair curlers.

### Distribution

The distribution of the clay tobacco pipes is shown in Table 1 and lists the contexts they were found in, which Trench the context is located in and its Phase, besides how many fragment of clay tobacco pipes there are, their date range, the types of bowls and decoration and a spot date for the deposit. Only the contexts containing clay tobacco pipes, kiln furniture and muffle associated with the kiln are discussed in detail.

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
3	Trench 3	Prov 12	1			1570-1910
18	Trench 3	Prov 13	3	1780-1840	x1 AO27 (**), AO28 (T L: STMP)	1820-1840
20	Trench 3	Prov 13			?	1700-1840
59	Trench 3	Prov 11	3		Stem	1570-1910
60	Trench 3	Prov 11	1		Stem	1570-1910
61	Trench 3	Prov 11	5		Stem	1570-1910
101	Trench 2	Prov 12	6		Stem	1570-1910
104	Trench 2	Prov 12	28	1660-1710	x4 AO15, x1 AO 18, x2 AO20	1680-1710
107	Trench 2	Prov 12	542	1680-1740	x28 AO19, x23 AO20, x14 AO22, x1 OS10	1680/90-1710
108	Trench 2	Prov 12	290		Stems	1570-1910
109	Trench 2	Prov 12	89	1680-1710	x8 AO19, x6 AO20, x1 AO21, x4 AO22	1680/90-1710
116	Trench 2	Prov 12	7	1660-1680	x7 AO15	1660-1680
117	Trench 2	Prov 13	3	1640-1740	x1 AO9, x1 AO15, x1OS10	1700-1740
118	Trench 2	Prov 13	1		Stem	1570-1910
120	Trench 2	Prov 13	2	1680-1740	x1 AO20, x1 OS10 (B C)	1700-1740
121	Trench 2	Prov 13	31	1700-1780	x16 OS10 (B C, M S), x1 OS12 (B C)	1730-1780
172	Trench 2	Prov 12	2		Stems	1570-1910
175	Trench 2	Prov 12	5	1730-1780	x2 OS12 (?T -)	1730-1780
176	Trench 2	Prov 12	1		Stems	1570-1910
177	Trench 2	Prov 12	13	1640-1780	x1 AO9, x1 AO15, x1 AO20, x3 AO25 (I S), x1 OS10, x1 OS12	1730-1780
179	Trench 2	Prov 11	33	1610-1640	x1 AO4, x9 AO5 (I P: STMP)	1610-1640
193	Trench 2	Prov 12	9	1700-1770	x1 AO25	1700-1740

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
194	Trench 2	Prov 12	32	1700-1740	x4 OS10 (I D, W L: <i>STMP</i> )	1730-1780
197	Trench 2	Prov 12	4		Stems	1570-1910
199	Trench 2	Prov 12	13	1700-1780	x1 AO25 (N G), x3 (B C, I S, W S)	1730-1780
205	Trench 1	Prov 13	8	1700-1800	x 4 OS10 (S P, I W), x 3 OS23	1760-1800
215	Trench 1	Prov 12	6	1700-1780	x1 AO15, x1 AO25, x1 OS10, x3 OS12 (T/I S)	1730-1780
217	Trench 1	Prov 13	4	1780-1840	x1 AO27 (? B), x2 AO28 (W B)	1820-1840
224	Trench 1	Prov 14	1		Stem	1570-1910
226	Trench 1	Prov 13	1		Stem	1570-1910
232	Trench 1	Prov 13	2		Stem	1570-1910
236	Trench 1	Prov 13	8	1700-1780	x3 OS10, x1 OS12	1700-1740
237	Trench 1	Prov 13	29	1660-1820	x1 AO15, x1 AO19, x1 AO27	1780-1820
241	Trench 1	Prov 13	2	1700-1740	x1 OS10	1700-1740
246	Trench 1	Prov 12	1	1700-1740	x1 OS10	1730-1780
259	Trench 1	Prov 12	1	1700-1740	x1 OS10	1700-1740
264	Trench 1	Prov 12	5	1660-1770	x2 AO15, x1 AO22, x1 AO25	1700-1710/70
267	Trench 1	Prov 13	2	1760-1800	x1 OS23	1760-1800
271	Trench 1	Prov 12	13	1680-1770	x1 AO21, x2 AO22, x1 AO25, x3 OS10 (A A/Q)	1700-1740
273	Trench 1	Prov 13	53	1780-1820	x19 AO27 (I I, I J, I M, I N, I W, S L, W B, W R, W W)	1820-1840
277	Trench 1	Prov 13	22	1680-1820	x1 AO20, x1 AO22, x2 AO26 (- B), x1 AO27 (H B), x7 OS10 (?I ?, R O: <i>CRIN</i> ), x2 OS12 (I B, I ?S), x3 OS 22 (W D), x3 OS23: <i>ARMP</i>	1780-1800
279	Trench 1	Prov 13	4		Stems	1570-1910
280	Trench 1	Prov 13	20	1640-1780	x1 AO9, x1 AO15, x1 AO18, x1 AO25, x1 OS10 (B C), x1 OS12 (B C)	1730-1780
281	Trench 1	Prov 12	6		Stem	1570-1910
282	Trench 1	Prov 12	3	1700-1770	x3 AO25	1700-1770
286	Trench 1	Prov 13	1	1780-1820	x1 AO27	?1780-1820
287	Trench 1	Prov 12	8	1640-1780	x1 AO10, x1AO22, x1 OS10, x1 OS12	1730-1780
289	Trench 1	Prov 11	3		Stems	1570-1910
292	Trench 1	Prov 12	10	1700-1740	x1 OS10	1700-1740
295	Trench 1	Prov 12	8	1680-1710	x1 AO22	1680-1710
307	Trench 3	Prov 13	3	1700-1740	x1 OS10 (A G: <i>STMP</i> )	1700-1740
354	Trench 1	Prov 13	13	1640-1770	x1 AO9, x1 AO15, x2 AO19, x1, AO22, x1 AO25, x4 OS10 (W ?P)	1700-1740
357	Trench 1	Prov 12	4		Stems	1570-1910
366	Trench 1	Prov 11	1		Stem	1570-1910
368	Trench 1	Prov 13	2	1680-1710	x2 AO20	1680-1710
371	Trench 1	Prov 12	16	1680-1710	x1 AO19, x2 AO21, x3 AO22	1680/90-1710
373	Trench 1	Prov 12	31	1610-1710	x1 AO5, x1 AO15, x1 AO18, x3 ?AO 19, x2 AO21, x3 AO22	1680/90-1710
377	Trench 1	Prov 12	1		Stem	1570-1910
378	Trench 1	Prov 12	16	1660-1710	x1 AO15, x4 AO19, x5 AO20 (I B: <i>STMP</i> ), x6 AO22 (G ?W)	1680/90-1710
379	Trench 1	Prov 12	3		Stems	1570-1910
380	Trench 1	Prov 12	2		x1 ?AO22	1680-1710
384	Trench 1	Prov 12	2	1700-1740	x1 OS10	1700-1740
388	Trench 1	Prov 13	34	1680-1770	x4 AO22, x2 AO22, x1 ?AO25 (?M R: <i>CRIN</i> ), x4 AO25 (I A), x2 OS10 (I A)	1700-1740
390	Trench 1	Prov 12	3		Stems	1570-1910

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
396	Trench 1	Prov 12	6		Stems	1570-1910
404	Trench 1	Prov 13	34	1680-1800	x1 AO19, x1 AO21, x1 AOS5 (A G), x3 AO26, x1 OS10, x8 OS22: <i>ARMH</i> , x1 (I A: <i>ARMP</i> )	1760-1800
406	Trench 1	Prov 12	15	1680-1710	x2 AO20, x1 AO21	1680-1710
407	Trench 1	Prov 12	36	1680-1710	x2 AO19, x3 AO20, x2 AO22	1680/90-1710
412	Trench 1	Prov 12	5	1680-1740	x1 AO19, x1 AO21, x1 OS10	1700-1740
415	Trench 1	Prov 12	21	1680-1710	x1 AO19, x2 AO20, x1 AO21, x3 AO22	1680/90-1710
418	Trench 1	Prov 12	4	1660-1710	x1 AO15, x1 AO20, x1 AO22	1680-1710
420	Trench 1	Prov 12	7		Stem	1570-1910
424	Trench 1	Prov 12	2		Stem	1570-1910
429	Trench 1	Prov 12	15	1680-1710	x1 AO22	1680-1710
432	Trench 1	Prov 12	11	1660-1710	x4 AO15, x1 AO18, x1 AO20	1680-1710
434	Trench 1	Prov 13	4	1680-1710	x1 AO19	1680/90-1710
439	Trench 1	Prov 13	8	1680-1710	x1 AO22	1680-1710
443	Trench 1	Prov 13	16	1680-1710	x1 AO22	1680-1710
452	Trench 1	Prov 12	46	1700-1770	x3 AO25 (I H), x6 OS10	1730-1780
457	Trench 1	Prov 13	6	1680-1780	x1 AO22, x1 OS12	1730-1780
459	Trench 1	Prov 12	3	1680-1740	x1 AO20, x1 AO22, x1 OS10 (W B)	1700-1740
463	Trench 1	Prov 12	35	1660-1740	x1 AO14, x5 AO15, x3 AO19, x1 AO20, x3 AO22, x2 OS10	1700-1710
464	Trench 1	Prov 13	20	1660-1770	x1 AO15, x2 AO22, x2 AO25, x5 OS10 (I C)	1700-1740
465	Trench 1	Prov 12	3	1680-1710	x1 AO19, x1 AO20	1680/90-1710
466	Trench 1	Prov 13	1	1680-1710	x1 AO19	1680/90-1710
473	Trench 1	Prov 12	7	1660-1680	x1 AO18	1660-1680
475	Trench 1	Prov 13	8	1700-1780	x2 AO25 (I B/S)x 1 OS10, x1 OS12 (H S)	1730-1780
478	Trench 1	Prov 12	40	1730-1780	x13 OS12 (? ?, T R, W D)	1730-1780
479	Trench 1	Prov 12	7	1700-1740	x1 OS10	1700-1740
482	Trench 1	Prov 13	8		Stems	1570-1910
484	Trench 1	Prov 12	29	1660-1740	x4 AO15, x4 AO19, x6 AO20, x6 AO22, x5 OS10	1700-1710/40
485	Trench 1	Prov 12	7	1660-1740	x1 AO15, x1 OS10 (I R: <i>CRIN</i> )	1700-1740
502	Trench 2	Prov 12	4		Stems	1570-1910
503	Trench 2	Prov 12	1		Stem	1570-1910
517	Trench 2	Prov 11	3	1660-1680	x2 AO15	1660-1680
518	Trench 2	Prov 12	7	1680-1710	x2 AO22 (W H: <i>STMP</i> )	1680-1710
519	Trench 2	Prov 12	15	1660-1740	x1 AO15, x1 AO18, x3 AO19, x2 AO20, x3 AO22, x1 OS10	1700-1740
520	Trench 2	Prov 12	7	1610-1640	x2 AO4	1610-1640
522	Trench 2	Prov 12	27	1640-1710	x1 AO10, x4 AO15, x1 AO18, x2 AO19, x4 AO20, AO21, x5 AO22	1680/90-1710
523	Trench 2	Prov 12	3	1640-1680	x2 AO9, xQ AO15	1660-1680
524	Trench 2	Prov 12	2	1680-1710	x1 AO19	1680/90-1710
535	Trench 2	Prov 12	19	1660-1740	x1 AO15, x4 OS10, (W ?)	1730-1780
539	Trench 2	Prov 12	4	1680-1770	x1 AO19, x1 AO25 (B C), x1 OS10	1700-1740
540	Trench 2	Prov 12	1		Stem	1570-1910
551	Trench 2	Prov 12	45	1680-1780	x1 AO21, x1 AO22, x3 AO25 (? C, B C), x8 OS 10 (? C, B C), x2 OS11, x3 OS12 (B C, E R, W B)	1730-1780
605	Trench 1	Prov 12	34	1680-1710	x1 AO19, x1 AO20, x1 AO21, x1 AO22	1680/90-1710
610	Trench 1	Prov 12	15	1660-1710	x1 AO15, x1 AO19, x3 AO20, x1 AO21, x7 AO22	1680/90-1710



Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
614	Trench 1	Prov 11	9	1660-1680	x4 AO15	1660-1680
618	Trench 1	Prov 11	3	1660-1710	x2 AO15, x1 AO20	1660-1680
620	Trench 1	Prov 12	8	1660-1740	x1 AO15, x1 OS10 (? ?)	1700-1740
625	Trench 1	Prov 12	1	1700-1740	x1 OS10	1700-1740
638	Trench 1	Prov 12	6	1660-1710	x1 AO18, x1 AO19, xx1 AO20	1680-1710
639	Trench 1	Prov 12	14	1680-1780	x1 AO19, x2 AO20, x2 AO22, x1 AO25 (R M), x5 OS10, x1 OS12	1730-1780
642	Trench 1	Prov 12	6	1680-1710	x2 OS20	1680-1710
644	Trench 1	Prov 12	19	1660-1710	x1 AO15, x2 AO22	1680-1710
647	Trench 1	Prov 12	30	1660-1710	x1 AO18, x1 AO19, x1 AO20, x1 AO21, x7 AO22	1680-1710
649	Trench 1	Prov 12	2	1680-1710	x1 AO22	1680-1710
651	Trench 1	Prov 12	6		Stems	LATE 17TH-18TH C
652	Trench 1	Prov 12	5	1660-1710	x1 AO15, x2 AO19	1680-1710
655	Trench 1	Prov 11	210	1640-1740	X1 AO12, X2 AO13, X68 AO15, X27 AO18, X1 AO20, X5 AO22, X1 OS10	c. 1680, ?AO22 (intr
656	Trench 1	Prov 12	200	1610-1680	x1 AO5, x1 AO9, x2 AO10, x2 AO13, x92 AO15, x2 AO18	1660-1680
700	Trench 1	Prov 11	39	1640-1680	x1 AO10, x12 AO15	1660-1680
753	Area A	Prov 13	13		Stems	1570-1910
754	Area A	Prov 13	1		Stem	1570-1910
755	Area A	Prov 13	9	1730-1780	x1 OS12 (?I B)	1730-1780
756	Area A	Prov 13	4	1700-1770	x1 AO25	1680-1770
757	Area A	Prov 13	7		Stems	1570-1910
758	Area A	Prov 13	31	1660-1800	x1 AO15, x2 OS12 (?H B), x1 OS23	1760-1780
760	Area A	Prov 13	2		Stems	1570-1910
772	Area A	Prov 12	117	1640-1710	x1 AO11, x1 AO13, x1 AO14, x54 AO15, x8 AO18, x2 AO20.	C.1680
785	Area A	Prov 11	1	1610-1640	x1 AO5	1610-1640
788	Area A	Prov 11	10	1640-1660	x1 AO9	1640-1660
831	Area A	Prov 11	2	1660-1680	x1 AO14	1660-1680
832	Area A	Prov 11	2	1660-1680	x1 AO15	1660-1680
844	Area A	Prov 11	10	1660-1680	x2 AO15	1660-1680
858	Area A	Prov 11	1		Stem	1570-1910
861	Area A	Prov 11	9	1610-1640	x3 AO5: <i>STMP</i> (I R: <i>STMP</i> )	1610-1640
880	Area A	Prov 10	1		x3 AO5 (I R)	1570-1910
916	Area A	Prov 13	25	1700-1910	x2 AO25 (?B ?), x2 AO28 (H S), x2 AO29 (I B), x3 AO30 (H S)	1850-1880
918	Area A	Prov 13	33	1700-1780	x3 AO25, x1 OS12, x1 Non-local	1730-1780
921	Area A	Prov 12	22	1660-1770	x1 AO15, x1 AO22, x1 AO25, x4 OS10 (M R: <i>CRIN</i> )	1700-1740
1035	Area A	Prov 11	2	1580-1610	x1 AO5	1580-1610
1040	Area B2	Prov 12	68	1660-1710	x1 AO13, x10 AO15, x4 AO18, x3 AO20	1680-1710
1044	Area B2	Prov 12	161	1660-1710	x1 AO13, x46 AO15, x11 AO18, x4 AO22, x1 Non-local	1680-1710
1053	Area B2	Prov 11	8	1640-1660	x2 AO9	1640-1660
1063	Area A	Prov 12	34	1640-1680	x1 AO9, x9 AO15, x1 AO18	1680-1710
1066	Area A	Prov 12	2			1570-1910
1077	Area B2	Prov 11	3	1660-1680	x1 AO15	1660-1680
1091	Area B2	Prov 12	2	1610-1710	x1 AO5, x1 AO20	1680-1710
1105	Area B2	Prov 12	7	1660-1680	x2 AO15	1660-1680

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
1107	Area B2	Prov 13	3		Stems	1570-1910
1117	Area B2	Prov 11	3	1640-1660	x2 AO9	1640-1660
1135	Area B2	Prov 12	7	1660-1710	x1 AO15, x1 AO21	1680-1710
1140	Area A	Prov 12	3	1700-1740	x1 OS10	1700-1740
1162	Area B2	Prov 9	3	1660-1680	x1 AO18	1660-1680
1245	Area B2	Prov 11	2	1610-1640	x1 AO5	1610-1640
1268	Area B2	Prov 12	2	1660-1680	x1 AO15	1660-1680
1324	Area B1	Prov 5	1		Stem	1570-1910
1432	Area A	Prov 11	3	1640-1670	x1 AO12	1680-1710
1552	Area B1	Prov 13	32	1760-1880	x1 OS 23 (* *), x 14 AO27 (* *, W B, I I, I J), x3 AO28 (S B), x1 AO29 (I J: <i>STMP</i> )	1840-1880
1886	Area B2	Prov 12	1		Stem	1570-1910
2615	Area B1	Prov 11	1	1660-1680	x1 AO15	1660-1680
2939	Area B1	Prov 5	4	1680-1740	x1 AO21, x1 OS10	1700-1740
2962	Area B2	Prov 8	4		Stems	1570-1910
3481	Area A	Prov 12	2	1680-1740	x1 AO19, x1 OS10 (W M)	1700-1740
3611	Area C1	Prov 12	1	1680-1710	x1 AO22	1680-1710
3681	Area C1	Prov 12	170	1660-1710	x1 AO15, x42 AO19, x32 AO22, x9 AO21 (G R), x42 AO22 (W H: <i>STMP</i> )	1680/90-1710
3687	Area C1	Prov 11	2	1680-1740	x1 AO19, x1 OS10	1700-1710
3721	Area C1	Prov 11	1		Stem	1570-1910
3750	Area C1	Prov 12	28	1700-1740	x1 OS10	1700-1740
3753	Area C1	Prov 11	1		Stem	1570-1910
3792	Area C1	Prov 12	6	1700-1740	x1 OS10	1700-1740
3815	Area C1	Prov 12	29	1680-1740	x3 AO21, x4OS10	1700-1710
4096	Area B1	Prov 11	1	1640-1660	x1 AO9	1700-1710
4098	Area B1	Prov 11	3	1660-1710	x1 AO15, x2 AO22	1680-1710
4150	Area B2	Prov 11	2	1660-1680	x2 AO15	1660-1680
4824	Area C1	Prov 9	2		Stems	1570-1910
4866	Area B1	Prov 2	1		Stem	1570-1910
4880	Area C1	Prov 8	3		Stems	1570-1910
5026	Area C2	Prov 12	8		Stems	1570-1910
5033	Area C2	Prov 11	1		Stems	1570-1910
5036	Area C2	Prov 11	22	1660-1680	x11 AO15, x1 AO18	1660-1680
5080	Area C2	Prov 12	7	1680-1710	x1 AO19, x1 AO20	1680/90-1710
5082	Area C2	Prov 12	19	1640-1710	x1 AO10, x10 AO15, x1 AO22	c. 1680, ?AO22 (intr
5096	Area C2	Prov 12	5	1660-1680	x2 AO15	1660-1680
5230	Area C2	Prov 8	1		Stem	1570-1910
5978	Area C1	Prov 6	1		Stem	1570-1910
5996	Area D	Prov 11	5		Stems	1570-1910
6026	Area D	Prov 13	22	1680-1800	x1 AO19, x1 AO26 (I -), x4 OS12 (HP, RP), x2 OS23 ( <i>KHJ</i> , H B: <i>ARMH</i> )	1760-1780
6028	Area D	Prov 11	3	1640-1660	x1 AO9	1640-1660
6058	Area D	Prov 11	1		Stem	1570-1910
6327	Area D	Prov 11	1		Stem	1570-1910

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
6581	Area C1	Prov 5	1		Stem	1570-1910
6928	Area E1	Prov 13	5		Stems	1570-1910
6930	Area E1	Prov 13	9	-1780	x1 OS10, x1 (H B)	1730-1760
6931	Area E1	Prov 13	18	1680-1770	x4 AO22, x1 AO25	1750-1780
7009	Area E1	Prov 13	28	1660-1800	x1 AO15, x1 AO19, x1 AO21, x5 OS12 (? ?, H B), x3 OS23	1760-1780
7054	Area E1	Prov 11	1		Stem	1570-1910
7158	Area E2	Prov 10	6	1680-1820	x1 AO19, OS12 (?L S), x4 AO27 (I B: STMP, I J, W C), x1	1780-1830
7269	Area C1	Prov 4	1		Stem	1580-1910
7297	Area E1	Prov 12	10	1660-1710	x3 AO15, x1 AO22	1680-1710
7299	F Eval E	0	1		Stems	1580-1910
7305	Area E1	Prov 11	1	1610-1640	x1 AO5	1610-1640
7527	Area E1	Prov 11	1	1610-1640	x1 AO6	1610-1640
7569	Area E1	Prov 11	6	1660-1680	x2 AO15	1660-1680
8066	Area E2	Prov 11	5	1610-1640	x1 AO6	1610-1640
8129	Area E2-E3	Prov 13	7	1660-1820	x1 AO18, x1 AO25, x4 AO27 (- S: STMP, I I, I J: STMP)	1780/1800-1820
8204	Area E2	Prov 11	2		Stems	1570-1910
8231	Area E3	Prov 12	20	1660-1680	x3 AO15, x1 AO18	1660-1680
8250	Area E3	Prov 12	3	1680-1710	x1 AO22	1680-1710
8277	Area E3	Prov 12	52	1660-1680	x2 AO13, x10 AO15	1660-1680
8380	Area E1	Prov 3	1		x3 AO15	1570-1910
8406	Area E2	Prov 12	3		x2 AO15, x2 OS10,	1570-1910
8430	Area E3	Prov 11	15	1660-1680	x3 OS15	1660-1680
8449	Area E3	Prov 13	55	1660-1800	x2 AO15, x2 OS10, x2 OS12 (H B, I B), x4 OS23 (I G)	1760-1780
8452	Area E3	Prov 11	44	1640-1800	x2 AO10, x13 AO15, x1 OS12, x1 OS23 (I C)	1760-1800
8469	Area E3	Prov 11	1		Stem	1570-1910
8473	Area E3	Prov 12	3	1680-1710	x1 AO19	1680/90-1710
8475	Area E3	Prov 12	39	1680-1710	x5 AO19, x1 AO22 (M S: STMP), x8 AO22	C.1680
8488	Area E3	Prov 11	5	1660-1680	x1 AO15, x1 AO18	1660-1680
8642	Area E3	Prov 11	7	1640-1680	x1 AO10, x2 AO15, x2 AO22	1660-1680
8645	Area E3	Prov 12	14	1680-1710	x6 AO15	1680-1710
8679	Area E2-E3	Prov 11	41	1660-1680	x6 AO15	1660-1680
8698	Area E3	Prov 11	2		Stems	1570-1910
8699	Area E3	Prov 11	5		Stems	1570-1910
8700	Area E3	Prov 11	18	1660-1680	x7 AO15, x1 AO18	1660-1680
8740	Area E3	Prov 11	4	1660-1680	x1 AO15, x1 AO18	1660-1680
8812	Area E2-E3	Prov 11	24	1640-1680	x2 AO9, x2 AO10, x8 AO15, x2 AO18	1660-1680
8843	Area E3	Prov 12	3	1660-1680	x1 AO15, x1 AO18	1660-1680
8850	Area E3	Prov 12	5	1680-1710	x1 AO19, x3 AO22	1680/90-1710
8852	Area E3	Prov 12	9	1660-1710	x1 AO15, x3 AO19, x2 AO22	1680/90-1710
8854	Area E3	Prov 12	6		Stems	1570-1910
8856	Area E3	Prov 12	3	1680-1710	Fragmentary bowl	?1680-1710
8866	Area E3	Prov 12	1	1680-1710	x 2 fragmentary bowls	1680-1710

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
8878	Area E3	Prov 11	15	1680-1710	x1 AO19, x1 AO20, x2 AO22	1680-1710
8886	Area E3	Prov 12	1	1660-1680	x1 AO18	1660-1680
8910	Area E3	Prov 12	9	1640-1780	x1 AO9, x3 AO10, 1 OS10, x1 OS12	1730-1780
8916	Area E3	Prov 11	7	1660-1680	x1 AO15	1660-1680
8923	Area E4	Prov 12	1		Stem	1570-1910
8938	Area E3	Prov 11	1		Stem	1570-1910
8953	Area E3	Prov 12	2	1660-1680	x1 AO15	1660-1680
8987	Area E3	Prov 12	3	1660-1680	x2 AO15	1660-1680
9024	Area E4	Prov 12	10	1660-1680	x3 AO15	1660-1680
9075	Area E4	Prov 12	57	1660-1680	x3 AO13, x18 AO15	1660-80 (c.1650-60)
9133	Area E3	Prov 11	1		Stem	1570-1910
9311	Area E3	Prov 12	4		Stems	1570-1910
9571	Area E3	Prov 12	15	1680-1710	x1 AO22	1680-1710
9807	Area F1	Prov 13	71	1660-1820	x1 AO15, x18 OS10 (I ? : CRIN, W ? : CRIN), x1 OS12, x1 AO27	?1780-1800
9862	Area F1	Prov 12	10	1640-1680	x1 AO10, x2 AO15	1660-1680
9878	Area F1	Prov 11	30	1640-1680	x1 AO10, x6 AO15, x4 AO9	1660-1680
9897	Area E1	Prov 5	18		Stems	1570-1910
9910	Area F1	Prov 13	16	1730-1820	x3 OS12 (H B: ARMH, S S, W W), x1 AO27	1780-1800
9937	Area F1	Prov 13	8	1680-1820	x1 AO22, x1 OS23: KHJ, x1 AO27 (? C)	C.1800+
9945	Area F1	Prov 11	2	1660-1680	x2 AO15/19	1660-1710,
9990	Area F1	Prov 13	7	1680-1710	x1 AO19	1680/90-1710
9994	Area F1	Prov 11	11	1640-1680	x1 AO10, x1 AO13 (C: STMP), x3 AO15	1660-1680
9996	Area F1	Prov 11	3	1660-1680	x1 AO15	1660-1680
10026	Area F1	Prov 11	1	1660-1680	x1 AO15	1660-1680
10089	Area F1	Prov 11	1			1570-1910
10119	Area F1	Prov 11	1	1660-1680	x1 AO15	1660-1680
10124	Area E2	Prov 11	10	1660-1680	x4 AO15	1660-1680
11195	Area E1	Prov 12	3	1730-1780	x1 OS12 (? ?)	1730-1780
11239	Area F2/G2	Prov 12	8	1730-1780	x1 OS12 (H B: ARMH)	1730-1780
11240	Area F1	Prov 12	5	1660-1680	x1 AO18	1660-1680
11292	Area F2/G2	Prov 13	20	1730-1800	x2 OS12 (H B), x1 OS23 (W C)	1760-1780
11363	Area F2/G2 Area F1	Prov 11	1		Stem	1570-1910
11372	Area F2/G2	Prov 13	1		Stem	1570-1910
11467	Area F2/G2	Prov 11	2		Stems	1570-1910
11468	Area F2/G2	Prov 10	1		Stem	1570-1910
12060	Area G1	Prov 13	1		Stem	1570-1910
12096	Area G1	Prov 12	16	1640-1770	x1 AO9, x3 AO15, x1 AO25 (W B), x1 (? B)	1700-1740
12097	Area G1	Prov 12	79	1660-1680	x1 AO18	1660-1680
12100	Area G1	Prov 12	21	1640-1740	x1 AO9, x3 AO15, x1 AO19, x1 AO20, x3 AO22, x12 OS10 (? ?, M B, ?W B, W B)	1700-1740
12116	Area G1	Prov 13	100	1780-1840	x7 AO27 (* *, I ?, I B: STMP, I I, I J: STMP, J W), x1 AO28 (I J: STMP)	1820-1840

Context	Trench	Phase	FC	Date range of bowl types	Bowl types (makers and decoration)	Spot Date
12140	Area G1	Prov 13	5		Stem	1570-1910
12146	Area G1	Prov 13	6	1780-1820	x1 AO27 (? M)	1780-1820
12166	Area G1	Prov 12	12	1640-1760	x1 AO9, x1 AO15, x1 AO20, x6 OS10 (? C, ? S, W B)	1730-1760
12188	Area G1	Prov 12	204	1610-1770	x1 AO6, x2 AO9, x 6 AO15, x1 AO18, x1 AO19, x1 AO20, x3 AO22, x1 AO25	1700-1770
12641	Area F2/G2	Prov 12	1	1700-1770	x1 AO25 (? H)	1700-1770
12705	Area G1	Prov 12	48	1660-1780	x1 AO15, x1 AO22, x1 OS12	1700-1740
12820	Area G1	Prov 13	13	1730-1840	x1 OS12: <i>ARMH</i> , x1 AO28	1820-1840
13018	Area G3	Prov 12	10		Stems	1570-1910
13034	Area G3	Prov 11	1		Stem	1570-1910
13051	Area G3	Prov 13	2	1780-1820	x1 AO27 (T B)	1780-1820
13103	Area G3	Prov 12	5		Stems	1570-1910
13104	Area G3	Prov 12	14	1730-1780	x1 OS12	1730-1780
13159	Area G1	Prov 4	1			1570-1910
13382	Area G3	Prov 11	1	1640-1660	x1 AO9	1640-1660

Table 1: LLS02. Distribution of clay tobacco pipes showing the exaction area, phasing, number of fragments, the latest dated clay tobacco pipes, the range of clay tobacco pipes, makers and decoration and a spot date for each context clay tobacco pipes occur in.

Expansion for decoration codes. *ARMH*: armorial with Hanoverian coat of Arms, *ARMP*: armorial with Prince of Wales Feathers, *CRIN*: crowned initials on the heel, *KHJ*: Kick him Jenny (temperance bowl), *STMP*: stamp.

#### The 1680-1710 dated kiln group

Clay tobacco pipes were recovered from layers of kiln debris [107] and [109] and also the muffle structure [108] associated with the kiln [105], a total of 921 fragments were recorded for these deposits. The bowls produced by the kiln are the spurred AO19, and the heeled AO20 and AO22 types and all are contemporary between 1680/90-1710, but there is a single OS10 bowl from context [107] that may be intrusive or gives a spot date of 1700-1710 for the deposit. Their quantification is shown in Table 2, but kiln groups only show what was unsuccessfully produced and not what was actually marketed. The waster bowls and those covered in muffle are restricted to layer [107].

The AO19 bowl was the most numerous Type from both contexts, it occurred as 36 examples with three obvious wasters present, seven bowls were covered in muffle and so were derived from the kiln structure. The majority of the AO19 bowls have only a quarter milling of the rim and this is restricted to the back of the bowl. This practice is expected for this period when milling on London tobacco pipes was becoming redundant. Seven bowls show no sign of milling, one bowl has complete milling of the rim and only one other bowl has additional decoration with rouletting on the stem circumference, near the base of the bowl.

There are 23 AO22 bowls, five of which are wasters and two were derived from the muffle kiln. These bowls also show the same milling traits as that of the AO19 and the AO22 bowls, but none are decorated. The AO22 bowls occur as fourteen examples, three bowls of which are wasters and two were part of the kiln muffle. A single AO21 bowl occurs and it was almost certainly not part of the production repertoire of the kiln. None of the bowls have been analysed at this stage to determine how many moulds are represented amongst the kiln assemblage. There are a total of 830 stem fragments, one of which has a double line of milling decoration around its circumference. Additionally amongst the stems are 394 fragments with a muffle deposit. The only kiln furniture is a small setter.

The pipes associated with kiln [105] suggest that this workshop produced three types as a choice for the consumer. The pipes are of average quality and characteristically for the period are not marked by the pipe maker, while decoration is restricted to milling, very occasional on the stem and minimally on the rim.

Context	Bowl type	Part	No. of bowls or Fragment count
107	Unidentified bowl		4
	Setter	SETT	1
	Stem	STEM	471
	AO19	BOWL	28
	AO20	BOWL	23
	AO22	BOWL	14
	OS10	BOWL	1
108	Stem	STEM	290
109	Unidentified bowl	BOWL	1
	Stem	STEM	69
	AO19	BOWL	8
	AO20	BOWL	6
	AO21	BOWL	1
	AO22	BOWL	4
<b>Total</b>			<b>830</b>

Table 2: Clay tobacco pipes found in deposits [107], [108] and [109] associated with the clay tobacco pipe kiln [105].

### Significance of the assemblage

The clay tobacco pipes are significant at the local and regional levels. The modern borough of Southwark was an important centre for the London clay tobacco pipe industry in the post-medieval period. Despite numerous master pipe makers being documented at all periods in Southwark only a small number of kilns have been excavated: two at Arcadia Buildings dated to the end of the 17<sup>th</sup> century and a kiln at 15-23 Southwark Street (Peacey 1996, 225-6). One other clay tobacco pipe kiln has been excavated at Aldgate and survived as the vestigial remains of a pipe kiln ash pit, but its dating is uncertain, being either mid 17<sup>th</sup> or 18<sup>th</sup> century, but the majority of associated pipes were dated 1660-80 (Peacey 1996, 217; Thompson et al 1984, 30-32).

Although the kiln at Arcadia buildings has been detailed, its products have not and the Southwark Street kiln is still awaiting proper publication. On the north side of the Thames kilns and the pipes made in them have been published in detail at Aldgate (c.1660-80) and Brentford (c.1730-64) (Thompson et al 1984, 30-32; Laws and Oswald 1981). Therefore the publication of the Tabard Square tobacco pipe kiln and its products will add to the meagre structural evidence for this important London post-medieval industry, understood largely from the tobacco pipes and the documentary evidence for the pipe makers.

The domestic component of the tobacco pipe assemblage is also important for demonstrating the re-dating of the London typology, particularly when the dating evidence from other types of finds (pottery, glass, coins, etc) is used for correlation. The LLS02 tobacco pipe assemblage also sheds light on the immediate and local industry. The Borough area appears to be one focus in Southwark, not just demonstrated by the presence of the pipe kiln, but also by a number of 19<sup>th</sup>-century bowls bearing the pipe makers names and address on Kent Street (modern Tabard Street). Of the 18<sup>th</sup>- and 19<sup>th</sup>-century marked bowls, there are many occurrences of single bowls by one maker and these may not be from local pipe makers, but possibly a reflection of travellers staying at drinking establishments on the site. However, the multiple examples of individual bowls on the site do indicate local pipe makers, some of whom are presently unknown, e.g. the ten examples of the B C marked early 18<sup>th</sup> century pipes and the ten examples of the I I maker, dated between 1780-1820.

## **The potential of the assemblage**

The potential of the clay tobacco pipe assemblage is to date the contexts they occur in and provide a sequence for them and their makers. A number of clay tobacco pipes and the kiln furniture require illustrating, whilst fragments of the muffle require photographing. The presence of a clay tobacco pipe kiln and other production waste from the site provides valuable information on this industry for Southwark and Greater London. The domestic component of the clay tobacco pipe industry is important for looking at on-site activities, possibly associated with inns and public houses.

## **Research aims**

A number of research questions can be suggested as avenues of research for the clay tobacco pipe.

- Can documentary evidence indicate who was the master pipe maker associated with the c.1680-1710 dated kiln.
- What was being made in this clay tobacco pipe kiln?
- Can the remains of the structure and the surviving muffle inform any more on the form of the kiln?
- What do the clay tobacco pipes and the kiln furniture associated with the kiln imply about the technology employed here?
- Can the clay tobacco pipes from the site be related from documentary and artefactual evidence to specific on site activities?
- What does the clay tobacco pipe assemblage from LLS02 imply about the Southwark clay tobacco pipe industry?

## **Recommendations for further work**

The main emphasis of the analysis should be on the clay tobacco pipes, muffle and kiln furniture associated with the kiln and other clay tobacco pipe production evidence on the site. Approximately fifteen illustrations, supplemented with photographs, are required for this part of the analysis. The domestic component of the assemblage requires some 23 individual pipes to be illustrated. The two non-local bowls require further identification.

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## **APPENDIX 4: CERAMIC BUILDING MATERIAL ASSESSMENT**

**By Kevin Hayward**

### **Introduction**

This report will assess the potential of the ceramic building material, part of the very large<sup>1</sup> building material assemblage at Tabard Square (LLS 02). Points of discussion, recommendations and a reassessment of the potential of these findings are based on the initial assessment of the ceramic building material compiled during 2004 (Brown 2004), as well as subsequent recording, rationalisation and data input of the remainder of the assemblage by Aiden Turner and Kevin Hayward. For the potential of Worked Stone and Painted Wall Plaster at Tabard Square referral should be made to the accompanying reports (Appendix 5: Worked Stone Assessment and Appendix 6: Plain and Painted Wall Plaster Assessment).

In the initial assessment (Brown 2004) nearly fifty different Roman, medieval and post-medieval fabrics had been identified in the numerous tile and brick fragments. Coupled with the great variety of stone types identified from the initial stone assessment (Hayward 2007) it becomes clear that the building material assemblage at Tabard Square is significant, requiring further investigation and analysis.

Ultimately, it is the contribution that this assemblage of ceramic building material can make to the forthcoming monograph at Tabard Square that is the focal point of this assessment.

### **Aims**

Based on the findings from the initial Ceramic Building Material assessment (Brown 2004) this document will identify the key fabrics and forms as well as aspects of the assemblage that warrant further analysis, discussion and inclusion in the monograph. These include:-

- An appropriate recording and sampling strategy when faced with such a large, diverse and mixed ceramic building material assemblage
- The quantity, condition and spread of the ceramic building material assemblage at Tabard Square.
- The principle tile and brick fabric codes and forms (including signature marks and graffiti) assigned to the Roman (Prov 3-8) medieval (Prov 9-10) and post-medieval (Prov 11-14) Phases at Tabard Square.
- A review of the opus signinum and daub.
- A discussion on the overall character and spread of the Roman, medieval and post-medieval Groupings. Emphasis will be placed on their relationship with the major structures especially.
  - a) The Early Roman Clay and Timber Buildings
  - b) Northern and southern Temples.
  - c) "Winged Villa" Building
  - d) Post-medieval roadside development at Long Lane and Tabard Street.
- Further Analysis
- Overall contribution to the monograph. How does this Roman assemblage compare to other Roman sites in Southwark e.g. Great Dover Street?

### **Methodology**

The size of the site presented logistical problems in the processing of the Building material assemblage. Initial site visits established that there was a vast amount of building material, but much of this could not be related to specific structures. It was therefore decided that material from dumping layers, ditch fills and other non-structural features should be partially sampled. Despite these collection policies, a huge volume of material was still recovered. It was not considered feasible to examine every piece under magnification

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<sup>1</sup> All building material (excluding wall plaster) 21,865 pieces, 4231kg from 1620 contexts Reduced from 800 shoe boxes to 225 shoe boxes and 3 crates.

to identify specific fabrics within the most common groups. Therefore, where large amounts of material in a context were seen to be from the same fabric group, a sample was examined under magnification, while the non-diagnostic fragments were quantified then discarded, mostly on site. Off-site recording of an additional 1300kg of building material (Mainly from the 3 initial medieval-post-medieval trenches T1-T3) was undertaken at a later date in a similar way<sup>2</sup>. In both instances, diagnostic fragments or unusual fabrics were spot-dated and kept aside for future quantification.

The building materials were examined using the London system of classification. A fabric number is allocated to each object, specifying its composition, form, method of manufacture and approximate date range. The data was recorded onto pro-forma record sheets on and off-site and entered onto a computer database (Microsoft Access 2000). A random selection of contexts as well as material from structural or masonry contexts were fully quantified and assessed offsite as control. After analysis, the common fabrics types discarded, with a type sample kept for archive. Examples of fabrics can be found in the archives of PCA and/or Museum of London.

### Quantity – Condition - Spread

Assessed contexts producing ceramic building material	1587
Final total count assessed material	21, 525 fragments <sup>3</sup>
Final total weight assessed material (kg)	3329kg <sup>4</sup>
Total number of retained shoe boxes	228 (reduced from 800)

The majority of the assessed material was fragmentary, with significant amounts of the Roman material showing signs of heavy abrasion. Few complete pieces of Roman material were noted, although several pieces showed at least two quantifiable dimensions although later periods fared slightly better.

Trench	No contexts	No frags	Total Weight (g)	% Weight
0 (includes evaluation phase)	64	331	78984	2.7
Area A	225	2911	340169	13
Area B1	253	3057	397428	15.2
Area B1-B2	1	8	2399	<0.1
Area B1-D	1	4	597	<0.1
Area B2	90	1239	245381	9.4
Area B2-B1	1	13	1617	<0.1
Area C1	225	2294	260384	9.9
Area C2	129	1036	161782	6.2
Area D	51	463	48758	1.9
Area E1	108	1329	201602	7.7
Area E2	72	1405	189041	7.2
Area E2-E3	12	460	37145	1.4
Area E3	69	393	49098	1.9
Area E3-E4	6	131	28055	1.1
Area E4	28	274	43236	1.7
Area F1	45	746	202026	7.8
Area F1 Area F2/G2 Area F1	1	1	68	<0.1
Area F2-G2	13	60	10616	0.4
Area G1	33	221	281577	10.9
Area G3	5	16	40807	1.6
F Eval W	2	5	332	<0.1
Watching Brief	1	8	326	<0.1

<sup>2</sup> Aiden Turner during 2004/2005

<sup>3</sup> 98.4% of all building material (including stone)

<sup>4</sup> 78.6% of all building material (including stone)

The distribution table above (figures based on John Brown's initial assessment<sup>5</sup>) highlights the concentration of building materials by number and weight in many different areas of Tabard Square. Nevertheless, there are significant peaks (highlighted) in the areas of earliest Roman activity (Area A, B1, C1-C2, E1-E2) also associated with the later Temples and H Shaped building to the north-east of the site. Elsewhere, peaks are found to the south-west in Areas F1 and G1 where there are significant quantities of Roman as well as medieval and post-medieval debris.

### **Ceramic Building Material fabric and form**

The majority of the material assessed consisted of Roman ceramic building material. The remainder of the material (mainly from trenches 1-3) comprised of post-Roman brick and tile fabrics.

### **Roman brick and tile (Periods 3-8) Early Roman- 4<sup>th</sup> Century**

Apart from brick and tile from masonry contexts, nearly all of the Roman ceramic building material is found intermixed and in a fragmentary condition in dumped deposits or residual in later medieval or post-medieval contexts. This makes it difficult to relate them to an individual structure or occupation phase.

Little more could be added from the form, as the fragmentary condition of the assemblage also made it difficult to assess brick size, although some Lydian bricks could be identified where two quantifiable dimensions were recorded. Also, other than the usual animal prints, signatory and tally marks there was just one diagnostic official stamp from the entire assemblage the procuratorial PPRB [9668].

However, great varieties, (14), of different kiln sources are represented at Tabard, some of which have a restricted chronological range. Where these fabrics concentrate in areas where there is evidence for early timber building (Phases 3-4) or later masonry constructions (Phases 5-6) then it may be possible to correlate fabric with structure.

### **LOCAL RED FIRED FABRIC GROUP 2815 North London Kilns (mainly 1<sup>st</sup> to 2<sup>nd</sup> century)**

*2452; 2459a; 2459c; 3004; 3006*

The vast majority of the Roman CBM assemblage at Tabard Square was made up of early (1<sup>st</sup> to 2<sup>nd</sup> century) red-firing fabrics produced from local clay sources. The fact that they are widely distributed, abraded, and included with later CBM fabrics e.g. 2453 group in masonry would indicate extensive reuse of these from earlier structures. Concentration in Areas A and B1, alongside the SW/NE Ditch and later 1<sup>st</sup>/early second century road, would, however, indicate that some of these fabrics were originally used in the earliest roofing clay/timber buildings in the north-west part of the site.

The presence of very small quantities of abraded 2452 and 3006 in tegula mammata and flue tile in dumps would indicate that some of this material would have been used in an early heated room or hypocaust in the Southwark area [8214], [10191], [11384], [11654], [11984] but probably not on site.

### **ECCLES GROUP – North West Kent Kilns (Mid to late 1<sup>st</sup> century)**

*2454; 2455; 3022*

A substantial group of very early distinctive pale-cream/yellow brick, tile and tesserae Eccles fabrics are found throughout the site attesting to occupation in this part of Southwark as early as the middle to late first century. Most of these, however, are abraded, broken and used with later fabrics in later masonry structures e.g. north temple [8265] and were clearly reused. However, their concentration in the north-west part of the site in Areas E2/E3 (including demolition debris sealing the early SW/NE Roman road) as well examples in a collapsed early clay and timber building Area C1 [6974] wall [1674] Area B1 all point to their original use in these early clay/ timber buildings along the SW/NE ditch/road. (Phase 3 and 4) between AD 50 and AD 80

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<sup>5</sup> 66% of the assemblage- does not include most of the initial deep medieval/post-medieval trenches (T1-T3) where there is a great deal of intermixing of residual Roman material with later medieval/post-medieval material in Areas E3, G1; G3.

The use of Eccles in tesserae [9291], [10191] would along with the local red fabrics indicate an early tessellated floor or mosaic in this area. Evidence for a very early bath-house in the Southwark area is attested by their use in tegula mammata [5513], [8812].

**RADLETT GROUP – Hertfordshire Kilns (Mid 1<sup>st</sup> to early/mid 2<sup>nd</sup> century)**

3023; 3023b; 3060; 3060b

The widespread presence of brick and tile made of the Hertfordshire fabric groups especially in the north-west area surrounding the SW/NE ditch and road (Areas B1, B2, C1 (clay and timber building) E1 and E2) attests to Flavian and Trajanic building activity (Phase 3 and 4) at Tabard.

**KENT/WEALD – East Sussex Kilns (AD 70-120)**

3018; 3028; 3238

These distinctive late first/early second century silty fabrics are not recorded in great numbers at Tabard, suggesting a preference for material from local, Hertfordshire and Eccles kilns. The presence of the Trajanic Fabric 3018 (AD 100-120) throughout the site does indicate some use at this time.

**NON-LOCAL CALCAREOUS Coastal Kilns South East England (Mid/late 2<sup>nd</sup> to late 3<sup>rd</sup> century)**

2453; 2457; 3026

The occurrence and concentration brick, tile and tesserae made from these distinctive pale cream/grey fabrics begins only with the masonry rubble in Areas E1 (northern temple) [8265] and walls of Area B1 [3556]. As these kilns only began operating from the middle of the second century onwards this would indicate that the temple structures could only have been constructed after this date.

**SMALLER KILN GROUPS**

Other than fabrics 2459b and *LLS02 fabric 1* (see below), the presence in tiny quantities of 6 more Roman fabric groups at Tabard Square adds very little to our understanding of the Roman development of the site. Some like 3019 need only be mentioned for their rarity whilst others e.g. 3053 attest to later (Phase 8) activity at Tabard. The calcareous fabric *LLS02 Fabric 1* is new to London and identified in sizeable quantities in Area B1/B2 but it has not been possible to assign a date to it. The presence in moderate quantities of the second to third century fabric 2459b in the temple Areas C2 and E2, is, like the non-local calcareous fabric an indicator of the Phase 5 and 6 temple construction.

- 3019 Hampshire (Early-mid 2<sup>nd</sup> century)
- 3050 Reigate (Mid 2<sup>nd</sup> to 3<sup>rd</sup> century)
- 3054 (?Sussex) (Late 1<sup>st</sup> to early/mid 2<sup>nd</sup> century)
- 2459B (NW London/Essex) (Mid 2<sup>nd</sup> – mid 3<sup>rd</sup> century)
- 3012 Related to Reigate (Late 2<sup>nd</sup> – mid 4<sup>th</sup> century)
- 2451 (Unknown) (Late 2<sup>nd</sup>-Early 3<sup>rd</sup> century)
- 3052 (Unknown) (2<sup>nd</sup> century to mid 4<sup>th</sup> century)
- 3053 (Unknown) (Mid to late 4<sup>th</sup> century)
- *New Fabric (LLS02)* (Unknown) (Roman)

**Roman Daub, Mortar (Opus Signinum)**

**Opus signinum** 2<sup>nd</sup> to mid 4<sup>th</sup> century

Loose examples of this distinctive pink lime mortar, an indication of high status flooring from the second century were recovered from Areas E2 and E3. Although none of this material was found in-situ it seems likely that quantities<sup>6</sup> of this material were used in the construction of Phase 5 and 6 north Temple. However, moulded and painted fragments of mortar/opus signinum from this area of the site were apparently used in the construction of columns or pilasters that may have had a brick core.

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<sup>6</sup> 12kg of opus signinum recorded from just one context [9793].

### **Daub**

Given the presence of early (Phase 3 and 4) timber and clay buildings in the north-west quadrant of the site, very little daub and fired clay has been identified. What has survived is usually un-diagnostic and in an abraded condition apart from some wattle and daub impressions [1488], [9648], [9701] in post-holes with some clay/and or brickearth generally surviving as sills on floor surfaces in Areas C1/C2.

### **Painted Wall Plaster**

See Appendix 6.

### **Roman Group Discussion (Phases 3-8)**

Within the very large, intermixed Roman ceramic building material assemblage at Tabard Square this assessment has identified some important spatial and temporal patterning both in brick and tile fabric as well as other building materials. These findings form the basis of a chronological summary where the Roman occupation has been subdivided into Early (Phase 3-4) (1<sup>st</sup>-early 2<sup>nd</sup> century) and later occupation (Phase 5-8) (mid 2<sup>nd</sup>-4<sup>th</sup> century) phases.

### **Early Roman Occupation (Phase 3-4) Early Clay and Timber Building**

The densest concentration of early brick and tile fabrics at Tabard Square is in the north-west quadrant (Areas A, B1-2, C1, E2-3) identified by a large quantity of broken mid-late first century (AD 50-80) white brick and tile Eccles fabrics, the very common mid first-second century local sandy fabrics (2815 group) and slightly later Flavian-Trajanic Hertfordshire (Radlett Groups). Concentrations generally follow the alignment of NE-SW trending first century ditch and subsequent AD 110-120 road where early clay and timber buildings developed prior to temple construction. Within this overall trend there are some smaller spatial patterns.

The earliest fabric type, Eccles (AD 50-80), was found concentrated along the northern margin of the NE-SW ditch in Areas E2 and E3, suggesting that development of the earliest timber buildings with roof tiles at Tabard began in this area. Although quantities have also been identified in the clay and timber buildings from Area C1.

The highest concentrations of the slightly later sandy and Radlett fabrics on the other hand, are located further south in Areas A, B1, B2 and C1 which may indicate and increase in development following the infilling of the ditch and construction of the early second century road. They are unlikely to represent the construction debris of the winged villa which now seems to be a much later (3<sup>rd</sup>/4<sup>th</sup> century in date).

The small quantities of clay and brickearth from C1 surviving as floor sills may be all that survives from the foundation of these early (Phase 3 and 4) timber buildings.

Finally, the presence of small quantities of tegula mammata and flue tiles made from early Eccles and sandy fabrics attests to a grander building with a heated room or hypocaust in the vicinity. However, the quantities, rather like the Eccles tesserae and wall plaster are tiny from this period and would suggest that they represent the demolition debris of a first/early second structure elsewhere in Southwark.

### **Roman Temple Occupation (Phases 5-8)**

Concentrations of later (mid second-mid third century) brick and tile fabric groups – The Non-Calcareous 2453- 2457-3026 and iron oxide group 2459b are again found in the north-west quadrant. Unlike the earlier fabrics, however, these focus more in Areas E2 and C2, the sites of the northern and southern temples, which began to be used at the same time as when these newer fabrics were introduced. The inclusion of the non-calcareous fragment in the rubble cores from the temple complex [8265] (see appendix 1), for example, indicate construction of the temple complex from the mid second or third century.

Reuse of earlier fabrics is also evident throughout during the construction of the Temple Complex and Winged Villa.

The area of the Temple complex is also where the greatest concentrations of dumped decorative building materials are found. Quantities of loose tesserae (ceramic and stone) are located in the area of the northern temple, as well as large quantities of wall plaster and opus signinum [9793]. These findings are backed up by the results from the stone assessment where limestone statuary; Hassock plinths and the marble inscription are all found in this area from this period. All this points to a major change in the function in this part of Southwark from domestic to public temple during the second century.

Finally, concentrations of wall plaster, tile and brick are all found in Phase 8 pits to the south west of the site along with carved stone e.g. [12080] (Area F1) and represent 4<sup>th</sup> century dumping either from the Temple Complex of the adjoining Great Dover Street cemetery.

#### **Medieval and post-medieval brick and tile (Phases 9-14)**

A much shorter assessment of the medieval and post-medieval brick and tile assemblage at Tabard follows mainly from trenches 1-3 (Contexts 1-750). These three sample trenches excavated during the initial phase of the Tabard Square provide the focus for post-Roman investigation. Trench 1 (Area E3) examined the structural remains of a 17<sup>th</sup> and 18<sup>th</sup> century strip building running south from Long Lane frontage. Trench 2 (Area C2) examined 18<sup>th</sup> outbuildings and workshops away from the frontage at Tabard Square. Finally Trench 3 (Area G3) examined a large medieval ditch.

The assessment also considers deeply stratified features uncovered during the main phase of the excavation.

#### **Medieval and Transitional Brick and Tile (Phases 9-11)**

**EARLY ROOF TILES** Locally produced coarse glazed tiles 1135-1220  
2273; 3228

Dumped 12<sup>th</sup> and 13<sup>th</sup> century glazed curved, flanged and ridge tiles from southern Areas F1, G1, F2-G2 of the excavation (close to Tabard Street (Kent Street)) represent the earliest post-Roman material at Tabard Square.

**MEDIEVAL BRICK AND FLOOR TILE** Glazed Flemish floor tiles/1 medieval brick 1270-1500  
2850; 3060E; 3045

A tiny fragmentary assemblage of medieval brick and tile again from the southern Area F1 with a 14<sup>th</sup> century brick reused in a later early post-medieval masonry foundation [9958].

**LOCAL ROOF TILE** Orange Red peg tiles 1180-1900  
2271; 2273; 2586

Large quantities of locally produced medieval/post-medieval roof tile was recovered from all areas of the site and are typical of the "background" material for London from this period. Concentration of fabrics along the Long Lane frontage (Areas B1/A), however indicate a shift in development to this area. They occur along with pan tiles in the later post-medieval masonry structures of Trench 1 as important roofing material.

**LOCAL "TUDOR" RED BRICKS** Local red/transitional purple bricks 1450-1700  
3032nr3033; 3033; 3039; 3046; 3065

Most of these 17<sup>th</sup> and 18<sup>th</sup> century unfrogged stock moulded bricks were found as dumped "background" material. However, the more common 3033 and transitional 3032nr3033 (1666-1725) are used (or reused) in the 17<sup>th</sup> and 18<sup>th</sup> century walls of the bayed strip building to the rear of Long Lane Frontage Trench 1 e.g. [230]. These fabrics were also identified in quantity in quantity in the fill of the 18<sup>th</sup> century tanning tank [551] of Trench 2.

#### **Medieval and Transitional Group Discussion (Phases 9-11)**

The diffuse spread of medieval and transitional brickwork can in part be explained by the absence of medieval masonry buildings both at excavation and from cartographic evidence in this part of Southwark. Although there is clearly some reuse of these fabrics in post-medieval out-buildings fronting Tabard Street and Long Lane. However, the significant amounts of peg tile at least indicate the presence of timber-framed buildings utilising tiled roofs. The small collection of earlier (12<sup>th</sup>-14<sup>th</sup> century) brick, tile and stone (see Appendix 5) in the south of the site does signify the presence of a building of some status not far away perhaps connected with Bermondsey Abbey.

### **Post-Medieval and Transitional Brick and Tile (Phases 12-14)**

**PAN TILE ROOFING** Local/Dutch produced red roofing tile 1630-1850  
2279; 3225

Quantities of post-medieval pan tile, along with peg tile were uncovered during the Trench 1 and 2 excavations from 17<sup>th</sup> and 18<sup>th</sup> century structures and demolition layers towards the frontage of Long Lane [258] and Tabard Street [551]. Pan tile is usually associated with low status building structures, and material from the site probably reflects the presence of low status ancillary of small houses in this area at this time.

**LOCAL "POST FIRE BRICKS"** stock moulded unfrogged 1666-1750 (1850)  
3032; 3034

As well as the reuse of 3033 and 3032nr3033 bricks a significant proportion of the structures from Trench 1 and Trench 2 used later these clinker rich 18<sup>th</sup> century unfrogged bricks. As many are stock moulded and unfrogged this dates most of them to the 18<sup>th</sup> century, in keeping with the renewal of the strip building in Trench 1 at this time.

### **PAVING BRICKS**

Dutch Paving Brick 3036 1600-1800  
Orange Paving Brick 3047 1680-1900

The use of paving bricks particularly in the cobbling of the early 18<sup>th</sup> century building near Long Lane [404], [457] along with coral and whale bone [258] has been observed elsewhere in London during this period e.g. Bushey Park.

### **Post-Medieval Group Discussion (Phases 12-14)**

The development of the site during the post-medieval period is indicated by the appearance of brick-built masonry foundations and ancillary structures in Trench 1 (Area E3) and Trench 2 (Areas G1/C2) close to the frontage of Long Lane and Tabard Street. The entire floor plan of a back-to-back range of building bays excavated in Trench 1 of the site bears a striking resemblance to late medieval floor plans. These surveys dated to the latter quarter of the 16<sup>th</sup> and early 17<sup>th</sup> century. The presence of red "Tudor" bricks in this structure may date the building to this period.

Please refer to the stone report (Tabard Stone) for the origin of a post-medieval high status building.

### **Analysis**

- Many diagnostic pieces and items of intrinsic interest were kept aside for further analysis during the assessment stage. This material needs to be analysed further prior to publication.
- One CBM fabric associated with the later Roman period has not been fully identified and may represent a previously undefined fabric type. Further analysis of this fabric (Ils02 fabric 1) is therefore recommended. If this is found to be a new fabric type it should be published and added to the reference collection kept at the LAARC.
- All fragments of building material showing impressions such as signature marks, flue rollers stamps and other stamps should be compared to the relevant corpus and may require illustration for archive/publication.



- Post-Roman material should be visually scanned for pieces of intrinsic interest and the remainder discarded, except where the material represents samples from masonry features.
- Indeed, rationalisation, following analysis of a significant proportion of the un-diagnostic residual and abraded Roman ceramic building material should be undertaken given that there are over 200 boxes of material. This takes up valuable archive space both at PCA and subsequently at the LAARC.
- Any discussion of the buildings on site should include reference to the fabrics used in the construction. A general discussion of fabrics and forms could be included as appendix to any site publication. An important element in this would be the comparison of fabrics used in “public” buildings compared with “private”.
- Further analysis of the decorative stone and portable stone artefacts needs to be considered (this final recommendation should be included in the accompanying stone report (see Appendix 5).

To conclude, further analysis is required not only to identify the more diagnostic and unusual pieces but also to rationalise the assemblage into a manageable and worthwhile research tool.

### **Contribution to Monograph**

In terms of number of fragments and variety of fabrics, the Roman ceramic building material assemblage at Tabard Square is one of the largest in London. Yet the fragmentary condition, intermixing and small quantity of diagnostic or unusual pieces in nearly all of this assemblage hinders interpretation. Indeed, in terms of individual pieces there is far more potential in the much smaller but more diverse and intact Roman stone assemblage (Appendix 5).

Nevertheless, this assemblage can still add to our understanding of the development of Tabard Square LLS02 (and contribution to monograph) from Phases 3-8 in a number of ways.

1. The variety of Roman brick and tile fabric groups (14) is one of the largest in London, with individual fabrics amounting to 27. This in itself warrants mention and further discussion. At the very least a catalogue of Roman fabrics should be included in the appendix. One fabric LLS02 fabric 1, for example, may be unique to London whilst others 3019 are very rare.
2. It has already been shown that the spatial and temporal distribution of these different brick and tile fabrics can begin to help in our understanding in both the early (Phases 3-4) and later Roman (Phases 5-8) development of the site.

Just early (mid first-early second) brick and tile fabrics concentrate in the north-west sector in a band running NE-SW roughly parallel with the mid first century ditch and later road. Their presence must relate to the early Roman clay and timber buildings that ran either side of these features.

Later 2<sup>nd</sup> century fabrics only begin to be used in the construction rubble of the north and south temples and possible winged villa in the north-western area of the site. Their presence is a sure indication that the temples could only have been constructed between the middle of the second and third century, corroborating with other material evidence.

3. It was shown earlier in this document that the coloured /decorative elements of the assemblage (opus signinum; painted wall plaster; tesserae (cbm and stone), ashlar and sculpture (see Appendix 5) concentrate in the area of the Temples and Precinct. A section on the contribution of building material to the Temple construction and embellishment could be illustrated by photographs etc. Given the size of the assemblage in this area it is recommended that a reassessment of these more unusual pieces be made as many more may come to light.

4. The volume should include a catalogue of impressions on Roman building material such as signature marks, flue roller stamps and other stamps these may require illustration for publication. The procuratorial stamp, for example, [9668] certainly requires inclusion.
5. Comparison should be made with other ceramic building assemblages from Roman Southwark especially adjoining Great Dover Street (Pringle 2000) to see whether certain fabrics/markings were being used in Southwark.
6. Some mention should be made on the character and origin of the early medieval flange tiles, brick and floor tile in Area F1.
7. Finally, the sequence of well preserved post-medieval masonry structures in Trench 1 close to the frontage of Long Lane will provide an unusual opportunity to catalogue the change of “small house” forms from the late medieval and transitional buildings to the 18<sup>th</sup> and 19<sup>th</sup> century urban vernacular.

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## Appendices

### Appendix 1: Masonry contexts (Roman) dated by Building Material – listed by area.

Trench	Context	Description	Notes	Fabric group	Deposition Date
	806	Wall within [890]	Roman wall foundation, formed from roughly hewn chalk and ragstone	Chalk; Kentish rag; Locl 2815; Portland stone; Sandstone (med. grain)	55 - 160 (Roman)
Area A	1034	Plinth	Stone remains of possible wall	Kentish rag	50 – 1666 (Roman)
	1496	Funerary marker	Worked limestone, possibly part of a Roman column or marker. Dumped upright in secondary context (not within a cut).	Locl 2815	50 - 250
	3218	Demolition debris	Destruction materials (ragstone, CBM, mortar) may have once been bonded as mortar occurs at the western end of the feature some showing indications that it had been attached to masonry. Feature probably formed part of an oven flue-firebox	Nlocl cc; Kentish Rag, Mortar	140 - 300
	3227	Foundation	Possible foundation for wall/beam slot. Linear foundation of wall/beam slot. Located within green Roman layer [4486] possibly associated post pads [3225] [3257] [3258]	Locl 2815; Nlocl cc	140 - 250
Area B1	3263	Oven	Re-used CBM placed in a pit, possibly part of a flue and oven system	Locl 2815	50 - 160
	3470	Masonry	Possible Roman masonry cluster, base of foundation.	Locl 2815	50 - 160
	3556	Wall	Probably a collapsed Roman wall as CBM was all Roman. Possibly associated with [3455], which has similar features. However, north part (due to modern intrusion) and south part (due to LOE) are disturbed, no other traces of the wall have been found.	Locl 2815; Nlocl cc	140 - 250
	1674	Wall		Eccles; Kentish rag; Locl 2815; Wall plaster	50 - 80
Area B2	1841	Tile	Tile used as a post pad within posthole [1831]	cbm	Not assessed
	2498	Tile surface	Tile surface, possibly associated with hearth/furnace [2485]	Locl 2815	50 - 250
	5463	Wall(?) within [5464]	Ragstone, robber cut fill	Mortar; Kentish Rag	Not assessed
Area C1	6974	Collapsed roof/hearth	Roof tiles, shows signs of burning	Eccles; Ketton stone; Locl 2815	50 - 80
Area C2	5640	Demolition debris	Dump of tiles and masonry	Locl 2815	50 - 250 k
	7922	Floor	Possible remains of tile floor. May be related to metallised surface [6479]	cbm	Roman? k
	8177	Foundation	North-South ragstone wall	Other stone	50 - 400
	8263	Foundation	Roman wall foundation. Part of temple structure	Locl 2815	50 - 250
	8264	Foundation	Roman wall foundation. Part of temple structure	Kentish rag; Locl 2815; Locl post 1666 fire brick; Plaster	50 – 160 [I]
Area E2	8265	Foundation	Roman wall foundation. Part of temple structure	Eccles; Locl 2815; Non locl calcareous; Mortar	140 - 300 k [R]
	8266	Foundation	Roman wall foundation. Part of temple structure	Ferruginous sandstone; Kentish rag	190 - 400
	8868	Foundation	Heavily truncated Roman wall foundation	Locl tudor red brick	1450 - 1700 [I]? (Roman)
	8627	Foundation	Inner wall of Roman temple	stone	50 - 400 k
	11625	Wall	Probable Roman stone wall. Within cut [11626]	Kentish rag; Locl 2815; Mortar	55 - 160 [R]
Area F1	12018	Masonry dump	Spread of worked stone and moulded opus signinum	Stone; Opus signinum	Not assessed
Area G1	12803	Surface	Square remnant of surface consisting of small fragments of Kentish rag	Kentish rag	50 - 400

Trench	Context	Description	Notes	Fabric group	Deposition Date
	12804	Drain	Drainage feature associated with rough cobbled surface [12803]. Made from roof ridge tiles	Kentish rag; Locl 2815; Radlett	170 - 230 (50 - 120)

## Appendix 2: Masonry contexts (Post-Med) dated by building material– listed by area.

Trench	CONTEXT	Description	Notes	Source	Deposition Date
Area B2	1041	Brick well lining	Brick lined well	Locl Post Fire; Locl Tudor red	1666 - 1700
Area D	7500	Brick lining of well	Recorded in S61 only	Locl Post Fire	1750 - 1850
	6071	Well lining	Masonry collar above barrel well [6062]	Locl Post Fire; pan	1630 - 1850 k
Area F1	9958	Chalk consolidation below [9955]	(No description)	3045; Chalk; Locl tile	1480 - 1800 [R]
	9885	Brick floor	Brick floor, presumably in basement level of building	Locl Post Fire; Locl Tudor red	1666 - 1725
Area G1	9955	Wall	Part of C17th-C18th building	Locl Tudor red	1600 - 1700+
	12061	Brick well lining	Part of C19th well/ soakaway	Locl Post Fire	1750 - 1850
Area G1	12141	Brick well lining	Post-Med well lining	Locl Post Fire; oolitic limestone; Portland stone; Purbeck marble; Reigate stone	1700 - 1850 [R]
Area G3	13131	Lining of [13105]	Brick lining of well/latrine	Locl Post Fire; Locl Tudor red	1666 - 1700

k=kept for further assessment

I= intrusive

R=residual



## APPENDIX 5: WORKED STONE ASSESSMENT

By Kevin Hayward

### Introduction

This report assesses the potential of the worked stone assemblage at Tabard Square LLS 02. Points of discussion, recommendation and potential relate in part to the findings from the initial assessment of the larger examples of worked stone compiled by this specialist (Hayward 2007) but also from an earlier assessment of the entire assemblage by John Brown (Brown 2004).

The contribution that this unique assemblage of worked stone will make to this monograph is the focus for the rest of this report.

The site at Tabard Square (LLS02) is well known for the discovery of a marble dedicatory tablet to *Mars Camulus*, but as the initial assessment has shown (Hayward 2007) there are many more significant stone findings which will shed light onto the character and development of this unique part of Roman and post-medieval Southwark

A large assemblage (340 fragments –902kg) of stonework from the large (1.25 hectare) multi-period site at Tabard Square, Southwark has been assessed at various stages in order to identify fabric and form. In order to get an overall picture of building material use at Tabard, however, referral should be made to a complimentary report on the ceramic building material (Appendix 4).

### Aims

Following a review of the surrounding geology and a suitable methodology - the initial objective of this document will be to list all of the geological types and (where possible) the source of the worked stone.

However, given the sheer quantity, condition and intermixing of stone at such a large site (see methodology) – this assessment will chronologically examine in detail only the more unusual stone types and their function. Emphasis will be placed on *in situ* masonry structures and significant clusters or dumping of stone from the different phases. In particular:-

- Roman - The character and function of the stone in the temple complex and winged villa (Areas A, B1-2, C1-2, E2-3) as walling material and as inscriptions; statuary and plinths in the precinct itself.
- Roman - The character and function of the stone dumped in the late Roman pits in the south-west quadrant of the site (Area F1).
- Post-medieval - The character and possible function of the stone reused in the lining of the post-medieval wells (Area G1).
- The compilation of the stone catalogue (LLS02.exl) summarising the major blocks of stone (58 examples) accompanies this assessment.
- A brief discussion on the contribution of worked stone to the monograph.
- Finally, given the size of the assemblage, recommendations as to how it can best be rationalised and sampled for later petrological and geochemical analysis.

### Local Geology and Topography

A detailed assessment of the surrounding geology and topography is provided in the interim report (Killock 2006). For the purposes of this assessment two factors need to be considered. First, the underlying geology of London and south-east England contains recent sediments (Cretaceous to Tertiary) that are either too soft (e.g. London Clay and Chalk) or hard (e.g. Kentish Ragstone)<sup>7</sup> to be worked into ashlar, architectural carvings and tombstones (Williams 1971). This means that the assemblage of finely worked

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<sup>7</sup> The exception being Reigate stone.

stone at Tabard Square must have come from distance. The principal units of freestone (rocks that can be worked or carved in any direction) come from the Middle Jurassic escarpment that stretches from Lincolnshire to Dorset, at least 100km away from London.

Second, the site is situated on the south bank of the Thames, a river that provides direct access to many of these Jurassic outcrops along the Cotswolds as well as maritime access to freestone on the Dorset coast (e.g. Portland Stone and Purbeck Marble) or even the continent (Caen stone).

### **Methodology**

A majority of the 340 fragments of stone were examined as part of an initial assessment by John Brown during 2004.

However, 59 of the larger examples were examined in greater detail (Hayward 2007) using a hand lens (Gowland x10) in order to identify the type of rock in use. Referral to the specialist's own collection of freestone samples, compiled as part of his PhD Research (Hayward 2006) has allowed some direct comparison to be made between the funerary monuments, architectural stone and ashlar at Tabard Square and a possible geological source. Consultation of this and John Brown's assessment should be made when looking at the smaller pieces (Brown 2004).

Where a match was not possible, recommendation for further petrological and geochemical work has been given in the final section of this assessment report.

### **Petrology and Geological Source**

Below is a listing of the 20 types of rock identified<sup>8</sup> at Tabard; their (probable) geological source, function, locality and phase. For a more detailed consideration of geological source and form consult the earlier assessments (Brown 2004; Hayward 2007).

#### **Limestones 8 types**

- Bath Stone 3109 (Combe Down Oolite; Taynton Stone) Middle Jurassic (Bathonian) – South Cotswolds  
*Banded Shelly Oolitic Grainstone with calcite “watermarks”* Phase 6 Funerary Area A; Phase 10 Area E1 and Phase 8/9 Area F1. TOMBSTONE/STATUARY. **Thin-section verification needed for statuary** [8468], [11889], [12018], [13919]
- Portland Stone (Whit Bed) 3110 - Upper Jurassic (Portlandian) – Isle of Portland Dorset  
*Buff – light grey hard oolitic limestone (Oolitic Grainstone.* Phase 13 Area G1 & Phase 10 Area B2 ASHLAR
- Purbeck Marble (Upper Jurassic) 3112 – Isle of Purbeck, Dorset.  
*Dark grey fossiliferous packstone – lots of Paludina sp. gastropods.* Phase 8 Area F1. TOMBSTONE
- Chalk (Upper Cretaceous) 3116 – Local outcrop.  
*Fine white powdery packstone.* RUBBLE
- Clunch (Hard Chalk) (Upper Cretaceous) 3125– Local outcrop.  
*Indurated white packstone.* RUBBLE; TESSERAE **Thin section verification needed in tesserae.**
- Forest Marble Middle Jurassic 3132 (Bathonian) – South Cotswolds  
*Light grey oyster rich sparitic limestone* PAVING Phase 13 Area G1
- Black Oyster Rich Limestone 3120 probably Thornback or Grub Beds (Upper Jurassic) Portlandian  
*Black oyster rich sparitic limestone* PAVING. Phase 13 Area G1.
- Possible Yellow Crinoidal Limestone 3120 Middle Jurassic (Unknown Source)

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<sup>8</sup> Some of the finer grained materials need to be reassessed in light of recent analysis of tesserae in southern England (Allen & Fulford 2004).

Phase 10 Area B2 ARCH FRAGMENT *Thin section verification needed.*

### **Sandstones 5 types**

- Kentish Ragstone 3105 Lower Greensand (Hythe Beds) Maidstone  
*Hard dark-grey fine cemented calcareous sandstone* RUBBLE Area A Plinth [1034] [3218] [1674] [8264-8266] Phase 9 [1674] Area B2 Wall Foundation Winged Villa [3218] Phase 6 Area B1
- Hassock Greensand 3106 Lower Greensand (Hythe Beds) Maidstone Kent  
*Olive green coarse glauconitic sandstone* RUBBLE; MONUMENTAL BLOCKS Some Phase 6 and Phase 7 Areas E1/C1 ***Thin section verification needed [9612].***
- Reigate Stone 3107 Upper Greensand Reigate-Mertsham Kent  
*Very light lime-green glauconitic sandstone* RUBBLE; MONUMENTAL BLOCK Some Phase 7  
***Roman material needs thin-section verification as so rare.***
- Medium Grained Laminated Sandstone 3108 Mesozoic (Source Unknown)  
RUBBLE; PAVING ***Thin section verification needed.***
- Ferruginous Sandstone 3111 Tertiary (local) or Maybe Folkestone Bed (Lower Cretaceous) Kent.  
*Coarse dark brown iron rich sandstone.* RUBBLE

### **Other 7 types**

- Kimmeridge Dolostone 3120 Upper Jurassic (Kimmeridgian) Dorset  
*Hard fine grained laminated mudstone.* TESSERAE ***Thin Section verification needed.***
- Flint 3117 Upper Cretaceous Local outcrop  
*Black amorphous siliceous rock* RUBBLE
- Neidermendig Lava Stone 3123 Tertiary – Eifel Mountains  
*Extremely Hard porous basaltic lava* QUERNSTONE
- Granite 3135 Permian – Tertiary Source undetermined.  
*Coarse pink white granitic rock* COBBLE AND POSSIBLE COLUMN FRAGMENT Phase 10 medieval
- Carrara Marble 3114 – Italy  
*White crystalline metamorphic rock* INLAY AND MARS CAMULUS INSCRIPTION  
Phase 13 Area G1 Well and Phase 8 Area A Shaft.
- Black Tournaisian Marble 3120 Belgium  
Black crystalline Carboniferous Limestone INLAY ***Thin section verification needed.***
- North Wales Slate 3115 Palaeozoic North Wales  
ROOFING

### **Roman Stone**

There now follows a review of Roman stonework associated with two key areas of interest at Tabard Square.

### **Temples; Precinct; H shaped Villa**

*In situ* walling rubble together with a large column base and some smaller architectural elements, together with one statuary element and the *Mars Camulus* inscription were all found clustered in the north-west quadrant of the site (Areas A, B1-2, C1-2, E2-3) during Roman Phases 4-9 (Late 1<sup>st</sup> to very late Roman/medieval occupation).

The rubble is undoubtedly associated with the masonry construction of the 2<sup>nd</sup>/3<sup>rd</sup> century temple buildings, temple wall and the later (4<sup>th</sup> century H shaped villa). Most of the *in situ* walling is Kentish Ragstone sourced to the Lower Greensand of Maidstone as with the Phase 6 walls of the northern temple [8266]. Its use in the Phase 8 Precinct Wall [806] and Phase 9 wall near the H shaped Villa merely adds to



the vast quantities of this rubble stone being quarried for this construction project as was the case elsewhere in London at this time in the slightly earlier Masonry Forum-Basilica and Amphitheatre but also of course the City wall. There are, however, some other stone materials included as with Hassock Greensand (also from this formation) from the walls of the Phase 6 (Late 2<sup>nd</sup>) southern Temple [5463] and some chalk [806].

Reigate stone, a soft micaceous greensand from Surrey normally associated with ecclesiastical medieval priories, has also been identified as rubble in Roman contexts at Tabard Square [1290], [4591]. Its use in rubble is documented elsewhere at Roman Southwark from nearby Great Dover Street (Mackinder 2000) and elsewhere (Drummond-Murray 2002) as well as statuary at Southwark Cathedral (Coombe et al in prep).

The main contribution that the stone from this area of the site has to our understanding of the development of the temple complex lies with a number of importance of a number of stone objects.

- First and foremost the Carrara Marble inscription dedicated to *Mars Camulus* and the Emperors – this lies in a possible ritual shaft [1566] in the Phase 8 precinct area of Area A. The significance of this piece is mentioned elsewhere – but suffice to say *it had almost certainly stood by an altar inside the temple* (Killock 2006).
- Nearby to this is a very large (300kg) column base up to 1.20m in diameter from Phase 7 (3<sup>rd</sup> century) [9612] <1983> B2. This is made of a very high quality Hassock Stone (Lower Greensand) of a type that is used in tombstone statuary and architectural elements elsewhere in London (Coombe et al in prep). The monumental size of this drum is almost unprecedented in Roman London and must clearly have belonged to the complex. The smaller very neat plinth block made of the same material and found in an overlying Phase 10 Roman/medieval ditch deposit also in Area B2 [1458] would have functioned as a plinth perhaps for one of the bronze or stone statues fragments identified in this area. This context has also revealed a large (possible column) drum fragment of granite of an unknown source and fragments of limestone all possibly from the temple. If the granite is from this building then the possibility arises that it may have been a column fragment from an African source (e.g. *Mons Claudianus*).
- Finally, is a lump of statuary sourced to bath-oolite of a type that is prevalent elsewhere in Roman London (Coombe et al in prep; Hayward 2006) from the Phase 10 (medieval) Area E1 [8468] to the west of the northern temple. This could also have come from the temple courtyard area. Whether a second fragment [1496] also belongs to this feature is debateable.

### Reused Funerary Monuments

The second area of interest are a series of Phase 8 (4<sup>th</sup> century) pits [11889], [12018], [12080], [13196] towards the south (Area F1) of the site which yielded a very large quantity (154kg) of worked limestone (Purbeck Marble; Bath Oolite).

Two items can be considered as funerary monuments. First a well preserved pine cone finial [11889] <2643>. This is very similar in its form with the only other example from Roman London at nearby Great Dover Street GDV 96 (Mackinder 2000). Given this similarity, it would seem very likely that this monument was removed from the roadside cemetery located 150m to the south and dumped (or placed) in this pit. Samples from both pine cone finials have been thin-sectioned but were found to be made of entirely different materials. The Tabard example is made of a Bath Stone (Shelly Oolitic Limestone), whilst the Great Dover Street example is of a much finer exotic source (Caen Stone – Normandy)

As impressive, is a large (80kg) tombstone fragment from [12018] with a stepped edge. This has a rosette design similar to examples from first century Lincoln (RIB 250). The rock type (Purbeck Marble) is a rare material choice for Roman London would not normally expect to survive external weathering. Therefore it is likely that it can from a mausoleum – the obvious candidate being the mausolea structures from nearby Great Dover Street.

The remaining 70kg of limestone from [12080] has been broken up but this too is likely to have come from the demolition of some funerary monuments or even later sarcophagi.

The assemblage is significant to Roman London not only because of the quantity of funerary material (unparalleled in the last 100 years) but all of it was simply placed (or dumped) in a pit. Good quality stone material from cemeteries was at a premium in late Roman London, with their incorporation into the bastions (e.g. RIB 12). However, this case may indicate some sort of ritual deposition rather like the tombstone/sculptural assemblage from nearby Southwark Cathedral (Merrifield 1996).

The remaining piece a sculptural fragment from [13919] may belong to the Temple Complex to the north. Although, the possibility remains that this too was from the Dover Street Roadside Cemetery.

### **Post-Medieval Stone**

The contribution of worked stone<sup>9</sup> at Tabard to this period of the site's development (Phases 11-14) focuses on the origin of a sizeable assemblage of reused ashlar and decorative stone in the south-west Quadrant (Area G1).

The Phase 13 (Mid 18<sup>th</sup> to Mid 19<sup>th</sup> Century) Well Groups 385 and 386 are lined with 190kg of Portland Whit Bed (Upper Jurassic) reused ashlar together with some Black oyster rich "Spangle Beds" and Forest Marble (Middle Jurassic) Paving Slabs. These types of materials only came into common use during the 17<sup>th</sup> century to embellish and decorative buildings of status in London. Furthermore, Portland Stone is absent from Roman London (Hayward in prep) and there is little evidence to suggest that any major building existed at this site during the medieval period. The most likely source of this "quarry" would have been to the south of the site possibly in its use of Chaucer House.

Small quantities of very well cut Reigate Stone from these wells would have come from this structure as would have fragments of black (Tournaisian) Belgium and white (Carrara) marble from well [12820] Area G2 and two moulded architectural fragments from Area G3 [13051], 13111]. Together these elements would have formed one decorative scheme. It is possible, however that the Reigate may have come from Bermondsey Abbey.

The function of the Portland blocks is unclear but one possibility was as a fireplace surround from the Chaucer Building. Burnt marble from a pit fill [9937] would support this idea.

### **Analysis**

**Nine** examples of worked stone require further petrological (thin-section) analysis in order to determine their character and provenance. The University of Reading's School of Human and Environmental Sciences commercial wing, (AFESS) have suitable rock preparation facilities.

### **Sampling Strategy**

A 2cm sample will be removed from a hidden or unobtrusive part of the worked stone using a small mason's hammer (1kg) and sharp chisel, bagged and ready for thin-section preparation.

### **Techniques**

Thin Section Petrography is the most appropriate technique for all these samples as a great deal of petrological, mineralogical and palaeontological information can be obtained from a small 15-20mm slither of rock. This approach also fulfils the sampling criteria of archaeological units and especially museums where the aim is to produce the maximum amount of information from the smallest possible sample. The sectioned samples are then analysed and compared with a reference collection of geological sections in order to determine their character and provenance. My own doctorate research has demonstrated the

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<sup>9</sup> The 19<sup>th</sup> century materials (Granite cobbles/North Wales Roofing Slate) in Trench 1 are typical of the period and no further comment is necessary.

value of this approach in the characterisation of examples of worked freestone from the British Isles from the Roman period, where 17 new lithotypes were identified, 11 of which could be sourced to outcrops in Northern France and South-Central England (Hayward 2006).

### **Contribution To Monograph**

The preliminary assessment (Hayward 2006) of the stonework and future petrological analysis could add to the monograph in the following ways.

A short section 5-6 pages of the main rock-types being used at Tabard Street and their geological source together with distances (and possible supply routes) to Tabard– with an accompanying plate showing (colour?) photomicrographs the important rock types in use during the Roman period.

As well as this how stone function and type relates to the different phases at Tabard Square.

### **Roman Temple Precinct.**

- Establish any petrological and functional link between the statuary found elsewhere at Tabard with the Greensand plinths and columns.
- Suggest an estimate for the size of the temple buildings based on the diameter of the column shaft.
- Is it possible that the dumped granite column from a medieval ditch that runs right over the Roman building originally functioned as part of the Temple Precinct and did this stone come from Egypt or much closer to home?

### **Late Roman land use and squatter settlement**

- Establish any petrological and stylistic link between the tombstone fragments reused in the ditches along the south perimeter of Tabard Square with tombstones from Great Dover Street (GDV 96) e.g. Pine Cone Finials. Does the original use of this material relate to the earlier growth of the main Southern Cemetery around Great Dover Street?

### **Post-Medieval Expansion**

- Can a petrological link be established between the reused blocks from the Victorian Well with any pre-existing structure e.g. Chaucer Building?

### **Contribution to our Understanding of Roman Stonework from London**

- How unique is this assemblage in terms of Rock type and function to Roman London as a whole? What can this tell us about the status of this site?
- Can petrological/stylistic comparison be made with early examples of worked stone from London? And can this tell us something about the age of the fragments at Tabard Square?

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## APPENDIX 6: PLAIN AND PAINTED WALL PLASTER ASSESSMENT

By Kevin Hayward

### Introduction

This report assesses the potential of the Roman plain and painted wall plaster, part of the very large<sup>10</sup> building material assemblage at Tabard Square LLS 02. Points of discussion, recommendation and a reassessment of the potential of these findings are based on an initial assessment of the wall plaster compiled during 2004 (Brown 2004). However, as much of the assemblage remains largely un-assessed only preliminary recommendations can be made. For the potential of Worked Stone and Ceramic Building Material at Tabard Square referral should be made to Appendices 4 & 5 .

### Aims

- The quantity, condition and spread of the wall plaster assemblage at Tabard Square.
- Potential of Assemblage.
- Further Analysis
- Recommendations and overall contribution to the monograph. How does this Roman assemblage compare to other Roman sites in Southwark (Goffin 1992; 2005; Pringle 2000)?

### Quantity – Spread

Approximate Number of Boxes	39 (261 bags)
Estimated weight all material (assessed and unassessed)	78 kg <sup>11</sup>

A majority of the 261 bags of wall plaster recovered from site remain largely un-assessed. 55 bags of painted wall plaster were separated during processing. And 20 bags were residual (9 containing painted wall plaster).

Concentrations of wall plaster were greatest in the north-west part of the site in Areas C2 and E2 (the locations of the north and south temples), with nearly a third of the entire assemblage (by number of bags) coming from Area E2. Therefore the likelihood of wall plaster coming from the construction of the temples is high – especially as wall plaster is associated with high-status Roman building. Some of the material from Area C2, however, may come from the timber frame building, whilst it also possible that some of the dumps from Area E2 may relate to the 4<sup>th</sup> century “winged villa”. Finally, there are quantities of dumped wall plaster in Areas F1 and G1 in the southern part of the site with 50 examples (2.7kg) identified from [11740] alone.

The example of *in situ* wall plaster from [8264] Area E2 is proof that some of this material is being used in the Phase 5 and 6 northern temple.

### Potential of the Wall Plaster

- There is a need for a more thorough and detailed investigation of this sizeable assemblage especially in light of the widespread use of Roman Painted Wall Plaster in high status buildings elsewhere in Southwark (Goffin 1992; 2005; Pringle 2000). Tabard Square has at least three major public and private structures which could have utilised decorative and plain walling plaster dumped throughout the site (North and South Temple; Winged Villa). Further Analysis is required in particular for:

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<sup>10</sup> All building material ( stone, ceramic building material) 21,865 pieces, 4231kg from 1620 contexts.

<sup>11</sup> Based on 2kg of wall plaster per box

- The identification of any decorative scheme (and comparison with others at Southwark).
- Can any decorative scheme be dated.
- Analysis of the pigment.

### **Analysis and Costing**

Following an in-house reappraisal of the plain and painted wall plaster – any fragments containing a decorative scheme that may help date the site will be identified and illustrated. At this stage, however, it will not be possible to assess any potential costings that may be incurred following the identification of any significant painted scheme. However, should this happen, then it is recommended that an external specialist, e.g. Richenda Goffin, conduct the analysis.

### **Contribution to Monograph**

The contribution that a section on the Roman wall plaster at Tabard Square could make depends largely on the findings of the reappraisal. Given that 40 boxes of material have been retained largely from Areas C2 and E2, it at least seems likely that they were associated with the construction of the Phase 5 and 6 temples and possible winged villa.

It will be interesting to compare this assemblage to the Painted Wall Plaster immediately to the south of the site at Great Dover Street (GDV 96) (Pringle 2000), particularly as some of the plaster at Tabard is from Areas F1 and G1 on the southern extremity. At Great Dover Street the fragments were on a plain painted red ochre surface without any decorative scheme.

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## APPENDIX 7: GLASS ASSESSMENT

By John Shepherd

### Introduction

A total of two thousand five hundred and sixty-two individual fragments of glass were submitted for identification. All the glass had been cleaned, marked and the greater majority had been bagged as bulk samples. Only nine items had been individually accessioned. These are: -

[267]	<72>	Olive green	English wine bottle, body	L17 - 19
[8378]	<382>	Natural green blue	Vessel	Roman
[2723]	<401>	Natural green blue	Phial or bottle, body	Roman
[4804]	<560>	Colourless	Vessel, applied decoration	3
[9720]	<2035>	Colourless, with a grey tint	Drinking vessel, stem	L16 - 17
[8378]	<2194>	Brown	Flagon or jug, (Isings form 52/55), handle	Mid 1 - L1
[8378]	<2212>	Dull brown	Vessel, ribbed	L1 - E2
[0]	<2217>	Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
[10308]	<2294>	Millefiori	Bowl or dish, rim	Mid 1

The following assessment examines all of the glass from this site. It comprises two documents – this Ms Word document (Tabards glass assessment.doc) and an MS Excel spreadsheet listing every item (LLS02 glass.xls). The latter contains the following fields: -

A. Context	The context number of the item.
B. Acc no	The small find or accession number for the item.
C. Pot date	If available, the pottery spot date for the context.
D. No. of frags	The number of fragments with a common description from the same context.
E. Colour	The glass colour.
F. Form	A brief description of the form of vessel that the fragment comes from. Items described as 'Vessel' come from the bodies of unidentifiable vessels.
G. Technique	The technique of manufacture of the vessel. It has not been possible to determine the precise technique for items described simply as 'Blown'.
H. Date	The date of use of the vessel form.
I. Full catalogue entry	If 'Y', then the fragments will have a full entry in the publishable catalogue.
J. Requiring illustration.	If 'Y' then the fragment is worthy of illustration. Final decision on the illustration list will be made at the time of writing the final catalogue.

The glass of each period is very briefly described below, accompanied by tables that show key groups within each period or the full contents of a period. The sum of these tables, however, is only a proportion of the entire assemblage. The details of all the glass fragments can be found on the accompanying MS Excel spreadsheet (LLS02 glass.xls).

### The assessment

A total of two thousand five hundred and sixty-two individual fragments of glass were submitted for identification and assessment. This was a multi-period assemblage, with fragments ranging in size from mere splinters to complete early modern vessels. Just thirteen of these are Roman window glass, three are medieval window glass and one hundred and six are post-medieval window glass. Twenty-nine are



Roman glass tesserae. The remaining two thousand four hundred and eleven fragments come from vessels.

One thousand two hundred and seventy three (c. 52.5% of the total number of vessel fragments) can only be assigned to **free-blown vessel forms of unidentifiable shape** ('Vessel' in the Excel spreadsheet). Of these, one hundred and thirty-four are post-medieval in date, fifty-two cannot be dated but are probably post-medieval, and one thousand and eighty-seven are unidentifiable Roman fragments.

One thousand and eighty-five items, including fragments and complete vessels, can be identified by form. In summary, this total breaks down as follows: -

### Roman

Five hundred and fourteen fragments can be identified as coming from recognisable Roman forms. Including unidentifiable fragments, as described above, the total Roman assemblage numbers one thousand and sixty-one fragments of vessel glass. This grand total includes one hundred and sixty-six fragments of vessels identifiable as coming from cylindrical or square-sectioned bottles (c. 10% of the total Roman vessel assemblage, just under a third of all the identifiable vessel fragments).

The remaining three hundred and forty-eight identifiable fragments of Roman vessel glass includes a wide range of types and forms dating from the middle of the first century AD through to the late third and fourth centuries.

The earliest glass from this site (Table 1) can be dated to the middle of the first century AD. These are three millefiori fragments ([9863]; [10308]; [12877]). The assemblage also contains thirty-three fragments from an unknown number of pillar-moulded bowls but all, except one of the millefiori fragments and one dull brown fragments ([11694]) are in natural green blue colours, a metal that could be dated to the late first century – and, indeed, such vessels could continue to be used into the second.

9968	1 Yellow/green	Beaker, base	Mid 1 - L1
10444	1 Natural green	Beaker, base	Mid 1 - L1
12743	1 Brown	Bowl or cup, flange	Mid 1
10308	1 Millefiori	Bowl or dish, rim	Mid 1
9863	1 Millefiori	Dish, base, burnt	Mid 1
8378	1 Brown	Flagon or jug, (Isings form 52/55), handle	Mid 1 - L1
13200	1 Blue	Jug, handle	Mid 1 - L1
750	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
995	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
2939	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
2941	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
4307	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
4812	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	Mid 1 - L1
5552	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
6022	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
7611	2 Natural green blue	Pillar-moulded bowl (Isings 3), body	Mid 1 - L1
7779	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	Mid 1 - L1
8208	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	Mid 1 - L1
8378	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
9389	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
10541	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
10594	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
10606	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1

13079	1 Natural green blue	Pillar-moulded bowl (Isings 3), body	M1 - L1
2740	1 Natural green blue	Pillar-moulded bowl (Isings 3), rim	M1 - L1
8379	1 Natural green blue	Pillar-moulded bowl (Isings form 3), base	Mid 1 - L1
10254	1 Natural green blue	Pillar-moulded bowl (Isings form 3), base	Mid 1 - L1
12877	1 Millefiori	Pillar-moulded bowl (Isings form 3), base	Mid 1
12707	1 Natural green blue	Pillar-moulded bowl (Isings form 3), body	Mid 1 - L1
7256	2 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
8378	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
8378	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
10254	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
10606	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
11694	1 Dull brown	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1
12853	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
13154	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
13286	1 Natural green blue	Pillar-moulded bowl (Isings form 3), rim and side	Mid 1 - L1
765	1 Dull brown, with opaque white	Vessel	M1 - L1
7366	1 Green	Vessel	Mid 1 - L1

**Table 1: Mid to late first century glass fragments**

Of particular interest is a group of exceptionally high quality colourless glass vessels from the late first century (Table 2).

8378	1 Colourless	Bowl or dish, body	L1
5218	1 Colourless	Bowl or dish, overhanging rim	L1
5452	1 Colourless	Bowl or dish, overhanging rim	L1
8378	1 Colourless	Bowl or dish, overhanging rim	L1
8378	1 Colourless	Bowl or dish, overhanging rim	L1
9986	1 Colourless	Bowl or dish, overhanging rim	L1
11523	1 Colourless	Bowl or dish, overhanging rim	L1
11672	1 Colourless	Bowl or dish, overhanging rim	L1
0	1 Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
765	1 Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
1172	1 Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
8457	1 Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
10255	1 Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
10511	1 Colourless	Bowl or dish, overhanging rim, facet cut body, relief moulding on lip	L1
7236	1 Colourless	Bowl or dish, rim	L1
8378	1 Colourless	Bowl or dish, rim	L1
5452	1 Colourless	Bowl or dish, rim	L1 - E2
11523	1 Colourless	Bowl or jug, bulbous body, grd and polished	L1

4809	1 Colourless	Bowl, base	L1
5327	1 Colourless	Bowl, base	L1
8378	1 Colourless	Bowl, base	L1
11463	1 Colourless	Bowl, base	L1
11665	1 Colourless	Bowl, base	L1

**Table 2: Fragments of luxury colourless bowls and dishes**

By far the largest proportion of all the identifiable glass comes from late first and second century jugs, flagons, beakers and bowls of standard types, as well as the cylindrical and square-sectioned bottles described earlier. A few examples of mid second century drinking vessels are represented, although these are very few.

Of note, however, is a group of late second to third century vessels (Table 3). Such assemblages are not common in London, although individual examples often occur on sites. The presence here of an assemblage of a number of these distinctive drinking vessels is worthy of further work.

4486	1 Colourless	Beaker or bowl, rim	L2 - 3
5033	1 Colourless	Beaker or bowl, rim	L2 - 3
4257	1 Colourless	Beaker or bowl, rim, facets	L2 - 3
9679	1 Colourless	Beaker, base, pinched blobs	L2 - 3
9679	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - 3
1324	1 Colourless	Cup or bowl (Isings form 85b), base	L2 - E3
10539	1 Colourless	Cup or bowl (Isings form 85b), base	L2 - E3
2295	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - E3
3222	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - E3
3821	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - E3
5238	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - E3
9679	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - E3
13194	1 Colourless	Cup or bowl (Isings form 85b), rim	L2 - E3
13194	1 Colourless	Cup or bowl (Isings form 85b), rim and base	L2 - E3

**Table 3: Fragments of late-second and third century drinking vessels**

Finally, the Roman assemblage contains a few late Roman (Late third or fourth century) fragments, although they probably represent only four vessels at most (Table 4).

5933	1 Colourless, with green tint	Beaker or bowl, rim	L3 - 4
3572	4 Colourless	Bottle, diagonal ribs (Isings form 100)	L3 - 4
3627	3 Colourless	Bottle, diagonal ribs (Isings form 100)	L3 - 4
3715	3 Colourless	Bottle, diagonal ribs (Isings form 100)	L3 - 4
3784	4 Colourless	Bottle, diagonal ribs (Isings form 100)	L3 - 4
1282	1 Colourless	Flagon or bottle, dolphin handle (Isings form 100)	L3 - 4
3687	1 Natural green	Flagon or bowl, base	L3 - 4
765	1 Natural green	Jug, rim	L3 - 4

**Table 4: Late Roman glass**

As to be expected, much of the Roman material appears in later contexts as residual material. However, in general, there is a good correlation between Roman glass vessel date and context date.

### Medieval

No medieval vessel fragments were recorded. A calendar, coming from a seventeenth century context, was identified ([9075]). Only three window glass fragments are present.

### Early post-medieval (sixteenth and seventeenth century)

Only thirty-three items datable to the sixteenth or seventeenth century, especially the first half of the seventeenth, were recorded. These include colourless/lattimo fragments ([4098]; [922]), imported from Venice, as well as European *façon de Venise* products (e.g. [772]; [4098]; [3597]; [3674]).

5082 1	Natural green, surface decomposition	Beaker or bowl, base	L16 - 17
4098 5	Colourless, with lattimo design	Beaker, body	L16 - 17
4098 1	Colourless	Beaker, body, ribbed	L16 - 17
429 1	Colourless, grey tint	Beaker, chequered spiral decoration	17
8976 1	Natural green, surface decomposition	Beaker, pedestal base	L16 - 17
9133 1	Natural green, surface decomposition	Beaker, pedestal base	L16 - 17
51 1	Natural green blue	Bulbous bottle, base	L15 - 17
116 1	Natural green blue	Bulbous bottle, base	L15 - 17
772 1	Colourless	Drinking glass, stem fragment	17
8740 1	Colourless, with a grey tint	Drinking vessel, bowl, lattice	L16 - 17
10 1	Colourless, grey tint	Drinking vessel, stem	17
9720 1	Colourless, with a grey tint	Drinking vessel, stem	L16 - 17
4098 1	Colourless, with a grey tint	Drinking vessel, stem and base	L16 - 17
8956 1	Colourless, with a grey tint	Drinking vessel, stem, laddered	17
9061 2	Colourless, with lattimo design	Drinking vessel, stem, lattimo	L16 - 17
3674 1	Colourless, with a grey tint	Squat beaker, lower part	L16 - 17
3597 1	Colourless, with a grey tint	Squat beaker, profile	L16 - 17
922 1	Colourless, with lattimo design	Vessel	L16 - 17
4098 9	Colourless	Vessel	L16 - 17

**Table 5. Early post-medieval vessel fragments**

### Post-medieval (late seventeenth to early nineteenth century)

The glass assemblage of post-medieval date, numbering a total of four hundred and seventy-one fragments, is dominated by four hundred and thirty-six fragments of common English wine bottles, dating from the late seventeenth to the early nineteenth century (92.5% of the total identifiable assemblage). The remaining thirty-one fragments come from standard and well-attested drinking vessels and phials.

### Early modern (Late nineteenth to early twentieth century)

The total assemblage contains one hundred and twenty-four, the majority of which are complete or near complete profiles, examples of late Victorian glassware. The majority of these come from just two main contexts, [9] and [224]. The assemblage from [9] is the largest, and the repetition of types suggests that this glass once the stock of a shop. Many mantelpiece vases are included, in opaque glasses with hand painted decoration, as well as a number of condiment and cruet bottles.

0	1 Colourless	Pharmaceutical phial, rim and neck	Free-blown	L19 - 20
9	1 Brown	Bowl or dish	Machine made	L19
9	1 Colourless	Bowl or dish	Machine made	L19
9	1 Colourless	Bowl or dish	Machine made	L19
9	1 Colourless	Bowl or dish	Machine made	L19
9	1 Colourless	Bowl or dish	Machine made	L19
9	1 Colourless	Bowl or dish	Machine made	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	1 Colourless	Drinking glass, stem	Blown	L19
9	2 Colourless	Lid	Machine made	L19
9	1 Dull green	Mantelpiece vase, base	Blown	L19
9	1 Dull green	Mantelpiece vase, base	Blown	L19
9	1 Dull green	Mantelpiece vase, base	Blown	L19
9	1 Ivory	Mantelpiece vase, base	Blown	L19
9	1 Ivory	Mantelpiece vase, base	Blown	L19
9	1 Ivory	Mantelpiece vase, base	Blown	L19
9	1 Ivory	Mantelpiece vase, base	Blown	L19
9	1 Ivory	Mantelpiece vase, base	Blown	L19
9	1 Opaque white	Mantelpiece vase, base	Blown	L19
9	1 Turquoise	Mantelpiece vase, base	Blown	L19
9	1 Turquoise	Mantelpiece vase, base	Blown	L19
9	1 Turquoise	Mantelpiece vase, base	Blown	L19
9	1 Turquoise	Mantelpiece vase, base	Blown	L19
9	1 Turquoise	Mantelpiece vase, base	Blown	L19
9	1 Turquoise	Mantelpiece vase, base	Blown	L19
9	1 Dull blue	Mantelpiece vase, rim	Blown	L19
9	1 Dull blue	Mantelpiece vase, rim	Blown	L19
9	1 Dull blue	Mantelpiece vase, rim	Blown	L19
9	1 Dull blue	Mantelpiece vase, rim	Blown	L19
9	1 Dull green	Mantelpiece vase, rim	Blown	L19
9	1 Dull green	Mantelpiece vase, rim	Blown	L19
9	1 Dull green	Mantelpiece vase, rim	Blown	L19
9	1 Dull green	Mantelpiece vase, rim	Blown	L19
9	1 Ivory	Mantelpiece vase, rim	Blown	L19
9	1 Ivory	Mantelpiece vase, rim	Blown	L19
9	1 Ivory	Mantelpiece vase, rim	Blown	L19



224	1 Colourless	Cruet bottle	Machine made	L19
224	1 Natural green	Inkwell	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Paste jar	Machine made	L19
224	1 Colourless	Vessel, etched	Free-blown	L19 - E20
916	1 Natural blue	Pharmaceutical bottle, hexagonal	Machine made	L19 - 20
7009	1 Natural green, with 1 opaque white blobs	Bottle, bulbous	Free-blown	L19 - 20
8850	1 Colourless	Window, rolled, thick	Machine made	L19 - E20
9075	1 Colourless	Window, rolled, thin reeded design	Machine made	L19 - E20
13309	1 Colourless	Window, rolled, small hammered	Machine made	L19 - E20
13394	1 Colourless	Plaque or brick, architectural	Machine made	L19 - E20

**Table 6. Early modern glass**

## Conclusions

The glass assemblage from Tabard Square is one of the largest ever to be recorded from excavations in London. It contains glassware dating from the Roman period and from the sixteenth century to the early modern (late Victorian) period. There is a conspicuous absence of any medieval glassware, and only three window glass fragments and a calendar – residual – were recorded.

The Roman assemblage is large and contains many metals and vessel types well-recorded elsewhere in London. However, it also contains examples of vessels that are not so well known, such as high quality late first century tableware, as well as an interesting late second or third century assemblage. Examples of the latter are not common in London. Individual vessels might be known from a number of sites, but assemblages such as this are rare.

Glass of sixteenth and seventeenth century date is sparse – it is not certain to me if these come from discrete phases of activity on the site or are scattered widely across the whole. If the latter, then these examples are probably simple background ‘noise’ on such a large suite. If they come from discrete parts of the site, however, their significance is enhanced.

Post-medieval glass of late seventeenth through to early nineteenth century is dominated by the common English wine bottle – and the greater majority of these are very fragmentary. Drinking vessels are standard types. Of interest for the early modern period, however, are the two large assemblages of glassware from [9] and [224].

## Recommendations

It is recommended that the final report concentrates upon the Roman assemblages from this site. The early post-medieval glass and post-medieval glass, unless from discrete phases of activity, does not require further study. As for the early modern material, this is of interest because such assemblages are often neglected. However, it may be that if resources are tight, then this material could be the subject of further study at a later date or offered for study to a student in historical archaeology for dissertation purposes.

The final report should take the form of a catalogue accompanied by an introduction, discussion and concluding comments. A total of two hundred and twelve items require a catalogue entry, one hundred and eighty-five Roman and twenty-six early post-medieval and post-medieval.

At this assessment phase, a total of one hundred and sixty-four items require illustration. This total includes twelve post-Roman fragments. It is probable that the total of one hundred and fifty-two Roman vessels requiring illustration will be substantially reduced, by perhaps as much as 50%, once the catalogue is completed, because duplicated types can be represented by an exemplar.

A detailed study of the early modern assemblages, if required, would require substantial cataloguing and illustration time, including photography.





## APPENDIX 8: COINS ASSESSMENT

By James Gerrard

### Introduction

The Tabard Square excavations yielded some 1059 objects that were considered to be coins or probable coins after initial conservation work and X-raying. These objects were spot-dated by Kim Stabler early in the post-excavation process and for the purposes of this report the objects themselves have not been revisited in detail.

Analysis of the coin assemblage revealed that some forty objects cannot be considered as coins and these items should be reviewed by an appropriate specialist. Of the remaining 1019 coins, 5 examples are of Late Iron Age date, 814 coins are considered to be of Roman date and 131 coins are considered to be completely unidentifiable. The remainder includes a variety of medieval and post-medieval coinage. The condition of the coins is in general poor with many examples being in a heavily corroded or fragmentary state.

### Unusual and noteworthy coins

There are a number of coins that are worthy of some comment. The first are five Late Iron Age coins that can be identified as examples of the British potin series (SF 436, 955, 1572, 1817 and 3084). All of the examples, with the exception of SF436, [4550], were unstratified. These tinned, cast bronze coins were minted in south-eastern Britain from the end of the second century BC until the middle of the first century AD. The Tabard examples appear to belong late in the series and may have been minted in Canterbury. However, detailed analysis and cleaning is required to confirm this. It is recommended that these coins be passed to an appropriate Iron Age coin specialist for comment and be submitted to the Celtic Coin Index maintained by Oxford University.

The earliest Roman coin is a silver *denarius* dated to 80 BC, minted by the moneyer L Proculus. This is one of two Republican coins found on the site; the other dated to 56 BC minted by C. Memmius. It is unusual to Roman coins pre-dating the Claudian period (AD 41-54) on archaeological sites in Britain. However, Republican silver continued to circulate well into the imperial period and can even be found in early medieval hoards (White *et al* 1999, 308). These two examples should be photographed for inclusion in the archive.

There are also two Claudian copies (SF211, [1035] and SF2988, [+]) which are part of a well-known early Roman phenomenon that is strongly represented elsewhere in Southwark. These coins should indicate either a military connection or an economy interacting with the Roman army in the Claudian-Neronian period.

Finally, there is one coin of archaeological importance. This is coin SF 1984, from [8177], the foundation cut for the temple foundation. This is an *As* of Vespasian, dated to 71 AD, which provides a *terminus post quem* for the wall construction.

### Coin distribution and recovery methods

Given the size and nature of the site (especially the religious complex) it seems likely that detailed analysis of the coins will reveal that there is significant spatial and temporal patterning in their distribution. Unfortunately, coin recovery was not undertaken consistently in all areas. Some zones saw intensive metal-detecting, while the recovery of coins in other areas was reliant upon the excavators' eyes. Analysis of the unstratified coins by area (Table 1) reveals that some areas produced many more coins than others and it is recommended that the reasons for this be explored prior to publication. Furthermore, after

consultation with the site supervisor coinage from particular sub-areas or features should also be examined in order to elucidate the ritual aspects of the site.

Area	No. of coins [+]
C	3
C1	20
D	20
E	222
F	155
F/G	33
G	110
G1	7
G3	6

Table 1. The spatial distribution of unstratified coins by area.

### Assemblage analysis

The work on the coins to date has essentially been to spot-date them and the resulting catalogue falls short of the recommended minima suggested by English Heritage (Brickstock 2004). Prior to publication the Roman coins should be re-examined and where necessary identifications amended. This is particularly the case with the periods of epidemic copying in the late third and fourth centuries where no distinction has been made between regular and irregular issues. It is also noticeable that there are few issues of either the House of Valentinian (3) or the House of Theodosius (1) and the usually ubiquitous FEL TEMP REPARATIO falling horseman issues are virtually unrepresented. More detailed analysis of the coins may alter this picture.

Once the coins have been re-examined then statistical analysis of the site's coin loss can be undertaken. It is suggested that the coins be examined using the methodologies advocated by Hammerson (1996) and Reece (1995), which will allow the coins to be placed in a local and national context. It would also be worth examining the coins by phase in order to assess degrees of residuality.

### Recommendations

- The Roman coins should be re-examined and catalogued more fully, in accordance with English Heritage guidelines (Brickstock 2004)
- A number of coins will need to be cleaned in order to aid identification
- The primary use of the coins will be to aid and refine the dating of individual deposits, features and sequences.
- The presence of coins in association with good closed groups of other artefact types (pottery, small finds etc) should be noted as there may be opportunities to refine the dating of other classes of object
- The non-coin objects should be examined by a relevant small finds specialist
- The medieval and post-medieval coins should be examined by a relevant numismatist
- The Iron Age potin coins should be cleaned, photographed and examined by an IA coin specialist. The details should then be forwarded to the Celtic Coin Index
- Detailed analysis of the distribution of the coins, both spatially and temporally, should be undertaken. Particular emphasis should be given to concentrations of coinage that might be votive deposits and in ascertaining levels of residuality.
- The coins should be examined statistically using the methodologies advocated locally for London by Hammerson (1996) and nationally by Reece (1995).
- The coins should be published a substantial discursive chapter and summary catalogue in the excavation monograph. Should publication take other avenues then the coins are of such importance that they could form the basis for a more synthetic journal article on Roman coin loss in London / Southwark.

## References

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## **APPENDIX 9: ROMAN SMALL FINDS ASSESSMENT**

**By James Gerrard with Hilary Major**

### **Introduction**

Excavations at Tabard Square, Southwark produced a large number (c. 600) of Roman small finds. The majority of these items were made from iron and copper alloy but there were also stone, bone, glass and other objects. The use of on-site metal detectors aided in the recovery of metal objects and a large percentage of the assemblage can be assigned to stratified deposits. However, given the nature of the site over twenty percent of the Roman artefacts were redeposited in post-Roman phases.

The finds were x-rayed and then catalogued by Hilary Major during 2002-2005. Her extensive work identifying the finds has laid the foundations for this assessment. The current document was produced during 2007 from Major's catalogues once the provisional stratigraphic analysis and phasing had been completed. It should be noted that the finds themselves were not revisited for the production of the assessment report. The small finds catalogues and phasing have been incorporated into an *Access 2000* database, which is available from the archive.

### **Provisional Phase 2**

Only one find was recovered from provisional phase 2. This was a short yellow glass cylinder (SF1294, [2340]) and may be intrusive.

### **Provisional Phase 3**

Twenty-two objects were recovered from this phase but not all were fully identifiable. Personal adornments include a melon bead (SF365, [1888]) and two brooches of Colchester and Disc type (SF1168, [7707] and SF2689, [12064]). There are also a number of toilet implements (SF2485, [8379] and SF2619, [8380]), a wooden comb (SF425, [4330]), a probe (SF737, [5932]) and a mirror fragment (SF1373, [7964]). This is suggestive of domestic activity.

Other objects include a counter (SF2456, [10864]), a needle (SF237, [1486]), a knife handle (SF237, [1486]) and a ring of unknown function (SF3178, [13568]). These items are suggestive of recreational, domestic and textile working activities.

A number of fragments of lead waste and 'dribbles' may point to low temperature metal-working and bone waste along with a perforated oyster shell, similar to examples from Whitefriars (Gaimster and Yeomans in prep.), could be indicative of bone and shell working.

### **Provisional Phase 4**

Seventy-two objects were recovered from Provisional Phase 4 but not all were identifiable. The bulk of the objects could be classed as items of personal adornment and included melon (SF2351 and SF 2350 [10608], SF1176 [7256], SF433 [4165], SF440 [3167]) and annular beads (SF3042, [13154], SF2352, [10606, SF533, [3985]). There were also seven brooches, five of which are relatively common Colchester, Dolphin and Disc types (SF3107, [13154], SF549, [4746], SF3146 [13286] and SF1764, [9213], SF2356 [9986]). However, a Wing and Fantail brooch, probably manufactured in East Anglia in the period AD 50-70 is something of a rarity and a fragment of what may be a Langton Down type brooch (SF2011, [9389]) is also unusual. Hairpins (SF2319, [10511], SF3073, [13190], SF2293, [10254]) were also present alongside what may be a finger ring (SF3144 [13519]). Perhaps the most noticeable piece is a fragment of gold necklace (SF2364, [9986]) that suggests some inhabitants of the site had access to the trappings of wealth.

Interestingly, the large number of personal adornments is not balanced by a correspondingly high number of toilet instruments. Only a possible spoon probe (SF1061, [7210]) and possible stone cosmetic pestle (SF430, [4484]) can be classified under this category of object. Textile working is also poorly represented with only two needles (SF2455, [9986], SF3108, [13154]) and a spindle (SF971, [6887]) present.

Household utensils and furniture form a larger group of objects with a lion's head box mount (SF1445, [7971]) and a box handle (SF2353, [10695]) indicating the quality of some internal fittings. Also present was a lamp (SF2365, [10695]), a hinge (SF3293, [10295]) and a rat-tail spoon (SF764, [5915]). Recreational activities are indicated by a single counter (SF2316, [10493]) and literacy suggested for the first time by a seal box, which may indicate the reading of secured documents (SF3060, [13190]). Two blades (SF1356 [6967], SF1246 [1497]) may have been used in a variety of contexts.

Religion and the army appear for the first time in this phase. There is a longitudinally split but full size bone sword handle (SF3052, [13159]) and a miniature bone sword handle (SF2366, [10606]) an interesting coincidence.

Waste from bone and lead working is present in this phase, suggesting that some craft activity was undertaken.

Overall the impression is of a largely domestic assemblage in this phase with the relatively small number of toilet implements being noticeable. The military and religious items need not indicate anything more than passing soldiers and household worship.

### **Provisional Phase 5**

This phase produced 128 objects, although not all were identifiable. This is the highest number of objects from any one phase and some significant changes are discernible in comparison with the preceding phase. This change may be related to the transformation of the site's landuse at this time, from domestic clay and timber buildings into (at least in part) a religious complex.

Melon and annular beads form the largest part of the personal adornment assemblage (SF1001, [6307], SF1153, [7197], SF2312, [10464], SF1036, [7153], SF3548, [1172], SF3549, [5992], SF1092, [7244]) followed by seven hairpins (SF2894, SF2892, SF2893 [12772], SF3063, [13214], SF684, [5256], SF3420, [10279]). Brooches are represented by two examples, a Colchester derivative (SF1477, [8146]) and a bridge brooch (SF2958, [12895]). There are also two bracelets (SF3445, [8378] and SF3557, [5507]). One of these is manufactured from Kimmeridge Shale and its appearance in this phase suggests that shale bracelets first appeared in London at the same time as BB1 pottery.

This phase also produced one of the more unusual finds from the site: a small tin / lead alloy container with lid and decorative grooves (SF3014, [12855]). This vessel contained a white paste, probably a cosmetic cream and is a find of international significance (Evershed *et al* 2004).

There are a surprising number of items associated with the manufacture of textiles in this phase. There are two spindles (SF932 [6237], SF2204 [8378]) and spindle whorls (SF2206 [8378], SF2114 [8378]) and some ten needles (SF778, [5987], SF3434, [5992], SF2976, [12895], SF2210, [8378], SF2196 [8378], SF238, [1474], SF753, [5489], SF3062, [13214], SF255 [1613], SF963, [6752]). One of these needles (SF238) is a form that may be associated with leatherworking.

Toilet instruments represent an uncommon if varied class of object. A pair of tweezers (SF2960, [12772]), a probe (broken into two pieces: SF754/755, [5837]) and a spatula (SF2174, [8378]) were all recovered from this phase. Household utensils also form a small but distinct component of the assemblage. A spoon (SF831, [6154]) and copper-alloy vessel (SF2181, [8378]) represent fairly common finds but a fragment of white marble (probably Carrera, K. Hayward *pers. comm.*) marble mortar is a slightly more exotic import (SF3441, [12699]).

A large number of counters and discs (SF2203, [1118], SF2913, [12699], SF3033, [13166], SF2835, [12439], SF2957, [12772], SF750, [5489]) may point to various recreational activities. However, the presence in this phase of a lead weight (SF3504, [8378]) and a fragment of steelyard (SF1326, 5295) may suggest that they were used in commercial activities.

Fasteners and fittings were a small element of the assemblage with a ring headed spike (SF1242, [1287]), wall hook (SF3010, [12855]) and a lock bolt (SF2102, 8378) all present. The latter object is indicative of controlled and private space.

The tool assemblage includes a number of blades (SF1328, [5370], SF1344, [5992], SF1239, [1126]) and knife handles (SF2211, [8378], SF2213, [8378], SF3207, [11788]). There is also a more heavy duty, cleaver type blade (SF731, [5604]). Given the number of blades the presence of three greensand whetstones (SF1446, [7255], SF2205, [8378], SF3552, [8378]) need occasion little surprise. However, the presence of a chisel (SF1353, [6307]) and a chisel / drill bit (SF1283, [5278]) are probably indicative of woodworking.

This phase produced only a single item of military equipment: a possible scabbard binding (SF3448, [12789]). Bone working waste was also present.

### **Provisional Phase 6**

Provisional Phase 6 produced twenty-nine objects, although not all were identifiable. Personal adornments were the most numerous category of item. However, the presence of only two melon beads (SF189, [1017], SF3413, [9331]) and one hairpin (SF789, [6022]) is somewhat lower than might be normally expected. Two brooches, a lunular plate (SF3361, [12145]) and pennanular example (SF442, [3216]), were also present along with a shale bracelet (SF409, [2815]).

A single needle points to the working of textiles (SF770, [5978]); household utensils are represented by a single lamp (SF2318, [10191]) and fasteners are represented by a lock pin (SF3382, [10191]). A counter indicates recreational activities (SF3545, [11967]) and a stylus (SF1343, [5972]) and seal box (SF2796, [12165]) point to the writing and reading of documents.

### **Provisional Phase 7**

Provisional Phase 7 produced seventy-five objects, some of which were unidentifiable. As is usual, personal adornments formed the most common class of object. A greater variety of bead occurred in this phase with segmented (SF199, [1130]) and cylindrical (SF1749, [9144]) types present in addition to the Melon bead type (SF414, [4056]). A single bead (SF3057 [12734]) displayed signs of being subjected to heat. This may be accidental or a pointer to industrial activities. Bracelets were also more frequent in this phase with three shale examples noted (SF489, [3715], SF804, [6072], SF2878, [12753]). Hairpins were a frequent find (SF715, [5218], SF685, [5218], SF679, [5272], SF760, [5856], SF1499, [5218]) and brooches were represented by three examples: a Wroxeter derivative, a penannular and a trumpet type (SF2060 [9788], SF2918 [12701], SF214 [1297]). A small finger-ring, possibly of silver (SF564, [4853]) should also be noted.

The other categories of object are poorly represented. A single spindle whorl is indicative of textile manufacture (SF3148, [13404]) and tweezers (SF3347, [9717]) and a toilet implement (SF2642, [11776]) are suggestive of toiletry activities. Household utensils are represented by a single box hasp (SF2872, [12709]), and a tin canister (SF3053, [13194]), gaming by two counters (SF1533, [8288], SF2010, [9681]), tools by a rake prong (SF1388, [8721]) and a greensand whetstone (SF3415, [1018]). The presence of an iron water pipe collar (SF662, [5245]) is significant though and suggestive of a piped water supply.

Bone working waste and lead waste is present in this phase and suggestive of these activities. There is also a perforated oyster shell that might indicate the extraction of mother of pearl (Gaimster and Yeomans in prep.).



## Provisional Phase 8

A total of seventy-three objects were recovered from Provisional Phase 8. Hairpins were the most common class of object (SF720, [5328], SF714, [5442], SF678, [5327], SF494, [3746]) and for the first time two jet examples were present (SF784, [5285], SF3082, [13216]). There were also fragments of four bracelets (SF2036, [9679], SF2618, [11706]) two of which were shale (SF3556, [5444], SF3438, [8457]). Beads were represented by a single melon bead (SF759, [5328]) and a single segmented example (SF275, [2157]).

Toilet instruments from this phase include a spatula (SF719, [5328]), a mirror fragment (SF1989, [9031]) and a toilet set (SF1892, [9600]). Textile working is indicated by two needles (SF718, [5328], SF1728, [9031]) and household items by a vessel rim (SF242, [1492]) and a lamp (SF3503, [13117]). A double spiked loop (SF3253, [8393]) was also present and recreational activities are represented by a counter (SF296, [2601]).

There are five objects from this phase that might be considered as 'votive'. The first is a so-called votive bar (SF403, [2727]), the second a flint annulus. This object probably started life as a natural object but appears to have been modified (K. Hayward *pers. comm.*). Thirdly, there is a bell (SF1735, [9031]) which may, of course, have served as an agricultural rather than ritual item. Fourthly, there is a bronze finger with iron fixing (SF1619, [8665]), which may have served to a monumental inscription (Coombe et al forthcoming). Finally, a pit [1567] produced a fragment of a white marble inscription (SF253, [1566]) recording the dedication of a temple to the emperors and the god Mars-Camulos. The translation and interpretation of the inscription has been published (Tomlin and Hassall 2003, 364) and is repeated later in this discussion.

Tools represent a small but important component of the assemblage. A gouge (SF1279, [5128]), a possible hammerhead (SF3206, [11706]) and cleaver blade (SF681, [5412]) were all recovered from this phase. Also present were a greensand whetstone (SF1841, [5444]) and a ferrule (SF686, [5412]). The identification of some bone waste in this phase should also be noted.

## Provisional Phase 9

Sixty-three objects were recovered from Provisional Phase 9. This group of items included a large number of personal adornments. Bracelets (SF573, [4853], SF2798, [12416]), hairpins (SF635, [5110], SF2837, [12587], SF3356, [11291], SF3544, [11539]) and a number of beads were present. Interestingly, virtually all of the beads, ten segmented glass examples, came from a ditch fill [2179] and probably indicates the loss / deposition of a necklace. The brooches from this phase included two unusual examples: a pincer brooch (SF265, [1830]) and a sawfish brooch (SF250 [1832]).

Toilet instruments are represented by two spatulas (SF2980, [12991], SF3498, [12325]), a spoon probe (SF2797, [12201]) and fragments of two mirrors ((SF3368, [12201], SF1687, [9618]). Textile working is indicated by only a single needle (SF618, [5100]) and household items by handles (SF2639, [11754], SF3474, [8894]), a hinge (SF1986, [9618]) and a lamp (SF579, [4858]). Two counters indicate recreational activities (SF2786, [12325], SF231, [1456]) and a greensand whetstone (SF2604, [11505]) is the only indication of tools in this phase.

Transportation is indicated for the first time in this phase by the presence of a hipposandal (SF1224, [1033]) and a seal box (SF3370, [12657]) is an indicator of literacy. Bone and lead working waste were also present in this phase.

The most unusual object from this phase was a fragment of a larger than life size statue. The fragment is one foot, wearing a sandal and sock and may have been part of an imperial or religious figure (SF3147, [13563]).

## Provisional Phase 10

Fifty-nine objects Roman period objects were recovered from Provisional Phase 10. They are all residual so only the more important items are discussed in detail here.

The personal adornments, as is usual, were the most common class of object and included an intaglio (SF2580, [11418]). The stone appears to be carnelian and the image is of two birds facing each other. There is also a lunular pendant of possible military type from this phase (SF2961, [12891]). A patera handle and key form the household items and are unusual objects for this site (SF427, [4384], SF3221, [12629]). All other objects from this phase are well represented in earlier deposits. Full details can be found in the catalogues.

## Provisional Phases 11-13

Provisional Phases 11-13 yielded a small number of residual Roman objects. These do not need to be discussed here in detail as all the items are well represented in the rest of the assemblage. Further information is available from the attached catalogue.

## Unstratified Material

The unstratified material is mainly comprised of metal detected finds derived from a variety of areas on the site that were not always recorded or identifiable. This is unfortunate as the assemblage contains a number of important items.

There are seven unstratified brooches or brooch fragments and this group includes Colchester, Nauheim derivative and disc brooch types. Slightly more unusual are a sandal sole brooch (SF671) and a 'T' shaped brooch (SF2405) – the latter object is typical of the Severn Valley. Other personal adornments include four hairpins, a gold earring (SF2848) and a mirror fragment represents 'toilet' instruments.

The presence of nine items of military equipment or objects with military associations represents the most unusual aspect of the unstratified material. This is a far higher total than for any of the stratified phase groups and the assemblage is dominated by *lorica segmentata* girth hoop tie rings of second- to third-century date (Bishop 2002, 58). Other objects include a pendant (SF1667), a baldric terminal of *numerum omnium* type (SF1808) and rivet or fastener (SF1796) of military form. The presence of these finds can be explained in a variety of ways. Firstly, Roman soldiers on secondment to the governor or just passing through must have been a common site in London, the presence of soldiers is even epigraphically attested in Southwark (Yule and Rankox 1998). Therefore, the loss of small items of equipment and possessions is to be expected. Secondly, the presence of a temple on site dedicated to Mars-Camulus (a war god) may be relevant as military fittings could be suitable votive offerings (Allason-Jones 1999, 3).

Other relatively unusual objects include a miniature axe-head (SF2135) – one of the few explicitly votive objects from the site – and two lead weights (SF2172, SF2078), which are under-represented in the finds assemblage as a whole. A seal box lid (SF2273) and a lock bolt (SF961) are also present and these finds complement those recovered from stratified deposits.

## Discussion

This discussion is based primarily on an analysis of the finds by phase and functional category (as proposed by Crummy 1983, v). The total number of identifiable objects from each phase is low and due to this, percentages have not been calculated from these totals.

Analysis of Table 2 suggests that in general terms the site assemblage is essentially domestic, with an emphasis on personal adornments, toilet implements and low level craft activities such as textile working. There are no particular indications that this site is unusual. Objects associated with literacy, weighing, agriculture or religion were not common. The low level of religious artefacts is discussed further below but is surely significant given the nature of the site.

The most obvious change in the small finds assemblage occurs in Provisional Phase 5. It is during this phase that the site is transformed from domestic suburban sprawl into a planned religious complex. The finds are particularly concentrated in Categories 3 (textiles), 6 (weighing) and 10 (tools). This could be interpreted as indicating a change in site function toward a more craft/light industrial/commercial economy during this phase. Provisional Phase 8 may also be significant in that it has two religious objects (Category 14) and a relatively high number of tools.

Category Number	Description
1	Objects of personal adornment or dress
2	Toilet, surgical or pharmaceutical instruments
3	Objects used in the manufacture or working of textiles
4	Household utensils and furniture
5	Objects used for recreational purposes
6	Objects employed in weighing and measuring
7	Objects used for or associated with written communications
8	Objects associated with transport
9	Buildings and services
10	Tools
11	Fasteners and Fittings
12	Objects associated with agriculture, horticulture and animal husbandry
13	Military equipment
14	Objects associated with religious beliefs and practices
15	Objects and waste material associated with metal working
16	Objects and waste material associated with bone working

Table 1: Crummy's (1983, v) functional categories for the analysis of small finds.

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
<b>P3</b>	3	5	1		1					1					P	P
<b>P4</b>	21	2	3	5	1		1			1			1	1		
<b>P5</b>	19	3	14	3	6	2				13	3		1			P
<b>P6</b>	6		1	1	1		2									
<b>P7</b>	18	2	1	1	1				1	2	2				P	P
<b>P8</b>	13	2	2	2	2					5		1		5		P
<b>P9</b>	20	3	1	3	2		1	1		1	1				P	P
<b>P10</b>	13	1	3	2	1					2	1		1			P
<b>P11-14</b>	6		2							1						
<b>[+]</b>	12	2		2		2	1				1		9	1		
<b>TOTAL</b>	132	19	28	19	15	4	5	1	1	26	8	1	12	7		

Table 2: The number of identifiable objects by Crummy's functional category and by phase.

Specific types of find also require some comment. In particular the brooch assemblage contains a number of unusual types. The most obvious of these is pincer brooch SF265 from [1830]. This object can be classified as a Feugère (1985, 426-435) Type 32 of which only one other has been identified as a demonstrably British find (Major undated). This type of brooch is found north and south of the Alps with a thin distribution in Gaul and was probably manufactured in northern Italy. It may suggest that the 'traders' attested by the Tabard Square inscription deposited exotic brooches on site. Less exotic but still a long way from their place of manufacture are brooches from East Anglia (SF2458, [10923]) and the Severn Valley (SF2405, [+]). The presence of two disc brooches with applied small beads (SF1168 [7707] and SF1764 [9213]) is noticeable. These are a rare imported type of first-century date and most commonly found on military sites. To find two from the same site is very unusual (Hilary Major *pers. comm.*).

The bracelet assemblage is also a little unusual. Only thirteen examples were identified, which seems a little low and only five were manufactured of metal with the rest being made from shale. It was noted above that the shale examples first appear in the early-mid second century (Provisional Phase 5). Interestingly, this is contemporary with the first importation of BB1 pottery into London and may suggest that these two commodities, both from south-east Dorset, travelled together.

The fifteen counters / gaming pieces are made from bone and pottery and represent the usual interpretive difficulties. Do they really represent objects used in recreational activities? Some of the pottery 'counters' could, for instance, be spindle whorl blanks and all of the items could have functioned as counters and thus be indicative of commercial activities rather than gaming.

The presence of two gold items should also be noted. The chain links from a necklace recovered from a Provisional Phase 4 deposit and the unstratified earring indicate that some of the inhabitants had access to wealth and were willing to demonstrate that fact publicly in their dress.

There are undoubtedly other peculiarities within this assemblage that could be highlighted by further analytical work. Recommendations for future work are made below.

### **The religious element**

The excavations recovered ample evidence for religious activities on site. Two structures with typical 'Romano-Celtic temple' plans were identified and an inscription recording a dedication to two emperors and the god Mars-Camulos was also recovered. This clearly demonstrates that a major religious complex operated on the site. However, if it were not for the structural and epigraphic evidence it would be difficult to argue for a religious / ritual interpretation of the site purely on the evidence of the small finds assemblage.

A maximum of five 'religious' finds were identified. The first is the famous inscription referred to above. The second is a miniature sword handle from Provisional Phase 4 (SF3052 [13159]), perhaps an apt offering to a god conflated with Mars. The third and fourth items are a so-called 'votive bar' (SF403 [2727]) and a flint annulus [11160] from Provisional Phase 8. The latter object, essentially a 'stone-with-a-hole', may just be a chance occurrence and not a ritual artefact at all. The final object is a miniature axe-head [SF2135], which is unfortunately unstratified but a well-known type of votive object.

Comparison of the Tabard assemblage with that derived from other temple sites provides some useful insights. The majority of the sites listed in Table 3 are late Roman rural shrines in the West Country so some caution should be exercised as chronological and regional factors may be at play. Nevertheless, it is noticeable that many of the sites produce relatively high numbers of 'votive' objects: miniature weapons, votive plaques, figurines and so forth. Some sites, Nettleton, Henley Wood and Harlow (Essex), do not produce such high numbers though but virtually all sites produce more recreational objects (counters). Few London shrines have been excavated or published in detail so local comparison is more difficult. The Tabard assemblage does not compare with that from an admittedly unusual site like the Walbrook *mithraeum* however (Shepherd 1998).

Not all votive offerings need to be of explicitly religious objects and other classes of artefact are of relevance here. The military equipment, for instance, could easily be seen as indicative of religious dedication rather than military presence. Similarly, the personal adornments could have a ritual aspect. This is not immediately obvious however, unlike at Lamyatt Beacon where a concentration of rider brooches was associated with a cult of Mars (Leech 1986). The presence of unusual brooches with styles associated with particular geographical areas (for instance SF265, [1830]) could be significant here.

Finally, it is worth remembering that Romano-British ritual was a complex business. The Tabard religious complex may have contained the architectural elements but votive deposits may have been removed in antiquity (Isserlin 2007) or votive deposition could have taken place elsewhere. Deposition in the braided Thames channel just to the north of the site is a possibility or elsewhere in the Southwark landscape. This

calls to mind features such as the Borough High Street shaft with its collection of CAM306 bowls or the pit at 10-18 Union Street containing a curse tablet (Heard 1989).

	Tabard	Uley	Lydney	Nettleton	Henley Wood	Woodeaton	Harlow	Lamyatt Beacon
<b>Votive</b>	5	231	37	7	3	42	7	44
<b>Personal Adornment</b>	132	174	664	307	79	168	144	34
<b>Toilet etc</b>	19	6	3	19	5	29	19	2
<b>Recreation</b>	15	32	43	60	65	36	19	5

Table 3: The Tabard finds compared to other religious sites (based on data in Woodward and Leach 1993, Table 20)

### **Objects of national significance**

Three objects of national significance were recovered from the excavations and have been mentioned above. However, they are deserving of a fuller treatment and are discussed in more detail here.

#### **Mars Camulos inscription**

Pit [1567] produced a fragment of a marble inscription (SF253, [1566]). The inscription reads: NVMAVGG/DEOMARTICA/MVLOTIBERINI/VSCELERIANVS/CBELL/MORITIX/LONDINIENSI/VM/PRIM VS/VA... *'numinibus Augustorum deo Marti Camulo Tiberinius celerianus civis Bellovacus moritix Londinensium primus va...'*

This can be translated as:

'To the Divinities of the Emperors and to the god Mars Camulus. Tiberinius Celerianus, a citizen of the Bellovaci, *moritix*, of the Londoners the first...'

The style of the lettering suggests a second-century date and the use of AVGG indicates a date during Marcus Aurelius' joint reign (AD 161-9 or AD 177-80). The Bellovaci were a tribe in northern Gaul located to the west of Reims where other inscriptions to Mars Camulos have been identified. In Britain Mars Camulos is only attested on an altar from Bar Hill.

The use of the unusual term *moritix* – a Celtic word meaning 'sea-farer' or something similar – is noteworthy and may be a title within a trade guild, which would explain why a more normal term (like *navicularis*) was not used (Tomlin and Hassall 2003, 364). The use of *Londinesium* as a noun (meaning Londoners) is significant and the first such recorded usage. It offers an interesting insight into how the inhabitants of Roman London perceived themselves.

The marble probably originated from Proconessus in Turkey and shows that Tiberinius Celerianus had access to high status materials. The inscription indicates the vibrant nature of early Roman London and Southwark with and demonstrates the piety, success and origins of some of the settlement's inhabitants. The significance of the object is such that it has already been subjected to specialist epigraphic comment (Tomlin and Hassall 2003, 364) and undergone conservation and display in the Museum of London. The inscription has also featured in a number of more general works on Roman Britain (for instance Millett 2005, Fig 45).

#### **Face Cream**

The discovery of a small lead-alloy / tin container containing a white paste is one of the most unusual finds from the site (SF3014, [12855]). It has been interpreted as a cosmetic cream, possibly used as a foundation as Roman women aspired to a fair or pale complexion. Scientific analysis of the cream has

been presented by Evershed *et al* (2004) and indicates that it was formed from refining animal fats and adding a tin oxide. The survival of Roman cosmetics is highly unusual and this is an exceptional find that sheds considerable light on the use of cosmetics in the Roman Empire. As such it has been published and discussed in a number of works (for instance Allason-Jones 2005, Fig 47) and displayed in the Museum of London.

A second larger lead-alloy / tin container of similar manufacture which was partially crushed and without a lid SF3053 [13194] was also recovered from the site.

### **Bronze foot from a statue**

A large bronze foot (SF3147, [13563]) is probably part of a greater than life size religious or imperial statue (Coombe *et al. forthcoming*). The foot is wearing a sandal and the straps meet at a floral motif. Roman footwear can be indicative of date and future research on this aspect of the find may be enlightening. Interestingly, the foot appears not to be bare but seems to be wearing a sock or stocking. Such garments are known from Roman literary sources and would seem a logical adaptation to a northern climate. The foot, however, appears to be the first evidence that statues were shown wearing such garments.

Such statues would have adorned many of Roman Britain's cities and temple complexes but because of the value of the bronze few fragments of such statues have survived. This object is thus an important addition to our corpus of Roman public statuary in Britain.

### **Recommendations**

The small finds assemblage is clearly a large and important group of material from Roman Southwark. It should be published in detail with an illustrated catalogue and synthetic discussion comparing the site with other small finds assemblages from London and elsewhere. It is recommended that the following specific actions be taken before publication:

- An analysis of the spatial distribution of the finds should be undertaken. This ought to concentrate on particular structures and features (particularly those associated with the temple and 'villa' building).
- A discussion of the small finds and how they compare to other sites in London and Britain is needed. One issue that needs specific comment is the total number of finds. c.600 objects for a site of this size and stratigraphic depth seems a little low.
- The level of residuality and redeposition should be addressed. What impact do obviously residual objects have on the phase totals of objects by functional category?
- A maximum of 152 objects will need to be illustrated. Some of these may need cleaning and/or conservation.
- Unstratified metal waste, broken nails and other objects can be discarded.
- The carnelian intaglio of two facing birds should be sent to Dr Martin Henig for a report.
- The bone working waste should be analysed by an appropriate faunal remains specialist.

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## Unstratified finds

Context	Small Finds No	Description	Draw?	Material
0	169	Hairpin, complete. Swollen shaft, sub-globular head. Probably re-pointed. L. 91mm, head diam. 5.5mm.	D	Bone
0	515	Girth hoop tie ring from lorica segmentata. Bent and incomplete, probably as Bishop 2002, 58, Fig. 6.12.1. 14x15mm.		Cu
0	671	Sandal-sole brooch. The pin and most of the edge is missing, and the lugs and catchplate are incomplete. It has twenty-four small glass beads set in enamel to represent hobnails, with a very narrow border of copper alloy round the edge. The enamel now appears dark greenish-brown, and is almost indistinguishable from the copper alloy. Most of the glass 'hobnails' are damaged; those that survive are white, green and blue. The colours were probably placed in a deliberate pattern, rather than at random. L. 27mm. 2nd-early 3rd century.	D	Cu
0	896	Brooch, Colchester or Colchester Derivative, headgear obscured by earth. Six-coil spring, pierced catchplate?, side wings probably plain. Groove down middle of bow. Details obscured by earth. L. 45mm. Clean.	D	Cu
0	961	Part of a lock-bolt. For the type see Crummy 1983, 124, no. 4136. Masked by concretion. L. 37mm, W. 8mm.	D?	Cu
0	1067	Girth hoop tie ring from lorica segmentata. As Bishop 2002, 58, Fig. 6.12.8. 13x16mm.		Cu
0	1148	Girth hoop tie ring from lorica segmentata. as Bishop 2002, 58, Fig. 6.12.1, but with longer shank. 15x25mm.		Cu
0	1175	Girth hoop tie ring from lorica segmentata. . As Bishop 2002, 58, Fig. 6.12.8. 14x14mm.		Cu
0	1516	Girth hoop tie ring from lorica segmentata. As Bishop 2002, 58, Fig. 6.12.5. 16x17mm.		Cu
0	1542	Coin		Cu
0	1576	Casket key. Oval handle loop with a rectangular block below, with transverse mouldings. The stem has a hollow tip, and the simple bit has three teeth. L. 32mm. Clean	D	Cu
0	1667	Military pendant. A fragment from the top of a pendant, the loop incomplete. There are two oblique lines at the base of the loop. The original shape is uncertain; it was possibly heart-shaped, somewhat similar to a pendant from Castleford (Bishop 1998, 77, no. 289). 2nd-3rd century.	D	Cu
0	1793	Hairpin or needle shaft. Probably Roman. L. 67mm.		Bone
0	1796	Cast double-ended fastener or rivet. The ends are circular with a line round the edge. A military form dating to the 2nd half of the 2nd century-3rd century. In fairly good condition, edges damaged. Cf a larger example from Vindolanda (Bidwell 1985, 122, no. 34). Clean	D	Cu
0	1808	Fragment from a baldric terminal plate of Numerum Omnium type, comprising the central part of the hinge and the stubs of the 'V' and 'M'. There are traces of tinning. It is identical in size and form to a complete example from Aldborough (Bishop 1996, 68, no. 427). The type is 3rd	D	Cu

		century. In fairly good condition. L. 26mm.		
0	2045	Brooch foot. The bow has a D-shaped section, with rather lopsided longitudinal mouldings. The catchplate is small and solid. L. 26mm. 1st century AD	D	Cu
0	2078	Weight, possibly Roman. Disc, with the centre dished on both faces. Cf. Cunliffe 1971, 144, no. 7. Diam. 37mm, th. 12mm, wt. 92g. Clean	D	Pb
0	2135	Miniature axe-head. Well-modelled, with a shaft-hole rather than an integral handle. This is probably a Roman votive object. L. 24mm, max. W. 14mm.	D	Pb
0	2171	Weight. Bi-conical, with iron corrosion at the ends, probably a broken iron suspension loop. Possibly Roman. Diam. 30mm, L. 39mm, wt. 104g.	D	Pb
0	2273	Seal box lid. Leaf-shaped, with an enamelled 'star-and-triangle' design. The triangle at the tip is unclear on the X-ray. The central motif is as Hattatt 1989, 468, no. 164, which is from Norfolk; it is probably a hare. The central motif is in yellow enamel, the triangles are turquoise. The hinge is damaged, and the tip probably incomplete. L. 30mm, W. 18mm. Clean	D	Cu
0	2391	Hairpin. Head partly obscured and possibly incomplete, and point missing. The head is probably biconical, with a notched collar round the middle. Cool group 3B? (Cool 1990). L. 39mm. Clean	D	Cu
0	2393	Stud. Circular, enamelled head, damaged. There are two concentric rings of enamel, possibly with a divider in each ring, and a central spot. Most of the enamel is damaged or missing. The outer ring is possibly turquoise. The shank is broken. Diam. 17mm. Clean	D	Cu
0	2405	Brooch. Hinged T-shaped brooch, with most of the pin and catchplate missing, and some damage to the bow. The decoration is not entirely clear. There are transverse grooves across the ends of the wings. It has a low central crest running about half the length of the bow, delineated by a groove either side, and with knurling up the middle. There are oblique grooves at the junction of the head and bow, and probably four oblique grooves at the bottom of the crest, forming a lozenge. Cf. Hattatt 1987, 104, no. 906. The type is principally found in the lower Severn area, and dates to the late 1st-2nd century. L. 48mm. Clean	D	Cu
0	2426	Hairpin. Spherical head, shank broken. Cool Group 1C, occurs throughout the Roman period (Cool 1990). L. 21mm, head diam. 7mm.	D	Cu
0	2555	Mirror fragment. Speculum. Probably Roman.		Cu
0	2714	Brooch fragment. Part of the bow from a Nauheim derivative, broken across the beginning of the spring. Narrow, plain strip bow with a D-shaped section. L. c 18mm.		Cu
0	2762	Brooch. Colchester BB, with a plain bow with a D-shaped section. The foot, catchplate and pin are missing. The side wings appear to be plain, with a stepped moulding either side of the head. The spring has eight coils. L. 30mm, W. 19mm. Clean	D	Cu
0	2792	Cast fragment, possibly from a Roman statuette. The curved surface is undecorated, apart from a small area of parallel grooves delineated by a curved line. This might be a representation of hair. c 35x30mm.	D?	Cu
0	2830	Hairpin, point missing. Cool Group 10A, very similar to Fig. 7.1. In use by AD125. L. 52mm	D	Cu
0	2839	Girth hoop tie ring from lorica segmentata. 2nd/early 3rd century. W. 15mm, L. 17mm.	D	Cu

0	2848	Earring. Disc, with a six-petalled rosette in relief, with lines between the petals. The back is flat, and the edge slightly crimped. The hook is soldered into a hole in the centre, and there may have been a central element, such as a small knob, on the end of the wire, which is now missing. The hook is distorted. Diam. 14mm. This is similar to Allason-Jones type 14, although all those cited by her have back-plates (Allason-Jones 1989, 10). Probably 4th century.	D	Au
0	2925	Brooch. A large disc brooch, pin missing, edge damaged. It originally had six small lugs round the edge. The centre of the disc has a concentric moulding, and a hole where a knob would have been riveted on. It appears to be plain (some have elaborate niello decoration), and is probably tinned. Mid-late 1st century AD. Diam. 38mm. Clean	D	Cu
0	3091	Needle. Spatulate head, Crummy type Type 2 (Crummy 1983, 65). There is damage to the point, but the length is probably complete. L. 105mm		Cu
0	3092	Strip mount. It is symmetrical, with a central rondel, probably bearing an enamelled quatrefoil, and opposed zoomorphic terminals. Most of the detail is masked by earth. Possibly military. L. 48mm. Clean	D	Cu

### Provisional Phase 2

Context	Small Finds No	Description	Draw?	Material
2340	1294	Short cylinder. Translucent ?very pale yellow. Diam. 2mm, L. 2.5mm		Glass

### Provisional Phase 3

Context	Small Finds No	Description	Draw?	Material
1486	237	Bone whittle-tang handle for short implement; complete; L 48mm; rectangular section; highly polished and carved with a double ridge along upper and lower edge; recess ?for ferrule; concave end		Bone
1531	1248	Nail		Fe
1888	365	Melon bead. Complete. Diam. 14mm, L. 9.5mm.		Glass
3123	342	Tapering bar, possibly a knife or tool tang rather than a nail shaft. Both ends broken in antiquity. L. 63mm, W. 6-11mm.		Fe
4107	348	Five lumps, probably just natural concretion.		Fe
4330	425	Double-sided comb fragment, with fine teeth one side, coarse teeth the other. One broader end tooth is present. The object is now somewhat warped. It is probably boxwood, and is similar in size to a boxwood comb from Exeter (Earwood 1991, 276, no. 3).	D	Wood
5119	1293	Large dribble. c 75x20x8mm.		Pb
5932	737	Probe from a spoon- or spatula-probe. The handled is faceted (seven-sided), ending in a bead-and-reel moulding whose central element has fine concentric rilling. In fair condition. L. 99mm.	D	Cu
5932	766	Stud, head incomplete and bent. L. 19mm.		Cu
6827	969	Four small dribbles.		Pb
7568	1305	Perforated oyster shell		Shell

7707	1168	Disc brooch. It has four applied (bone?) buttons round the edge; the central element, probably a similar button, is missing. Tinned. This belongs to Hull Type 239, an imported type often associated with the military. Examples often have engraved decoration, though there is none visible on the X-ray. The date is C1-c 60 AD Clean	D	Cu
7964	1373	Copper alloy. Two fragments from a mirror. The larger piece has a straight edge. There are four concentric compass-drawn semi-circles against the edge, in two sets of two. The larger piece is 69x37mm. The largest semi-circle has a diameter of c 50mm, so if set symmetrically, the original L. of the mirror would have been >90mm.		Fe
8379	2485	A thin rod, with a slight swelling in the middle. In very poor condition, with most of the surface missing. Both ends are broken. One end has traces of fine circumferential rilling, which suggests that this is the handle of a toilet implement rather than a hairpin shaft. L. 58mm, max. diam. 2mm.		Cu
8380	2619	Probe from a toilet implement. L. 24mm. This is possibly the probe from the end of 8379. Are the two contexts related?		Cu
10708	3495	Working waste.		Bone
10862	2457	Needle, broken across the base of the eye, point missing. It was possibly re-used as a hairpin, as there is polish across the break at the eye end. L. 92mm		Bone
10864	2456	Counter. Plain disc with chuck mark, polished. Diam. 15mm, th. 2.5mm		Bone
12064	2689	Brooch. Colchester derivative, probably a Colchester B; parts of head masked by earth. The side wings appear plain. Damaged spring with c 12 coils. Cavetto moulding on the bow, solid catchplate, pin missing. In fairly good condition bar the spring, which is in a different alloy. L. 65mm. Clean	D	Cu
12064	2727	Sheet, with patches of lead solder on the back. Probably no original edges. c 43x48mm.		Cu
12064	2730	Concretion. No metal present.		Fe
13568	3178	Ring, circular section. External diam. 40mm, th. 6mm.		Cu

#### Provisional Phase 4

Context	Small Finds No	Description	Draw?	Material
1346	1243	Nail shaft		Fe
1475	1245	Nail shaft and mortar		Fe
1475	3430	Bone waste		Bone
1497	1246	Probably blade fragment, very tip missing. Max. W. 23mm. The second lump in the bag has no metal present.		Fe
3167	440	Melon bead. Fragment. Diam. c 20mm, L. 16mm		Glass
3985	533	Annular. Translucent very pale blue. Diam. 13mm, L. 5mm.		Glass
4036	536	Copper-alloy		Cu
4059	393	Melted lump		Cu
4165	433	Melon bead. Complete. Partly decayed to white. Diam. 18.5mm, L. 16mm.		Glass
4327	1268	Nail		Fe

4484	430	Curved bar, one end broken in antiquity, the other tapering to a slightly rounded, flattened point. The surface is in poor condition. Probably a cosmetic pestle with the end loop missing. L. 37mm, max. diam. 7mm.		Cu
4600	545	Cast cylinder, both ends damaged, length possibly not complete. The surface has a band of cast-in grooves, 9mm wide. Surface partly detached. L. 13,5mm, Diam. 12.5mm.	D?	Cu
4642	394	About 25% of a ring. Very little surface surviving. External diam. 48mm, section diam. 4mm.		Cu
4746	549	Brooch, head and part of the bow in very poor condition with little of the surface surviving. A small brooch with a slightly humped head, probably with side wings, now missing. Narrow bow with a slight crest on the head, and probably with a forward hook. There was possibly an oblique line either side of the head at the junction with the spring case. A Dolphin brooch, probably something like Hattatt 1985, 73, no. 351. Mid C1 AD. L. 22mm.		Cu
5915	764	Rat-tail spoon with round bowl. Tinned. In fairly good condition, with some surface pitting and slight damage to the bowl.	D	Cu
6887	971	Spindle fragment. One end is broken, the other complete though with slight damage. The shaft flattens at the point of greatest width, a feature also present to a lesser extent in SF932. L. 118mm.	D	Bone
6976	1356	Probable blade fragment, cutting edge damaged. From a large blade, such as a chopper. L. 100mm, W. c 48mm.		Fe
7210	1061	Shaft from a toilet instrument, probably a spoon-probe. Both ends are missing. One end has bead-and-reel moulding, the other has two grooves. A smaller version of Crummy 1983, 61, no. 1932. L. 79mm.	D	Cu
7210	1361	Handle? Regularly tapering bar, section unknown, with a circular perforation in the rounded, broad end. The other end is broken. Possibly a key handle, though the form would be very unusual. It is quite similar to a latch-lifter handle from Hod Hill (Manning 1985, O19), but latch-lifters are not common urban finds, and this interpretation must remain dubious. L. 94mm, W. 7-18mm, hole diam. 11mm.		Fe
7256	1176	Melon bead, fragment. Diam. 16mm, L. 10mm.		Glass
7366	1172	Lead		Pb
7507	1365	Nail		Fe
7549	1367	Nail		Fe
7588	1422	Stone fossil		Stone
7971	1445	Lion's head box mount. A well-modelled example, in good condition, with a light coating of earth. Clean	D	Cu
8107	1378	Nail		Fe
8214	1379	Nail shaft.		Fe
8215	1380	Nail shaft.		Fe
8226	3388	Sheet. Roughly triangular, folded. c 52x34x2mm.		Pb
9213	1764	Disc brooch. All details are obscured by concretion, and the edge is damaged. The X-ray shows a six-pointed star with small applied beads at each point, and probably a central bead. The beads appear to be metal rather than bone. The field may be enamelled. Diam. 20mm. As with SF1168, this brooch probably belongs to Hull Type 239, though if enamelled, a slightly later date might be envisaged. Clean	D	Cu
9389	2011	Brooch. In very poor condition, head encased in earth. Possibly a Langton Down with a narrow, ribbed bow. Foot and catchplate missing,	D?	Cu

		edges of bow damaged. Clean head		
9976	2111	Sheet lace tag in two pieces, in poor condition. Possible mineralised leather present. Possibly intrusive, if this is a good Roman context. L. 17mm.		Cu
9986	2356	Disc. In good condition, both faces smooth. Possibly a weight. Diam. 73mm, th. 4-5.5mm. Wt. 210g.		Pb
9986	2357	Two wire fragments in poor condition, with little surviving surface. Possibly a needle. L. 39mm and 16mm.		Cu
9986	2364	Six links and the terminal hook from a necklace. The links are straight wire with double-looped ends, varying slightly in length. The hook is made from thicker wire with a looped end. L. of links 14-17mm, overall L. c 94mm.	D	Au
9986	2455	Needle, broken across the base of the eye. Little of the surface survives. It is a slender needle, as Crummy type 3, but does not appear to have a groove below the eye. L. 80mm.		Cu
9986	3466	Working waste? Segment sawn from a long bone.		Bone
10254	2290	Ring. In very poor condition, with no original surface, pustular. Possible a buckle. It is nearly circular externally, but internally rectangular. L. 22mm, W. 20mm; internally 10x12mm, th. c 3.5mm.		Cu
10254	2293	Hairpin, complete and in fair condition. Cool group 6 (button-and-cordon), with one cordon. L. 97mm. Second half 1st cent. – early 2nd cent.	D	Cu
10254	3493	Working waste.		Bone
10255	3293	Pinned hinge. One arm only, with two lugs. There are no obvious nail-holes, but the tapering plate is incomplete, and has possibly broken across a hole. L. 98mm, W. 32-21mm.		Fe
10493	2316	Counter. Plain disc with chuck mark, polished. Diam. 18mm, th. 4mm.		Bone
10511	2319	Hairpin or needle point in two pieces. L. 41mm.		Bone
10587	3354	Thick wire, both ends broken. L. 101mm, diam. 2mm.		Cu
10606	2350	Melon bead, c 30%. Diam. c 32mm, L. 20mm.		Glass
10606	2352	Annular. Pale blue translucent. Diam. 15.5mm, L. 5.5mm.		Glass
10606	2353	Ring handle from a box. In poor condition, with little of the surface surviving. It has the circumferential ribbing typical of box rings, and the remains of the iron attachment loop. Diam. 29mm, internal diam. 21mm.		Cu
10606	2366	Ribbed sword handle, length complete but split longitudinally. There is iron staining on the inside. This is a 1st-early 2nd cent. type; cf an example from Castleford (Greep 1998, 268, no. 1). L. 84mm.	D	Bone
10608	2351	Melon bead, 50%. Diam. 21mm, L. 17.5mm.		Glass
10610	2354	Nail		Fe
10610	2355	Lid. A solid, cast disc, with two concentric ribs on the top, and a central cup, perforated to take the missing rivetted knob. The other face has a very shallow groove round the edge, and a small ring round the hole. The edge has a median groove. In fair condition, some of the surface missing. Diam. 49mm, th. 5mm. Clean		Cu
10695	2365	Open lamp. Figure-of-eight lamp with a horizontal handle. There is some damage to the edge, and the handle is bent. L. of pan 90mm, max. W. 70mm, handle L. c 45mm, section rectangular, 8.5x6.5mm. This type of lamp is later 1st century-early 3rd century in date, and has a distribution that is very strongly biased towards military sites and	D	Pb



		Wales (Eckhardt 2002, 243).		
10695	3390	Strip, distorted. c 148x18x3mm.		Pb
10923	2458	Brooch. Wing-and-fantail. Both sides wings are missing, as well as the spring-gear and most of the catchplate. Part of the bow is detached, and there is a small piece of detached pin. There is a line down each edge of the bow, and a central groove flanked by narrower grooves. The outer grooves have been stamped with a line of oblique 'S's'. L. 30mm. In fairly poor condition, but not worth cleaning as all the details are clear. This is a rare type of brooch, probably made in East Anglia as the distribution is centred there. It is similar to Hattatt 1985, 50, no. 300. The date is c AD 50-70.	D	Cu
13027	3017	Strip, bent. One end is cut straight across, the other is broken. 99x17x1mm.		Pb
13154	3042	Annular. Dark blue translucent. Diam. 15.5mm, L. 7mm.		Glass
13154	3107	Brooch. Colchester derivative, masked by concretion. Traces of the spring. Plain? wings, D-sectioned bow, cut-out catchplate and knobbed foot. L. 57mm. Clean	D	Cu
13154	3108	Needle. Spatulate head, damaged. Bent, tip missing. L. 128mm.		Cu
13156	3505	Dribble, and two fragments of very mineralised lead.		Pb
13159	3052	Object, probably the handle from a miniature sword or dagger, well-modelled in the round. Complete as buried. The pommel and handguard each consist of two pierced rondels, with a moulded grip between them. L. 38mm. Miniature swords are rare; there are examples from Chesters (Green 1978, 55, no. 13 and pl. 125) and Verulamium (Waugh and Goodburn 1972, 132, no. 147), neither similar to this one. Clean	D	Cu
13159	3144	Ring, in three joining pieces, D-shaped section. Possibly a plain finger-ring. External diam. 22mm, internal diam. 18mm, th. 2mm.		Cu
13159	3235	Strip. X-ray in other plane to check for nail-holes		Fe
13159	3376	Rod fragment, probably a hairpin shaft. L. 53mm.		Cu
13190	3060	Seal box. Lozenge-shaped with a knob at the tip, complete. The base has three holes, obscured by corrosion. The enamelled top is flat. There is a band of enamel round the edge, now appearing light brown, and a central lozenge divided into four cells. These are alternately filled with a shiny material, possibly glass rather than enamel, and very degraded enamel. L. 35mm. 2nd-early 3rd cent. Lozenge-shaped seal boxes are fairly common, but the decoration on this one is unusual. The ones closest in form (though not in decoration) to this example are from Verulamium (Waugh and Goodburn 1972, 122, no. 67), dated 130-150, and Caerleon (Brewer 1986, 186, no. 154), dated c 100-350).	D	Cu
13190	3073	Hairpin or needle shaft. Well-finished circular section. L. 80mm.		Bone
13190	3385	Stud. Small, sub-circular head, edge damaged. Possible spots of enamel on the head. Shank L-shaped. L. 11mm, head diam. 7mm. Check for enamel.	D?	Cu
13190	3400	Strip, bent. Probably waste from trimming a larger sheet, with several overlapping cut marks on the edge. c. 122x7x6mm.		Pb
13264	3377	Unidentified. Small fragment from a cast object.		Cu
13286	3146	Brooch. Dolphin, tinned, head damaged. The eight-coil spring is held in a spring-case with disc ends, possibly with decoration on the top of the spring-case. There is a low crest down the upper half of the bow, with transverse grooves. The slender bow ends in a small knob foot, almost	D	Cu

		the same width as the bow. The catchplate is incomplete, and the pin missing. L. 46mm. Clean		
13286	3238	Not very clear on the X-ray, possibly just a bar. Re-X-ray? Clean ends?		Fe
13286	3239	Nail shaft		Fe
13290	3240	Nail and nail shaft corroded together. Extensive mineralised wood present.		Fe

### Provisional Phase 5

Context	Small Finds No	Description	Draw?	Material
969	1220	Probably a nail with a large head. X-ray not clear. Re-X-ray		Fe
990	186	Two joining fragments of a hairpin or needle shaft. Well-made and polished. L. 74mm.		Bone
1023	1223	Two nails		Fe
1039	1287	Irregular strip. 63x10x5mm.		Pb
1126	1239	Blade fragment, probably the tip of a small Type 1 billhook (Manning 1985, fig. 14), with a gently curving blade. The hooked tip has broken off. L. 80mm, max. blade W. 38mm.		Fe
1172	215	Hairpin or needle shaft. Well-finished and polished. L. 60mm.		Bone
1172	3548	Melon bead. It is very abraded, with only traces of the original turquoise surface. Diam. 13mm, L. 11mm.		Glass
1287	1242	Ring-headed spike, slightly bent. L. 130mm, diam. of ring 16mm.		Fe
1299	3290	Nail shaft		Fe
1299	3455	Working waste.		Bone
1324	220	Peg. Circular stem, diam. 9mm, point missing. The head is hemispherical, flattened laterally, with a rounded notch in one side where the marrow cavity of the bone is present. Head W. 18mm, ht. 13mm, L. 73mm.	D	Bone
1376	1244	Nail and two nail shafts		Fe
1448	239	Ring. Surface partly detached. D-shaped section. External diam. 21mm, internal diam. 14mm. Roman? Check context.		Cu
1474	234	Copper alloy. Probable needle shaft, broken below the eye. Bent, surface poor. L. 110mm.		Fe
1474	238	Needle, broken across the bottom of the eye, which shows up clearly on the X-ray. There is a long groove below the eye, L. c 22mm. The point is missing. The section is circular at the eye end, changing to square at the point, a feature which is paralleled on a needle from Baldock (Stead and Rigby 1986, 128, no. 229). This is presumably a specialised needle, perhaps for leatherwork. L. 97mm.	D	Cu
1613	255	Needle. Crummy type 1, with a figure-of-eight eye. Point missing. L. 50mm.		Bone
2941	1255	Iron pan, no metal present.		Fe
5125	1278	Nail and nail shaft		Fe
5256	684	Hairpin. Sub-globular head, swollen shaft, point missing. L. 64mm.		Bone
5278	1283	Tool. Probably either a paring chisel or a drill bit, dependant on the shape of the section. It has a long blade, probably complete, but now bent, with an expansion below the head, which was broken in antiquity.	D?	Fe



		Completely masked by concretion. L. 150mm. Clean tip, section across the blade, and across the expanded section of the handle.		
5295	865	Bar, in good condition. The ends have probably been cut, and there are filing marks visible on the surface. 97x7.5x3mm.		Cu
5295	1326	Steelyard. One end of a steelyard made from a rectangular-sectioned bar, with a perforated terminal and one semi-circular suspension loop. There is no trace of any markings. Flaking. L. 177mm, section 16x9mm.		Fe
5370	1328	Probable blade fragment. Edges fuzzy on X-ray. L. 115mm, W. c 25mm. Clean section		Fe
5370	1329	Nail shaft		Fe
5483	1330	Nail		Fe
5489	750	Lead? Disc, surface completely obscured. 40x37mm. Clean		Pb
5489	753	Needle, in two joining pieces, complete. Crummy type 2, with a broad spatulate head and an oval eye. L. 176mm.	D	Bone
5507	3557	Shale bracelet, c 20%. Lentoid section. The outer face has three circumferential grooves, the middle one slightly deeper. External diam. 96mm, internal diam. 80mm, W. 13mm	D	Shale
5552	1331	Sheet object, incomplete. Possibly a hipposandal wing, but very unclear on the X-ray. Re-X-ray? + selective cleaning to elucidate shape		Fe
5552	1332	Ring. In two joining pieces, incomplete. It was either penannular, or broken in antiquity. Circular section. External diam. 48mm, th. 9mm.		Fe
5552	3343	c 25% of a ring of variable width. No surface surviving. External diam. 44mm, ring W. 4.5-6mm, th. 4mm.		Cu
5603	749	Probable needle shaft. It has a well-finished circular section, and is most likely to be a needle, as it is rather large for a hairpin. L. 86mm.		Bone
5603	1334	Nail shaft.		Fe
5604	731	Iron chopper		
5837	754	& SF755 Spatula-probe in two joining pieces (recent break). A flat, leaf-shaped spatula with a plain handle. The object had been bent almost double in antiquity. In fair condition, with some damage to the edge of the spatula. L. (straight) 185mm, spatula L. 55mm, W. 14mm.	D	Cu
5837	762	Figure-of-eight loop, made from a rectangular-sectioned strip. It is now distorted, but was probably bent in half to form a small shackle. L. (straight) c 93mm, W. across loop 20mm, section 4x2.5mm.	D	Cu
5837	763	Handle. A slightly tapering rectangular plate, possibly from a one-piece, rather than two-piece, handle, as the edges are broken, and there are no rivet holes. It has two broad longitudinal ribs flanked by narrow ribs, and a shallow broad groove across the end. The object is well-finished. The general form is commoner on two-piece handles such as one from Colchester, which is pre-AD 60 (Crummy 1983, 109, no. 2933), or a slightly later example from Segontium (Allason-Jones 1993, 204, no. 456). The latter handle retains its blade, and, although two-piece, does not appear to have rivets. The Tabard Square handle is larger than most examples. L. 72mm, W. 24-29mm.	D	Bone
5843	1338	a) Three nails and two nail shafts. b) Object, complete as buried. It appears to be an oval plate, probably less than 5mm thick, with a short, pointed tang at one end. L. 47mm, W. 18mm. Clean		Fe
5859	1339	Nail shaft		Fe
5864	1340	Nail shaft		Fe
5866	1341	Nail; bar fragment, fresh breaks. 49x15x5mm		Fe

5875	1342	Two nails		Fe
5979	3245	Conical ferrule. The open socket contains mineralised wood. A strip c 20mm wide springs from the top of the socket, now damaged on one side. There is a nail-hole in the centre of the socket, and a second one at the end of the strip. L. 160mm, max. W. of socket 31mm.		Fe
5987	778	Needle with broad spatulate head. Crummy type Type 2 (Crummy 1983, 65). L. 159mm.		Cu
5987	779	Strip fragment in two pieces, bent. No definite holes. In good condition with little corrosion. Post-medieval? L. (straight) c 147mm, W. 35mm.		Fe
5992	1344	Blade fragment or (less likely) a chisel. Tanged. L. 83mm, W. 26mm. Clean section		Fe
5992	1345	Four nails and one nail shaft. Two plate fragments, probably from the same object, but not now joining. 40x20mm; 17x25mm.		Fe
5992	3434	Needle, broken across the base of the eye, point missing. Crummy Type 2. L. 45mm.		Bone
5992	3549	Annular bead, appearing pale brown. Diam. 5mm, L. 3mm.		Glass
6080	1346	Nail		Fe
6136	907	Incomplete and a damaged rod, metal extremely mineralised. There are traces of mouldings, suggesting that this is the handle of a toilet implement. L. 62mm.		Cu
6154	831	Spoon, in three pieces. Round bowl and broken rat-tail handle. The bowl has a little ledge on the inner surface, below the edge. Crummy type 1 (Crummy 1983, 69). 2nd half C1-C2 AD. L. c 58mm, bowl diam. c 24mm.	D	Cu
6158	1349	Nail shaft; bar, possibly a nail shaft.		Fe
6228	898	25% of a large, solidly made ring with a circular section. External diam. 72mm, section diam. 8mm.		Cu
6228	1351	Two nails and a nail shaft		Fe
6237	931	Object, damaged, metal in very poor condition. It appears to be a damaged cylinder, with another layer of sheet inside. Ht. 12mm, diam. c. 16mm. Needs cleaning.		Cu
6237	932	Spindle fragment. Cf. Chapman 1980, 93, no. 486. L. 95mm	D	Bone
6237	3421	Hairpin or needle shaft. L. 52mm		Bone
6263	3543	Small double-ended stud. One end has a low conical head with a central chuck mark, the other end is a disc. There is a parallel from the vicus at Castleford, from a context dated c AD 140-180 (Greep 1998, 281, no. 162).	D	Bone
6307	1001	Melon bead, c 60%. Diam. 23mm, L. 19mm.		Glass
6307	1353	Chisel. Tanged, with a long, slightly waisted blade. The tip is possibly bevelled. Most Roman chisels have sockets rather than tangs, but. cf Manning 1985, B41. L. 176mm. Clean tip of blade	D	Fe
6307	1354	Nail		Fe
6478	972	Three sheet fragments. c 18x10mm; c 27x7mm; c 10x6mm.		Cu
6752	963	Needle. Three joining fragments, point missing, broken at the base of the eye. Transverse incised line below the hole on each face. Crummy Type 2 (spatulate head). L. 115mm	D?	Bone
6866	3422	Hairpin or needle shaft. L. 77mm.		Bone
6866	3443	Nail shaft		Fe
7012	1357	Nail		Fe

7117	1358	Stud, with a large circular head, probably flat. The shank appears to be integral, and is broken. Diam. 43mm.		Fe
7153	1036	Melon bead. Fragment. Diam. c 22mm, L. 13mm.		Glass
7197	1153	Melon bead, complete. Diam. 22mm, L. 18mm.		Glass
7197	1360	Strip fragment. One end has a fresh break, the other is rather rounded, with a short central tang at a slight angle to the strip. The tang is not necessarily complete. Possibly part of a strap hinge. L. 50mm, W. 22mm.		Fe
7244	1092	Annular, in two pieces. Medium blue translucent. Diam. 18.5mm, L. 7.5mm		Glass
7244	1362	Two nails		Fe
7255	1446	Whetstone. Fine-grained sandstone similar to SF3415. Bar with rectangular section, ribs on the sides, and a notch at one end where the stone was snapped off during manufacture. The other end is broken. There is little wear evident. 83x39x15mm. Wt. 78g.	D	Stone
8146	1477	Brooch head and bow, in fairly poor condition. A small brooch with a six-coil spring and plain? side wings. Median groove on bow with short notches either side. Colchester derivative, probably with a forward hook, obscured by earth. Clean	D	Cu
8378	2101	Lock bolt, with most of the perforated part missing. L. 65mm, section 8.5x5mm.		Cu
8378	2112	Hairpin or needle shaft. L. 104mm.		Bone
8378	2114	Spindlewhorl or weight. Plano-convex. Crisply moulded, in very good condition. There is a gouge out of the edge. Diam. 25mm, ht. 8mm, hole diam. 6mm. Wt. 34g	D	Pb
8378	2174	Spatula. Triangular spatula, end of handle missing. Well-finished and polished. L. 89mm	D	Bone
8378	2177	Irregular ?offcut. It resembles a tanged knife blade, with the tang set centrally. The 'blade' is cut off squarely, and has a slight flange along the top. There is a broken projection at the top corner. L. c 140mm, max. W. 26mm.		Pb
8378	2179	Narrow, irregular strip, pointed at one end. Bent. L. 85mm, max. section 8x5mm.		Pb
8378	2180	Three joining fragments hairpin or needle shaft. L. 69mm.		Bone
8378	2181	Part of the base of a sheet vessel, in very poor condition. Diam. c 45mm		Cu
8378	2196	Needle, broken across the bottom of the eye, point missing. Crummy type 2. The original length must have been about 160mm. L. 128mm.		Bone
8378	2203	Counter, made from a greyware base. Rather irregular. Diam. c 30mm.		Pot
8378	2204	Spindle. One end is complete, with a slight bevel, the other broken. The spindle is very thin at the break. L. 118mm.	D	Bone
8378	2205	Whetstone. Fine-grained sandstone. Bar with rounded rectangular section with slight dishing. One end finished, other end broken. L. 85mm, W. 34mm, th. 23-27mm. Wt. 148g		Stone
8378	2206	Spindlewhorl made from a potsherd. A neatly made, almost flat disc. Diam. 39mm, th. 9mm. Hole diam. 9mm. Wt. 17g.	D	Pot
8378	2208	Probable brooch pin		Cu
8378	2210	Needle, broken across the base of the oval eye. The point has been reworked. There is an incised line below the eye on both faces. L. 128mm.	D	Bone

8378	2211	Openwork knife or razor handle, with a small part of the iron blade surviving. It has a terminal loop above the open frame, which is divided by a narrow bar across the middle. The blade end of the handle is curved. The iron blade was held in slots down the sides of the handle, and secured by two copper alloy rivets in the curved element. In poor condition. Not worth cleaning; the details are visible on the X-rays. L. 83mm, W. of loop 21mm, W. of handle 18mm, th. 13-8mm.	D	Cu
8378	2213	Short scale-tang handle; straight hemispherical-section scales; highly polished bone incised with vertical lines and sections of cross hatching; complete; L 50mm W 17mm; two iron rivets		
8378	3445	Bracelet fragment. Plain, section variable from D-shaped to oval. Surface partly pitted. Diam. c 80mm, section 3.5x2mm – 5x4.5mm		Cu
8378	3504	Weight? a well-finished flat rectangle. 16x15x5mm.	D?	Pb
8378	3552	Whetstone. Schist? All faces are well worn. Variable rectangular section, tapering to either end. One end has a central notch, forming a fish-tail shape; the other end is beveled, with two shallow grooves. There is a notch cut in one side. L. 94mm, W. 21-24mm, th. 17-29mm.	D	Stone
9319	3488	Working waste. Roman?		Bone
10257	3275	Nail shaft		Fe
10279	3420	Hairpin. Very small button head, narrower than the shaft, slender shaft, point missing. L. 58mm.	D	Bone
10464	2312	Tapering rod, both ends broken, bent. Probably a hairpin shaft. L. 73mm.		Cu
10464	2312	Melon bead, fragment. Diam. not measurable, L. 17.5mm.		Glass
11788	3207	Iron whittle-tang knife; incomplete and very deteriorated; cutler's mark visible on x-ray; ?cross with thickened terminals and Roman letter "H"; x1063		
12439	2835	Disc, made from a pot base. The edge and top have been neatly trimmed, removing most of the original surface. Diam. 51mm, th. 10mm.	D	Pot
12699	2913	Counter. Disc with turned circles on top. X with central line scratched on back. Diam. 18mm, th. 3mm.	D	Bone
12699	3441	Marble? Fragment of a shallow bowl with a small, squared lug. The stone is iron-stained. External diam. 188mm.	D	Stone
12743	2880	Needle, broken across the bottom of the eye, point missing. L. 44mm.		Bone
12743	3225	Ring. External diam. 43mm, internal diam. 32mm.		Fe
12743	3384	Cylinder, now somewhat squashed. One end has a thickened, slightly everted edge, the other end is broken. It has a line round the complete end, with a low rib 10mm from the end, and a band of rilling. It is broken across a second band of rilling. Furniture mount? Diam. 42-35mm, L. 54mm.	D	Cu
12764	3228	Nail shaft		Fe
12772	2892	Hairpin. Conical head with two incised circumferential lines below. Complete. L. 85mm.	D	Bone
12772	2893	Hairpin. Rounded head with two incised circumferential lines below. Point missing. L. 82mm.	D	Bone
12772	2894	Hairpin point. L. 55mm.		Bone
12772	2957	Disc, made from a pot base. The wall has been fairly carefully trimmed off. Diam. 44mm, th. 7mm.	D	Pot
12772	2960	Tweezers, in three pieces, tips missing. Plain. Part of a wire ring is		Cu

		present in the loop. L. 39mm, W. 4-5mm.		
12772	3229	Nail		Fe
12788	2896	Hairpin or needle shaft. Very well-finished circular section, polished. L. 100mm.		Bone
12788	2959	Two joining fragments of a rod. Possibly a hairpin shaft. L. 53mm, diam. 2mm.		Cu
12789	3448	Edge binding with a U-shaped section, possibly from a scabbard. It is straight for most of its length, with one end curved almost at right-angles. This end, which is broken, has a slot along the outer face. The other end may be complete, but is damaged, with two detached fragments. One side has a lightly incised marginal line. The other side is obscured by corrosion. L. 95mm, section 6.5x6.5mm	D	Cu
12855	3010	Wallhook. In very good condition, surface almost uncorroded. L. 73mm, depth 59mm.	D	Fe
12895	2958	Brooch. A bridge brooch with a fairly low arch. Part of the spring is present, mounted in a single lug; most of the pin is missing. The edges of the sub-rectangular bow are serrated. The bow has two transverse, moulded steps either end, with a rectangular central panel flanked by a rectangular frame, the lower side of which bears oblique incised lines; the other sides may have similar decoration. The central panel is divided by transverse beading, and there are traces of decayed enamel in both cells. The elongated head and foot both have small cross-ribs near their ends; the head is tilted up slightly. L. 41mm. 2nd century. Clean	D	Cu
12895	2976	Needle, broken across the base of the eye. L. 140mm.		Bone
12895	3373	Lump, appearing amorphous on the X-ray. Possibly a burnt object.		Cu
12895	3374	Stud, shank broken. Flat disc head with an incised circle and triangles visible on the X-ray. Military? Diam. 12mm Clean	D	Cu
13035	3375	Sheet fragment in two pieces, folded. Original shape uncertain.		Cu
13166	3033	Counter. Plain disc with chuck mark. It has a lightly incised line across the back, and four nicks on the edge. Diam. 16mm, th. 4mm.	D	Bone
13214	3062	Needle, point missing. Unusually, there are two holes; it has a complete, small circular hole, and is broken across the bottom of the second hole. L. 64mm, hole diam. 1.5mm.	D	Bone
13214	3063	Hairpin. Conical head with two incised grooves below. Point missing. L. 68mm.	D?	Bone
13214	3236	Nail shaft		Fe
13214	3237	Two slightly tapering bar fragments, probably parts of the same object but not now joining. Rectangular section. The end of the narrower piece is complete, and rounded. L. 88mm, W. 14-16mm; L. 45mm, W11-13mm.		Fe

### Provisional Phase 6

Context	Small Finds No	Description	Draw?	Material
1017	189	Melon bead. Complete, slightly damaged. Diam. 21mm, L. 16mm.		Glass
2815	409	Shale bracelet. c 20%. Plain, rounded outer face, bevelled inner edge. External diam. 84mm, internal diam. 69mm, th. 8mm.		Shale

3119	341	Nail shaft.		Fe
3196	439	Probable nail. X-ray unclear. (No spot date – included with Roman)		Fe
3216	442	From the X-ray, this appears to be an annular or penannular brooch or buckle fragment, with a very flat, D-shaped section. About 25% of the ring is present, with part of the tongue or pin. Probably not worth cleaning, as the metal is in poor condition, and the X-ray is clear. External diam. c. 12mm, W. 3mm, th. c. 1.5mm. Check context	D?	Cu
3341	463	two pieces of small rectangular copper-alloy buckle		Cu
3341	463	Post-Roman buckle? Check context		Cu
4532	1269	Nail and nail shaft.		Fe
5972	1343	Rod, circular section. One end is pointed, the other has a fresh break. Possibly a stylus with the eraser missing.		Fe
5978	770	Needle. Crummy type 2, broken just below the eye. L. 119mm.		Bone
6022	789	Hairpin point. L. 48mm.		Bone
8377	2218	Counter. Plain disc with chuck hole, well polished. Diam. 18mm, th. 3mm.		Bone
9331	2098	Pin or peg. The object has a button head, separated by a deep groove from two broad collars separated by incised lines. The shaft tapers sharply, becoming very thin. The point is missing. Probably not a hairpin. L. 47mm. Parallels?	D	Bone
9331	3413	Melon bead, fragment. Diam. c 24mm, L. 17.5mm.		Glass
9851	3267	Iron bar		Fe
9890	3268	Nail		Fe
10091	3271	Nail		Fe
10191	2318	Firmalampen, Loeschcke type IX b (variant?) with handle. The nozzle channel is closed both ends, but there is a suggestion of a raised rim round the wick hole. The surface is very abraded, however. There is a slight raised bar across the bottom. The discus has a crude head in relief, with no visible features. The lugs on the edge of the discus are set well forward, and the nozzle is quite long and narrow. Probably a London product. L. 92mm, W. 50mm.	D	Pot
10191	3382	Lock pin. Cylindrical head with circumferential moulding. The top is concave, with a low button in the centre. The shank is rectangular, with a circular hole at the end. In good condition, part of the surface missing. L. 50mm, head diam. 17mm, ht. 7mm.	D	Cu
10317	2298	Nail cleaner, surface in poor condition, with a line down each edge. Most of the loop and the prongs are missing. This is Crummy's Baldock type, dating to the 1st-2nd century (Crummy 2001).	D?	Cu
10317	3351	Rod, swollen in the middle, broken both ends. In poor condition, with little surface surviving. Possibly the shaft of a toilet implement. L. 50mm.		Cu
10317	3352	Rod fragment, both ends broken in antiquity. Possibly a brooch pin. L. 33mm.		Cu
11564	3203	Nail		Fe
11967	3545	Counter. The edge is rounded, and the top has concentric turned circles with a central chuck mark. It is quite polished from use. Diam. 22mm, th. 3mm.		Bone
12145	3361	Brooch. Three fragments from a lunular plate brooch, two joining. Part of the catchplate and the hinge-lugs are present. There are traces of a concentric groove; the central boss is missing, but the stub of the rivet		Cu



		is visible. Original L. c 33mm. Feugère type 24d1 (Feugère 1985, 335ff and cf pl. 147.1844), c AD 30-70. Possibly from a workshop in north-west Switzerland. Not illustratable.		
12165	2796	Seal-box. Lozenge-shaped, in poor condition. The lid and bas are now separate, and nearly half of the lid is missing. There are four holes in the base. The lid is enamelled, with sixteen lozenges in alternating colours. The original colours are uncertain. There are two holes in the hinge on the lid. L. 28mm.	D	Cu
12757	2891	Eight fragments in very poor condition, surface delaminated. Possibly from the wall of an oval vessel. Not worth cleaning.		Cu
12757	3226	Nail shaft		Fe
12758	3227	Nail and nail shaft		Fe

### Provisional Phase 7

Context	Small Finds No	Description	Draw?	Material
1018	3415	Whetstone. Fine-grained sandstone. Rectangular sectioned bar, rather eroded, with traces of ribs on the sides. One finished end, one broken end. 81x24x22mm. Wt. 96g. The stone is macroscopically similar to a whetstone from Gt. Holts Farm, Boreham, Essex, which was identified as a Lower Jurassic sandstone with possible sources in Dorset or Yorkshire (Major 2003, 88, no. 13).		Stone
1130	199	Segmented. Translucent turquoise. Diam. 3mm, L. 13mm.		Glass
1297	214	Brooch, in poor condition, with some surface surviving. A trumpet brooch with a four-coil spring with a copper alloy axis bar. There is a line round the edge of the head, which has the stub of a projection or head loop. The bow has a bold acanthus moulding flanked by grooves; the moulding is on the top of the bow only. The button foot has two grooves, and the catchplate is damaged. 1st-early 2nd century. L. 48mm. Clean	D	Cu
2817	1254	Two probable nail shafts		Fe
3316	343	Three nail shafts		Fe
3476	344	Nail		Fe
3590	367	Perforated oyster shell		Shell
3594	1257	Nail		Fe
3715	489	Shale bracelet. c 50%, Plain oval section. External diam. 76mm, internal diam. 65mm, th. 6mm.		Shale
3715	1261	Two nail shafts		Fe
4056	414	Melon bead. Blue translucent glass. Fragment. Diam. c 25mm, L. 17.5mm.		Glass
4406	351	Mortar. Iron-stained, no metal present.		Fe
4406	352	Two nail shafts		Fe
4423	353	Nail		Fe
4450	354	Iron strap/mount		Fe
4450	354	Strap fragment, perforated. Mineralised wood on the back. In good condition. 49x23mm. Possibly post-Roman, no spot date.		Fe
4450	355	Mostly concreted sand, traces of same strap as SF354 present.		Fe

4481	360	Two nail shafts; concreted lump, no good metal present.		Fe
4539	1270	Nail shaft		Fe
4853	564	Ring in poor condition, with a circular section. External diam. 21mm, section diam. 3mm. The metal is greyish – could this be silver?		Cu
4853	1273	Nail; two nail shaft fragments		Fe
4897	1292	Strip, with a roughly triangular section, tapering to a blunt point. Bent. The surface is pitted. L. c 130mm, section 16x7mm/		Pb
5184	1324	Nail shaft		Fe
5218	685	Hairpin shaft. Swollen. L. 62mm.		Bone
5218	715	Hairpin shaft. It is partly well-finished, but appears to have been whittled down after some use, leaving irregular facets over part of it. L. 53mm.		Bone
5218	1282	Three nail shafts, one very large.		Fe
5218	1325	Two nails; nail shaft		Fe
5218	1499	A) Hairpin or needle shaft, well finished, with a circular section. L. 55mm		Bone
5218	1499	B) Hairpin shaft. Very thin, but well-finished, with a neat point. L. 49mm, diam. 2mm.		Bone
5245	662	Six fragments of water-pipe collar, from two or three collars. The group comprises two joining pieces forming c 50% of a collar 35mm wide, with an internal diameter of c 60mm; three joining fragments forming c 50% of a similar collar, but not definitely part of the same collar; and one fragment from a larger, or distorted, collar of the same width. All pieces have a low median rib. There is no obvious mineralised wood present, so the collars may not have been attached to pipes when deposited.		Fe
5272	679	Hairpin, point missing. Small conical head, with a rather crudely incised line below. L. 56mm.		Bone
5288	1284	Nail shaft. Mineralised wood present.		Fe
5419	3243	Nail shaft.		Fe
5818	1336	Nail, and small L-shaped strip. The latter is in very good condition, with no corrosion products present, whereas the nail is very concreted. The strip is probably intrusive.		Fe
5856	760	Hairpin. Quite neatly made, with a conical head with two collars below. The point is missing. L. 54mm.		Bone
5880	3387	Large dribble. c 72x35x11mm.		Pb
6072	804	Shale bracelet. c 30%. Plain D-shaped section. External diam. 70mm, internal diam. 59mm, th. 7.5mm.		Shale
8288	1533	Counter. Plain disc with chuck hole. Diam. 18mm, th. 2mm.		Bone
8721	1388	Rake prong. It has the typical slightly curved shape of a prong, but the hooked end is missing. Cf Manning 1985, F66. L. 158mm.		Fe
9144	1749	Cylindrical, square section. Turquoise, eroded. Diam. 3mm, L. 4mm.		Glass
9173	2103	Hairpin or needle shaft. L. 50mm.		Bone
9335	3259	Two nails		Fe
9569	1890	Nail shaft		Fe
9610	3263	Nail, possibly concreted onto another nail. Very vague on the X-ray.		Fe
9640	2004	Nail		Fe
9640	2005	Nail shaft		Fe
9640	2006	Roughly right-angled fragment, with the impression of a curved iron	D	Pb



		object of constant width on its inner surface; there are traces of iron corrosion. This was presumably a sealing or repair for an iron object. c 80x48x22mm.		
9681	2010	Counter. Plain disc with chuck mark. Very polished. Diam. 17mm, th. 4mm.		Bone
9717	3347	Tweezers. One arm, broken at the bottom of the loop; probably plain. In poor condition, damaged. L. 54mm, W. 3-6mm.		Cu
9776	2038	Strip with irregular triangular section. L. 75mm, section c 7x6mm.		Pb
9776	2039	Rectangular sheet. Two edges are straight, the other two more irregular. It appears to have a line of holes running at an angle to one edge, suggesting that this may have been deliberately cut down from a larger object. 30x30mm. Clean to check for perforations.		Cu
9776	2040	Stud, with a slightly curving sheet head. It was probably circular originally, but all the edges are now broken. L. 22mm, max. surviving W. of head 24mm.		Cu
9788	2060	Brooch. Trumpet derivative, related to the Wroxeter type. The details of the head are unclear; it is probably sprung. It has a rectangular headplate, possibly enamelled, with a broken loop. The upper bow has two longitudinal enamelled panels of uncertain colour. There is a half-round pseudo-acanthus moulding, with a knob on the upper side. The lower bow is almost triangular in section, with two moulded lines either side. The foot has either a transverse bar, or a double knob at the end. The catchplate is solid, with incised linear decoration along the catch. The pin is missing. L. 78mm. Probably early 2nd cent. L. 78mm. Clean	D	Cu
9788	3459	Bone waste		Bone
9788	3459	Working waste. Roman?		Bone
9870	2094	Nail shaft		Fe
9870	2096	Nail		Fe
10285	3494	Working waste.		Bone
11707	3332	Nail		Fe
11776	2642	Toilet implement shaft, bent, with both ends missing. In poor condition. One end has a low collar, possibly multiple reels originally, the other has two grooves. L. 75mm.		Cu
11854	3208	Nail shaft		Fe
12521	2857	Rod with a decorative head, broken both ends. The top of the rod is slightly waisted, with a plano-convex element surmounted by at least four circumferential grooves. L. 56mm, diam. of rod 10mm. The diameter of the shaft seems too large for a hairpin, but cf a hairpin from Canterbury (Greep 1995, 1144, no. 1002) for the possible shape of the head.	D	Bone
12523	2858	Copper-alloy		Cu
12686	2838	Rod fragment. L. 33mm, diam. 2.5mm.		Cu
12701	2918	Penannular brooch, in fairly good condition. The terminals are turned back to lie parallel to the ring, and have two transverse grooves across the ends. The pin is missing. Fowler's type D, very similar to Hattatt 1987, 298, no. 1289. Diam. 26mm. Probably 1st cent. AD.	D	Cu
12709	2871	Rod fragment. L. 20mm, diam. 2mm. Probably Roman.		Cu
12709	2872	Box hasp. The length is incomplete, possibly deliberately cut, and the rectangular hasp has broken off the back. It has a palmette terminal with a raised rib above, and a second rib towards the other end. In fair	D	Cu

		condition. L. 52mm.		
12726	3224	T-staple, shank broken. Head W. 86mm, shank L. 52mm.		Fe
12734	3006	Three small sheet fragments, one perforated. Fragment of snail shell.		Cu
12734	3007	Bar. Narrow lozenge-shape with a semi-circular notch in the middle of one side. One point broken. L. 50mm, max. W. 4.5mm, th. 2mm.	D?	Cu
12750	3398	Lead		Pb
12753	2878	Shale bracelet, c 25%. Plain, rounded outer face, angled inner. External diam. 64mm, internal diam. 52mm, W. 10mm		Shale
12855	3014	Canister	D	Pb
12877	3231	Nail and nail shaft		Fe
13194	3053	Canister	D	Pb
13194	3057	Glass. Partially melted blue-green glass bead. Sub-globular. L. 5mm, diam. 4mm.		Cu
13404	3148	Spindlewhorl or weight, in good condition. Truncated biconical. Possibly post-Roman. Diam. 20mm, ht. 16mm, hole diam. 9mm. Wt. 26g. Roman? No pot from context.	D	Pb

### Provisional Phase 8

Context	Small Finds No	Description	Draw?	Material
805	1211	Strip, one end broken, the other end ? rounded. Section appears to be lenticular. L. 58mm, W. 14mm.		Fe
805	1212	Nail shaft		Fe
965	331	Nail and nail shaft		Fe
1219	3187	Nail, possibly Roman. No spot date for context.		Fe
1492	240	U-shaped bar. One end is pointed, the other broken. The broken end appears to be deliberately bifurcated. Probably a hook, with the loop missing. L. 35mm, W. 50mm.		Fe
1492	241	Metal in very poor condition, no surface surviving. There is no definition on the X-ray. This is possibly a stud head, but it is unlikely that further conservation work would clarify the object.		Cu
1492	242	Rim from a large plate or flat-rimmed dish. The thickened rim has a triangular section. Diam. c 300mm. Check context	D?	Cu
2157	275	Segmented. Opaque light blue. Diam. 3mm, L. 15mm.		Glass
2486	1253	Four nails		Fe
2601	296	Counter. Plain, with chuck mark and unchamfered edge. It has an incised X on the back. Diam. 22mm, th. 3.5mm.		Bone
2727	403	Bar, surface in poor condition, complete as buried. The ends may have been broken in antiquity. There is a transverse line 5mm from one end, and another 34mm from the other, with a superimposed cross. Possibly a votive bar; cf an example from Chelmsford Temple (Wickenden 1992, 75). 71x9x3mm.	D	Cu
2812	410	Bar, square section, with a blunt point at one end. L. 59mm, W. 4mm.		Pb
2944	336	Nail		Fe
2944	337	Three hobnails, six nails, six nail shafts.		Fe
2944	363	Sheet. In the shape of a truncated triangle, now bent. It was probably cut down from a larger piece, which was nailed onto an object. There is	D?	Pb

		a row of seven nail holes parallel to one edge, with an eighth nail hole slightly off the line of the others. The impressions of the nail heads are visible round the holes. c 180x25-60mm, th. 5mm. Nail head diam. 14-17mm.		
3048	408	Rod, slightly bent. Circular section. Complete as buried. L. 81mm, diam. 9mm.		Pb
3049	340	Three lumps, no good metal surviving. Probably a nail shaft.		Fe
3049	415	Strip with a D-shaped section and a row of dots in low relief up the middle of the convex side. Now bent. L. c 50mm, W. 4mm, th. 2mm.	D	Pb
3655	1258	Nail		Fe
3732	492	Nail		Fe
3746	494	Hairpin. Crummy type 3 with sub-globular head and slightly swollen shaft. Complete. L. 82mm.	D	Bone
3746	496	Nail and nail shaft		Fe
4068	347	Nail		Fe
4162	3330	Probable nail shaft.		Fe
4258	1267	Two nails		Fe
5128	1279	Tanged gouge. The blade is incomplete, and has a fresh break, clearly showing the curved section of the gouge. The short tang appears to be complete, or nearly so. An unusual variation on the 'simple chisel'. L. c 62mm, max. blade W. 13mm.	D?	Fe
5170	1280	Nail		Fe
5216	1281	Nail		Fe
5248	1098	Small lump in poor condition.		Cu
5252	663	Slightly tapering rod with a shallow S-bend. Both ends broken. Surface in poor condition. L. 52mm, max. diam. 5mm.		Cu
5285	784	Jet. Hairpin shaft fragment. L. 23mm, diam. 6mm.		Shale
5327	678	Hairpin, point missing. Rather irregular faceted cuboid head. L. 65mm.	D	Bone
5328	717	Hairpin or needle point. Well-finished, polished. L. 33mm.		Bone
5328	718	Needle; broken across the bottom of the rectangular eye, point missing. A small example of Crummy type 2. L. 72mm		Bone
5328	719	Spatula handle? A rod with a circular section, expanded slightly at one end, and slightly scooped. There is an incised line extending partway up the rod on one face. L. 47mm, W. 3-4mm		Bone
5328	720	Hairpin shaft, swollen. L. 64mm.		Bone
5328	759	Melon bead, 25%. Diam. 23mm, L. 14mm		Glass
5328	1327	Plate fragment. It appears to have two original edges, at an angle of c 60o to each other. Entirely covered in concretion.		Fe
5328	1327	Two nail shafts.		Fe
5398	1285	Nail		Fe
5412	681	a)Tanged object, possibly a cleaver blade, corroded onto a lump of stone. The 'blade' is very hazy on the X-ray. Clean section b)Strip fragment. 35x11mm.		Fe
5412	686	Cylindrical ferrule, closed at one end. There are at least two grooves round the open end, and the cap has a groove round the edge. The rest of the top is obscured. The reddish 'paint' on the sides is probably staining due to contact with ferric corrosion products. In poor condition with little of the surface surviving. L. 20mm, diam. 16mm.	D?	Cu

		Clean top if context Roman.		
5442	714	Hairpin shaft. L. 52mm.		Bone
5444	1841	Whetstone. Schist. Tapering bar with two flat, worn faces. The other faces are eroded, giving a roughly quarter circular section. Both ends broken. L. 126mm, section c 33x26mm-28x26mm. Wt. 202g. Schist whetstones are very rare from Roman contexts, so if this is a secure Roman context, this is an unusual piece. The stone may be Scottish.	D?	Stone
5444	3556	Shale bracelet, c 25%. Rounded outer face, angled inner. The outer face has notches either side. External diam. 62mm, internal diam. 51mm, W. 5.5mm	D	Shale
6100	3324	Nail		Fe
7878	3246	Unidentified. Bar of variable width and thickness, with a slight lateral curve. It is widest at its thinnest point. This edge may be original (though now damaged), and has a semi-circular notch set off-centre. The other end is possibly incomplete. L. 68mm, W. 17-30mm, th. c 11-19mm. Clean ends to check whether they are complete.		Fe
8145	1609	Two rectangular pieces of copper-alloy sheet/mounts		Cu
8145	1615	This appears to be a rod with a knob at one end. The other end is vague on the X-ray, but could be a blade. If not, this could be the end of the handle of a pair of tongs or pincers. L. 124mm. Clean ends		Fe
8393	1747	Ring, D-shaped section. In fair condition. External diam. 22mm, internal diam. 16mm, W. 3.5mm.		Cu
8393	1769	Two non-joining fragments of hairpin or needle shaft or point. Possibly from the same object. L. 31mm and 23mm.		Bone
8393	3253	Iron double-spiked loop; diam. 30mm		Fe
8425	1384	Nail		Fe
8457	3438	Shale bracelet, c 25%. Plain D-shaped section with ridge on the inner face. External diam. 68mm, internal diam. 56mm, W. 7mm		Shale
8457	3478	Bone waste		Bone
8459	3479	Working waste. Roman?		Bone
8663	1620	Hinge-pivot or L-staple. L. 80mm, arm L. 41mm.		Fe
8665	1619	Bronze finger on iron fixing	D	Compo
9031	1728	Needle. Made from rolled sheet, with a squared terminal with a circular hole. This is an unusual construction technique for either a Roman or later needle, though sometimes used for toilet implements. The very tip is missing, so there is a slight possibility that this is not a needle. L. 44mm. Check context date.	D	Cu
9031	1735	Bell, with ?white metal coating. A short, open bell with a rather sharply angled profile. There is a hole in the top, with a line round it. In the hole is a mass of iron corrosion round the remains of the suspension loop, and, possibly, an iron clapper. The bell is in several pieces, and the top is damaged. X-ray.	D	Cu
9031	1989	Plate fragment with one original straight edge. Probably a mirror. The alloy is not as grey as some, but the fracture is very sharp, and the X-ray speckly, both typical of the alloys used for mirrors. 21x18x1.5mm.		Cu
9600	1892	Toilet set .a) Tweezers, distorted, one arm incomplete. The surface is rather eroded. There is a trace of a marginal groove down one edge, and incised decoration below the loop on each side, consisting of two transverse grooves with a cross in between. The decoration is now extremely faint. Striations on part of the surface may be mineral-	D	Cu

		replaced textile. L. 50mm, max. W. 5mm.b) Handle, made from thick wire with the end looped, and the wire wrapped around the handle. Fresh break. Possibly an ear-scoop similar to one from Baldock (Stead and Rigby 1986, 130, no. 276). L. 30mm.c) D-shaped wire loop, broken. W. 14mm, L. 9mm.		
9606	1308	Three sheet fragments, original shape unknown. c 43x28mm; 33x21mm; 16x13mm.		Cu
9679	2036	c 40% of a ring, probably complete as buried. Possibly a bracelet. Part of the surfaces survives. Circular section. External diam. 60mm, section diam. 4.5mm.		Cu
9679	3457	Bone waste		Bone
9944	3348	Stud? Plain disc? Entirely covered in corrosion products. Diam. 27mm. Clean		Cu
11300	3194	Nail shaft		Fe
11660		Flint annulus. The object is completely natural, and unworked. It may, however, have had some significance as an amulet. In the folk lore of the Scottish highlands, for example, stones with holes in them were thought to be good at 'curing' barren women. In the 17th century they were considered to be protection against witches (Merrifield 1987, 161). 36x33mm, ht. 18mm.		Stone
11706	2617	Ring. External diam. 36mm, internal diam. 27mm, th. 4mm.		Cu
11706	2618	Bracelet. Two distorted fragments from a strip bracelet with edge decoration, consisting of small notches either side. The notches are not very evenly spaced. Original internal diam. c 64mm. Section 2.5x1mm.	D?	Cu
11706	3206	Block, section unknown. Possibly a hammer head. Clean end.		Fe
13117	3503	Firmalampen with handle. In two, pieces, burnt, with much of the surface spalled. Half of the discus and the top of the nozzle are missing. There are two concentric circles on the base. L. 90mm, diam. 48mm.	D	Pot
13118	3234	Bar, probably a large nail shaft. L. 89mm, W. 12mm.		Fe
13216	3082	Jet-like material. Hairpin shaft fragment. L. 33mm		Shale

### Provisional Phase 9

Context	Small Finds No	Description	Draw?	Material
1033	1224	Hipposandal wing. L. 78mm, ht. 43mm.		Fe
1033	1225	Collar fragment, made from a strip, section 14x4mm. Internal diam. c 35mm		Fe
1033	1226	Bar, both ends broken. L. 96mm, section 11x4mm.		Fe
1159	1241	Nail		Fe
1456	231	Disc, made from colour-coated pot base. The junction with the body has been neatly ground off. Diam. 50mm, th. 9mm.		Pot
1518	1247	Two hobnails, corroded together in situ; four nails, one nail shaft		Fe
1673	333	Nail		Fe
1830	265	Probably the pin and pincer from a pincer-type brooch. The point of the pin was lost in antiquity. Part of the ?iron axis bar may be present. Alternatively, this may be part of a pair of miniature tongs, which are very rare. The size and form, however, appear exactly right for a pincer	D	Cu

		brooch. L. 62mm. The pincer-type brooch is a continental brooch, almost absent from Britain. It occurs mainly in central Europe, though there are outliers in Gaul. Hull's corpus lists just one from Colchester (pl. 269, 656), which may still be the only one from Britain. See Hattat 1987, 289 and Feugère 1985, 426-435.		
1830	1249	Nail and nail shaft		Fe
1832	250	Sawfish brooch, in good condition. Cylindrical side wings, hinged pin missing. The head has a degenerate animal crest. The bow has moulded cross-hatching, with no obvious enamelling. The foot has three transverse mouldings, and the catchplate is incomplete. The stubs of teeth are present down the sides of the bow. L. 31mm. Late 1st cent-2nd cent. Clean	D	Cu
1834	1250	Nail		Fe
2167	1251	Three hobnails, two conjoined.		Fe
2170	278	Segmented. Opaque light blue. Diam. 3mm, L. 12.5mm.		Glass
2170	279	Segmented. Opaque light blue. Diam. 2.5mm, L. 10mm.		Glass
2170	280	Segmented. Opaque light blue. In two pieces. Diam. 2mm, L. 14mm.		Glass
2170	281	Segmented. Opaque light blue. Diam. 2.5mm, L. 14mm.		Glass
2170	282	Segmented. Opaque light blue. Diam. 3mm, L. 10mm.		Glass
2170	283	Segmented. Opaque light blue. Diam. 3mm, L. 12mm.		Glass
2170	284	Segmented. Opaque light blue. Diam. 2.5mm, L. 6mm.		Glass
2170	285	Segmented. Opaque light blue. Diam. 2.5mm, L. 6.5mm.		Glass
2170	286	Segmented. Opaque light blue. Diam. 2.5mm, L. 6.5mm		Glass
2170	287	Segmented. Opaque light blue. Diam. 2mm, L. 5mm		Glass
2170	288	Segmented. Opaque light blue. Diam. 2mm, L. 4mm.		Glass
4130	361	Irregular lump, probably triangular in section. The x-ray shows irregular edges and a partly vesicular structure. This is either working waste or a partly melted lump. c 83x36x18mm.		Cu
4498	432	Fragment. Not identifiable.		Cu
4854	573	Shale bracelet. c 40%. Sub-oval section with an inner lip. External diam. 62mm, internal diam. 48mm, th. 9mm.		Shale
4858	579	Firmalampen, nozzle missing, with handle and one damaged filling hole. The fabric is not mica-dusted. There is a slight bar across the base, possibly an entirely illegible maker's stamp. Probably Loeschcke type IX b, c 70AD - 2nd cent. L. 66mm, W. 44mm.	D	Pot
4950	1275	Nail shaft		Fe
5100	618	Needle, broken across the bottom of the hole, point missing. Crummy type 2. L. 148mm.		Bone
5110	635	Hairpin. Crudely finished, or possibly unfinished. The shaft is roughly faceted, with transverse cut marks. The head is flat	D	Bone
5110	642	Rod, slightly curved, both ends broken. There is a reel moulding near one end. Probably the handle of a toilet implement. In fair condition. L. 74mm, diam. 3mm.	D?	Cu
7368	1364	Nail, and lump of lead		Fe
8669	3481	Working waste.		Bone
8894	3474	One-piece handle, broken both ends. The section is roughly rectangular. L. 68mm, section 12x11mm.		Bone
9067	3484	Working waste.		Bone

9291	3487	Working waste.		Bone
9618	1687	Flat plate fragment, roughly in the shape of a right-angled triangular. One edge is original, and the hypotenuse appears to have been cut. The third edge has an irregular break. Possibly a mirror fragment. c 44x41mm.		Cu
9618	1986	Hinge cylinder, length complete, but broken lengthwise. It has two peg holes, and two sets of two turned lines, set asymmetrically. L. 101mm, diam. 22mm, hole diam. 7mm.	D	Bone
9618	3389	Strip. Fairly irregular, with shallow transverse cut marks. Bent. 118x11x6mm.		Pb
9859	2070	Working waste. Roman?		Bone
11291	3356	Probable hairpin shaft. Two joining pieces. L. 117mm.		Cu
11381	3200	Nail		Fe
11415	2581	Coin? No detail on X-ray. Clean		Cu
11505	2604	Whetstone. Schist. Rounded rectangular section, both ends broken, worn. 95x26x25mm. Wt. 124g. Unlikely to be Roman, but is this a secure Roman context?	D?	Stone
11520	2607	Unidentified. A roughly oval plate, probably incomplete, with a projection on one side. The projection is thicker, with a D-shaped section, slightly hollowed underneath. The whole is roughly key-shaped. L. 23mm, W. 17mm.		Cu
11523	2614	Cylinder, square section. Fragment, not full length. Turquoise. W. 5mm, L. 12mm.		Glass
11539	3544	Hairpin, point missing. Swollen shaft, sub-globular head. L. 44mm, head diam. 6mm.		Bone
11754	2639	Handle, in several pieces. Roughly rectangular section, with a row of incised ring-and-dots down each face. Surviving L. 59mm.	D	Bone
11778	3394	Dribble.		Pb
12201	2797	Spoon-probe. In fairly good condition, with slight surface damage, slightly bent. Most of the spoon is missing. The spoon end has bead-and-reel moulding. The centre of the handle has a polygonal section. L. 125mm.	D	Cu
12201	3367	Campanulate boss. It appears to be in good condition, but is masked by earth. The metal is probably a high lead alloy, and the shank is probably iron. L. 28mm, max. diam. 20mm. Clean	D?	Cu
12201	3368	Mirror fragment, most of the surface very badly corroded. The corner from a square or rectangular mirror at least 75x43mm.		Cu
12225	3212	Nail. 12225 on both labels, 12255 on list.		Fe
12325	2786	Counter. Disc with turned circles on top, and chuck mark. Diam. 20mm, th. 3mm.	D	Bone
12325	3498	Spatula. Rod handle with a flat expanded blade; both ends are broken. There is an incised groove down the middle of the blade, extending part of the way down the handle. A number of fine, oblique scratches lie across the groove. L. 129mm, max. W. 10mm.	D	Bone
12416	2798	Fragment from a strip bracelet, decorated with two transverse grooves and a row of five stamped ring-and-dots with notches either side. Type b10 (Swift 2000, fig. 185), 4th cent. L. 23mm, section 5x2mm.	D	Cu
12587	2837	Hairpin. Faceted shaft, conical head with two collars below. Point missing. L. 30mm.	D	Bone
12657	3370	Seal-box. Probably just the lid, but completely covered in corrosion.	D	Cu



		Leaf-shaped, with an enamelled heart. The hinge and tip are missing. L. 30mm, W. 22mm. Clean		
12991	2980	Spatula, complete bar slight damage to the blade. Flat lozenge-shaped blade, with a blunt point at the end of the circular-sectioned handle. L. 143mm, max. W. 18mm.	D	Bone
13410	3241	Nail		Fe
13451	3333	Nail		Fe
13472	3242	Three nail shaft fragments, probably all the same nail.		Fe
13472	3298	Eight sheet fragments from a strip 30mm wide. Assuming they are all from the same strip, it would have been at least 224mm long originally. There are no perforations.		Fe
13563	3147	Bronze sandaled left foot from over life size statue		Cu

### Provisional Phase 10

Context	Small Finds No	Description	Draw?	Material
765	148	Green, faceted cylindrical. Possibly Roman but probably post-medieval.		Glass
966	1219	Probably a gouge or chisel. Splayed blade, probable swollen tang. The blade end looks rather rounded on the X-ray. L. 130mm, blade W. c 14mm. Clean blade and section through tang.	D?	Fe
971	1221	Nail and nail shaft		Fe
973	1222	Two nail shafts		Fe
1062	1233	Nail		Fe
1062	1288	Sheet fragment, crumpled. One face has parts of two concentric circles in relief; the inner one has a diam. of c 48mm, the outer one c 110mm. Th. 3mm. Original size c 160x100.	D	Pb
1302	1289	Thin sheet fragment, crumpled. All edges irregular. Originally c 105x70mm.		Pb
1306	232	Brooch. Nauheim derivative. Most of the strip bow is missing. The pin appears to be almost complete, so this would have been a small brooch. The chord is rectangular in section. 1st century AD, possibly pre-Roman. Clean	D	Cu
1306	247	Curved rod with a circular section. One end is broken, the other tapers, with two grooves round the terminal. Possibly a Roman bracelet, though the terminal is unusual. Diam. c 54mm, section diam. 3mm.	D?	Cu
2955	0	Wood. No spot date.		Fe
3022	3431	Working waste. Roman?		Bone
3547	366	Whetstone. Fine-grained sandstone, probably similar to SF3415. Rectangular sectioned bar with ribbed sides, very pronounced on one side, both ends broken. Possible traces of wear. 70x18x17mm. Wt. 46g. Residual Roman.	D	Stone
3685	1260	Nail shaft		Fe
3805	1262	Four nails, one nail shaft		Fe
3809	1263	Nail		Fe
4257	350	Two joining fragments of a strip. L. 52mm, W. 23mm.		Fe
4326	431	Needle, with flattened head the same width as the shaft and rectangular eye. Crummy type 2. Point missing. L. 44mm.		Bone



4384	427	Plate fragment with flared end. Possibly a patera handle, broken both ends. The corrosion is variable, and the X-ray show three distinct and sharply separated sections of differential corrosion, possibly an artefact of the burial conditions. L. 50mm, W. 29-45mm, th. 2.5mm.		Cu
4763	558	Spindle whorl. Turned, with circles on the base and a shallow groove round the edge. There is a parallel from a previous excavation in Southwark (Hinton 1988, 393, no. 110). Diam. 31mm, ht. 16mm, hole diam. 7.5mm. Wt. 12g.	D	Bone
4769	1272	Sheet fragment, possibly with the edges of two perforations present, one rectangular or square, the other a punched circular hole. c 27x16mm.		Fe
4859	1274	Nail		Fe
4993	609	Hairpin in two pieces, point missing. Button head, shaft possibly swollen. Surfaces slightly eroded. L. 32mm, head diam. 6mm.	D	Bone
5553	3244	Nail		Fe
5834	1337	Nail		Fe
7158	1037	Needle, point missing. Crummy Type 1 with figure-of-eight eye. L. 58mm. Roman, residual in a post-med context.		Bone
7847	1372	Nail and slag		Fe
7907	1302	Coin. Clean		Cu
7932	3247	Horse-bit link? Bar, with a sinuous shape. One end may have part of a broad loop. This could be just another nail, though. L. 62mmClean ends		Fe
8150	3344	Bar fragment, one end broken, the other slightly curved. 26x5x3mm.		Cu
9561	1885	Nail shaft		Fe
9561	1886	Nail shaft		Fe
9561	1887	Nail		Fe
10028	3349	Stud? Covered in corrosion products, no detail on X-ray. Clean		Cu
10201	3492	Working waste.		Bone
10226	2250	Wire, one end pointed, the other damaged and bent. Possibly a needle, though there is no eye visible on the X-ray. L. 74mm.		Fe
10237	2221	Hairpin, head obscured by earth, point missing. The head is either a knob and reel, or knob and one cordon (not clear on the X-ray). It may be a simple form of Cool group 8, which is rare, but occurs in London. The dating for the type at Colchester is late 1st-2nd century. L. 68mm. Clean head	D?	Cu
10260	3497	Point, broader end broken. Made from a long bone with some cancellous tissue remaining, though fairly well finished. L. 89mm, max. sect. 18x12mm.	D	Bone
10718	3355	Two rings. a) Slightly flattened section. External diam. 22mm, internal diam. 17mm, th. 2.5mm b) External diam. 25mm, internal diam. 20mm. th. 3mm.		Cu
10718	3391	Bar with variable section, bent. Scrap metal. L. 60mm, max, section 12x12mm.		Pb
10718	3392	Strip, complete as buried, but bent. It has a punched hole roughly in the middle. Very good condition. L. c 270mm, section 16x3mm, hole diam. 4mm.		Pb
11342	3328	Bar or rod. Probably not a nail shaft. L. 34mm, W. 3mm.		Fe
11418	2580	Carnelian. Intaglio fragment, two birds facing.	D	Stone
11435	2605	Melon bead. Fragment, partly melted. Diam. c 19mm, L. c 16mm.		Glass

11452	2586	A large piece of thick sheet, bent into an irregular curve, with a second sheet wrapped round it. There are various cut and hammer marks on the surface. c 150x90x85mm. Wt. 2730g.		Pb
11452	2587	Hairpin. Onion-shaped head, small, slender shaft, point missing. Cool Group 1A. Made throughout the Roman period. L. 38mm.		Cu
11452	2588	Double-spiked loop. L. 95mm, W. across head 24mm.		Fe
11571	2607	Counter. Disc, with a rounded edge. Although probably a natural pebble, The middles of both faces exhibit differential wear. ?Jasperised flint; Dark grey cortex, red core. Diam. 17.5mm, th. 6mm.	D	Stone
11694	2749	Hairpin, complete. Slender shaft with an applied head. The head is made from wire, wrapped twice around the shaft and crimped into a pentagonal shape. Applied copper alloy heads are rare on Roman hairpins, and they are usually faceted cuboids (Cool Group 13; the group mainly consists of hairpins cast-in-one). Applied crimped wire heads are more typical of late medieval pins, though these are normally globular. If the context is not sealed, this pin could be intrusive, though it may simply be an unusual late Roman form. L. 50mm, head W. 4mm.	D	Cu
12573	3215	Nail shaft		Fe
12573	3551	Wedge-shaped block, surface flaked. Possibly part of a tool, but in too poor condition to be certain. 40x14x9mm		Fe
12592	2803	Colchester derivative brooch. Complete bar slight damage to the head, and part of the chord. It has a Colchester B-type spring, with ten coils, and probably a copper alloy axis bar. The side wings have transverse moulding. The crest is rather large and angular, with a step each side, and a central line continuing partway down the bow. The top of the bow has cavetto moulding, rounded on the top. The cut-out catchplate has a zig-zag bar across the middle. L. 59mm. Later 1st cent.	D	Cu
12596	3369	Brooch. Hod Hill-Aucissa, bow moderately arched. In two pieces, head missing. The upper bow has longitudinal ribbing flanked either end by two transverse grooves. The central rib is probably knurled. The foot is straight and narrow, with a terminal knob. L. c 47mm.		Cu
12598	3218	Fragment from a key-hole shaped object made from a bar. Possibly a staple, though it could be part of a horse-harness link, or a chain link. W. c 45mm, L. c 48mm.		Fe
12629	2836	Spatula fragment, both ends missing. The identification rests on the presence of a groove down the middle of the blade, very similar to that on SF3498. The section is a rounded triangle. L. 59mm, W. 5-9mm.		Bone
12629	3221	Slide key. Integral rectangular handle with end loop, slight ridge at the junction of the loop and handle. L-shaped bit, teeth unclear on X-ray. L. 84mm, bit L. 40mm. Clean	D	Fe
12629	3222	Nail shaft		Fe
12698	2866	Hairpin shaft, slightly swollen. L. 45mm.		Bone
12891	2961	Lunular pendant, tips missing. Integral suspension loop, with a hole in the opposite side for the suspension of a second element. There is a slightly raised rectangular panel in the centre of the lunula, bearing an incised St. Andrews cross. There is a slight suggestion of further incised decoration, but very little of the surface survives. The back is hollow. Possibly military. W. 53mm, L. 43mm. Not worth cleaning.	D	Cu
12917	3512	Copper alloy. Wire, both ends pointed, folded in four. In good condition, still slightly springy. Intrusive? Original L. c 180mm.		Cu

### Provisional Phase 11

Context	Small Finds No	Description	Draw?	Material
180	3426	Needle shaft, residual Roman. Probably a large example of Crummy type 2. L. 65mm.		Bone
1138	3547	Annular bead, cobalt blue. Diam. 4mm, th. 2mm.		Glass
1138	3546	Jet bead. Cylindrical, with two incised circumferential lines. Although one end is irregular, the bead may be complete, as this type of bead was made by snapping off pieces from a longer cylinder. The type is generally late 3rd-4th century (Allason-Jones 1996, 26).		Shale
1438	230	Nail shaft		Fe
1438	332	Nail		Fe
3687	486	Silver? Roman coin? Clean		Cu
6300	923	Cylindrical. Translucent green. Diam. 4mm, L. 10mm.		Glass
7527	1733	Cylinder, hexagonal section. Translucent green. Diam. 5.5mm, L. 7mm. Probably residual Roman.		Glass
8446	1621	Ring, rounded rectangular section. In fair condition. External diam. 20mm, internal diam. 15mm, W. 3mm.		Cu
8446	1622	Rod, tapering to either end. Bent, both ends broken. Possibly the shaft of a toilet implement. L. 64mm, max. diam. 3mm.		Cu
8446	1701	Cast plaque fragment, with a complex shaped edge. Well modelled low relief ?drapery. In good condition. Roman? Check context. Clean.	D?	Cu
9214	1811	Rod fragment, with a swollen shaft. This is probably not a hairpin, as the taper is too abrupt, but could be the handle of a toilet implement. L. 61mm, max. diam. 3mm.		Cu
9214	1812	Nail. Head incomplete, damaged and distorted. Point missing. In good condition. L. 30mm, head W. c 26mm.		Cu
10125	2197	Offcut strip, of variable width. One edge has clear chisel marks, made by a blade with a width of c 30mm. In fair condition. L. 72mm, W. 12-18mm, th. 1.5mm.		Cu
10171	3272	Probably a smith's punch or chisel. L. 68mm, W. 8mm. Clean ends		Fe
10180	3273	Tapering rod. Probably not a nail shaft, as the section is probably circular. The broader end is flat, and complete as buried; the other end is broken. L. 83mm, W. 5-8mm.		Fe
11898	2640	Knife. Incomplete scale tang with traces of wood or bone handle plates, with one copper alloy rivet in place. Probable trace of shoulder plates. Medieval?		Fe
12178	3366	Two small fragments of thick sheet. The third piece in the bag has only a trace of metal. Unidentifiable.		Cu
12189	2748	Bell-shaped stud with integral circular-sectioned shank, broken. One side is damaged. Diam. 21mm, ht. 13mm.		Cu

### Provisional Phase 12

Context	Small Finds No	Description	Draw?	Material
3672	1259	Nail shaft		Fe
8843	3450	Hairpin, point missing. The head is a plain bevel, possibly cut-down		Bone

		after the original head had broken off. L. 72mm. Context is 8848 on list, 8843 on bag		
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**Provisional Phase 13**

<b>Context</b>	<b>Small Finds No</b>	<b>Description</b>	<b>Draw?</b>	<b>Material</b>
683	139	A very well-finished needle with a flattened section. The head has a blunt point with a small circular eye and a large rectangular eye. The needle is broken across a third eye, probably rectangular, further down the shaft. Green staining. Roman? L. 60mm.	D?	Bone
12140	3550	Fragment of a wooden rod, within a cylindrical ferrule made from thin copper alloy sheet. One end is possibly complete, but is obscured by corrosion. The other end is probably incomplete. In fairly good condition, with three detached pieces. L. 44mm, diam. 17mm.		Cu



## APPENDIX 10: POST-ROMAN METAL AND SMALL FINDS ASSESSMENT

By Märit Gaimster, with stone identification by Kevin Hayward and a contribution by Frank Meddens

Nearly 700 individual metal and small finds could be dated to the medieval and post-medieval periods; they will be discussed by phase. Iron nails have not been included at this stage, although numerous of the nearly 500 nails or group of nails recorded on the site database will be of post-Roman date.

Around 150 of the finds included in the assessment were unstratified, with the majority retrieved with metal-detectors from spoil heaps. In most cases it has been possible to locate these finds to a specific area, but the material is necessarily biased. Not all areas were metal detected, with no metal detecting undertaken during the excavation of Trenches 1-3, and areas were not continuously searched; above all this method was used in Areas D, E, F and G, with some coverage of Area C1. Where the location could be identified, the majority of post-Roman finds recovered this way came from Areas D and E, with the remainder from Areas F and G. The assessment focused on those objects that could be identified as post-Roman and include mostly non-ferrous metal and organic objects, representing a range of different categories. Where possible, unstratified finds have been included in the relevant phased tables; however, some categories, in particular the numerous buckles, are catalogued separately (Table 4).

The unstratified iron finds include numerous undiagnostic knife blades and buckles; these have not been included. A pair of shears (SF 2000) and a padlock key (SF 1393) could be medieval or early modern. Other finds not included at this stage may be given a closer phasing after further analysis; these finds comprise the following categories:

*Household furnishings:* a copper-alloy casket/drawer handle (SF 548); the foot of a copper-alloy ?horse figurine (SF 656); a possible strainer/skimmer in the form of an oval lead sheet (W 55mm L 75mm) with numerous perforations (SF 949); and the edge of a decorated copper-alloy plate/bowl (SF 1058).

*Toys:* besides the 18th-century lead-alloy toy watch (SF 2736) listed in Table 5, a coarsely fashioned lead key (SF 1415) is likely to represent a toy as it could not have been very functional. The key is squat with oval bow and a rectangular uncut bit. A further lead fragment may also be part of a toy (SF 2403).

*Textile production:* there is a series of eleven unstratified copper-alloy thimbles and sewing rings: SF 1052; 1059; 1737; 1800; 1822; 1851; 2079; 2115; 2308; 2309; and 2656. There is also a probable bone thread reel (SF 1794).

*Cloth seals or probable cloth seals,* a series of thirty-three: SF 452; 640; 742; 849; 900; 904 ; 974 ; 1012 ; 1054; 1076; 1097; 1107; 1116; 1131; 1489; 1559; 1669; 1738; 1806; 1843; 1846; 1869; 2182; 2303; 2465; 2476; 2556; 2559; 2560; 2561; 2765; 2768; 2772; and 3386. This material needs further identification.

*Trade and commerce:* over twenty weights of different forms were retrieved (Table 8). Many of these items are of lead and are difficult to date closer; however, as a group they may add useful information about the site and may be compared with the three weights and two balances from stratified contexts. Twenty-nine coins and jetons of copper alloy and silver were unstratified (Table 9); a number of these will need cleaning and/or further analysis for identification. Trade-related finds also include thirteen lead tokens or probable tokens: SF 946; 978 (cross pattern); 1051; 1506; 1558; 1571 (W // C ?37); 2125; 2240; 2379; 2387 and 2744.

### PHASE 9: LATE ROMAN/EARLY MEDIEVAL (Table 1)

A handful of contexts allocated to Phase 9 include finds datable to the post-Roman period. None of the diagnostic finds in this assemblage could be dated before the late medieval/early modern period; they are

discussed in their relevant phases below. Three finds, however, could indicate activities during the early part of the Middle Ages. One is a pig-fibula pin (SF 206), retrieved from a Phase 11 context; this type of pin is mostly common in the Saxon, Viking and very early post-Conquest periods (MacGregor 1985, 120-121). The other object is a piece of rectangular-section hone of chlorite mica schist (SF 2604), a material not used for hones in the Roman period. A similar hone of the same material is intrusive in a Phase 8 context (SF 1841). In terms of both size and surface treatment, these two hones differ from the later medieval hones of this type of stone, which are far more slender and smooth (SF 179 and 407).

The numerous pieces of bone waste from the northern part of site are interesting in light of the frequency of this material in the later medieval and early modern phases. Further analysis of this category may indicate whether these activities are Roman or later.

### **PHASE 10: MEDIEVAL (Table 2)**

During the medieval period indications that the area remained open ground are seen in ploughsoil horizons and drainage ditches. However, there were some pits with medieval pottery surviving to the rear of the Tabard Street frontage, suggesting properties here. Parallel boundary ditches also indicate properties that would have fronted onto a street or lane running SW-NE, along what is today Sterry Street, beyond the southern limits of excavation.

In total, over sixty finds could be assigned to this phase. The numerically largest finds category consists of bone-working waste, with some associated shell-working waste. Other finds associated with production may be the two stone hones, SF 179 and 407, the iron scissors SF 3230 and the incomplete bone needle SF 3568. A lava quern fragment with a neatly worked surface is also likely to be medieval (SF 173); this was residual in a Phase 11 context.

That the site was mainly open ground may also be reflected in the few structural or household-related finds; these include three iron staples, an iron hasp, SF 769, and an iron rotary key, SF 2523. Three fragments of iron and copper-alloy vessels were also retrieved, as well as an iron candleholder with pricket and single cup, SF 3202 (cf. Margeson 1993, fig. 50 no. 550). All these finds were retrieved from the S. part of the site, and may be related to properties fronting onto present-day Sterry Street, further south. There is also a substantial copper-alloy mount or fitting (SF 217), cast with an ovolo design; this may be a residual Roman find, although the ovolo was used throughout the Middle Ages. Also perhaps reflecting the open-area character of the site is a bone skate (SF 3425).

Horse equipment, on the other hand, is fairly well represented in two rectangular horse-harness pendants, SF 617 and 1438, a near-complete iron rowel long spur with one spur buckle still attached (SF 3217), an iron horse bit (SF 3247) and a complete Type 2 iron horseshoe (SF 3197).

Personal items and dress accessories comprise three copper-alloy annular brooches (SF 864, 2428 and 2968) and eight buckles and belt fittings, all unstratified. There are also two iron knives and two copper-alloy pins; one is complete with an applied head of copper-alloy wire, crimped into a pentagonal shape (SF 2794).

Six silver pennies were also retrieved, all but one (SF 475) unstratified; there is also at least one residual medieval coin from Phase 11 (SF 162). There are at least two late medieval lead tokens, one unstratified (SF 3571) and the other intrusive in Phase 9 (SF 2785); more may appear on further analysis of the group of unstratified lead tokens above. An important find is the near-complete set of copper-alloy scales (SF 2877) from pit group 440.

Besides the Phase 10 assemblage, there is also a group of finds characteristic of the transition from the Middle Ages to the early modern period; this is discussed together with the material from Phase 11, below.

The distribution of medieval metal and small finds falls predominantly within the southern part of the site, in Areas F1, F2/G2 and G1, and may, as already pointed out, relate to properties along what is now Sterry

Street. Besides the household items above, also the rowel spur, the lead token and the set of scales came from here, as well as a handful of dress accessories. The western part of site, Areas A and C, also yielded numerous finds, with the majority of bone waste and production related items, including the bone needle, the scissors and one of the iron knives. Also the cast copper-alloy mount or fitting (SF 217) came from here. The smallest group of identifiable finds come from Areas D and E in the north, dominated by a group of six dress accessories. However, the only stratified coin and at least two of the unstratified coins also came from here, as did one of the lead tokens.

## **POST-MEDIEVAL**

Excavation of the post-medieval levels at Tabard Square was mainly confined to the three sample areas, Trenches 1-3; in addition there were numerous deep-cut features across the site. The largest of these features comprised a N-S aligned ditch, probably dating from the late medieval or Tudor periods. Further east, another large N-S drainage ditch can be identified on Horwoods 1799 map; at this time the ditch formed part of the boundary between the parish of St George in the east and Bermondsey in the west.

The post-medieval period would have seen the development of properties fronting onto Tabard Street in the west, Long Lane in the north and present-day Sterry Street in the south. Trench 1 revealed a strip building running south from the Long Lane frontage, most likely situated to the south of roadside buildings. This building was substantially renewed in the 18th century, when it probably corresponds to a terrace shown on Horwood's map, adjacent to Bennett's Close. To the east, across an alley or a courtyard, a second 18th-century strip building was partially revealed. Trench 2 was located further west, relating to backyard activities of properties fronting onto Tabard Street. Remains of an 18th-century outbuilding or workshop were recorded, associated with animal processing and possibly cloth production. In Trench 3, the principal feature recorded was the large drainage and parish boundary ditch.

### **PHASE 11: c. 16th to late 17th centuries (Table 3)**

Finds dating from the Tudor and Stuart periods have for a long time been elusive in the archaeological record (Egan and Forsyth 1997), a situation that is now being reassessed (Egan 2005). At Tabard Square, by far the largest assemblage of metal and small finds was associated with this phase, with nearly 300 stratified finds and a further 50 unstratified. Some of these finds represent types that appear to straddle the period from the late 15th to the 17th centuries, notably headdress pins, double-oval buckles and dagger chapes.

The largest group of finds consists of waste or other items related to production. As in Phase 10, this material includes numerous bone waste (42 entries), but also indications of pin production in the form of pinner's bones and copper-alloy wire. Tools include an iron stiletto (SF 2613) for making eyelet holes for cords or laces, an iron whittle-tanged implement (SF 37), possibly a leather-working tool, and three highly polished bone implements of unknown function (SF 3475; 3476 and 3530). A small group of textile tools comprise a Raeren stoneware spindlewhorl (SF 3554) and two thimbles (SF 1726 and 1770); a series of eleven unstratified copper-alloy thimbles and sewing rings (SF 1052; 1059; 1737; 1800; 1822; 1851; 2079; 2115; 2308; 2309; and 2656) may also include Phase 11 items. Among the unstratified finds is also a probable bone thread reel (SF 1794); this would require further identification.

A smaller group of finds can be related to buildings and the household. This includes some structural fittings and lead window came. Furniture and fittings are represented by an iron drop handle (SF 1396) and a probable box mount (SF 2777), along with copper-alloy rings for hangings and wall covering. Household vessels are present in both copper-alloy and iron fragments, along with a complete copper-alloy basin (SF 297) and a cistern tap handle (SF 3350). There is also a bone apple corer (SF 3449).

Knives form the largest individual finds category represented, with 36 recovered; these include knives with or without handles, and handles only. This period saw a dramatic change in the role of the knife, with the transition from all-purpose knives to those designed specifically for the table. Further analysis of this group



is important. Four spoons were also retrieved; of copper alloy (SF 487) and pewter (SF 487, 1763 and 2528). These too require further analysis.

Dress accessories and other personal belongings comprise copper-alloy pins, copper-alloy and iron buckles, dress hooks (SF 893, 1102, 1512, 1867), bone and ivory combs and two toilet implements (SF 832 and 1811). The copper-alloy pins include a group characteristic of the 15th-17th centuries; substantial and with wound-wire or applied heads they were most likely headdress pins (SF 254, 418 and 3444). One such pin was also intrusive in a Phase 9 context (SF 268), while two recovered from Phase 13 may be residual (SF 140 and 202). Surprisingly, there are no lace-chapes among the Phase 11 finds; these little tags are an otherwise characteristic late medieval and early modern category, reflecting the fashion of laced-up clothing (Margeson 1993, 22-24). The only lace-chape recovered was intrusive in a Phase 9 context (SF 1838); remnants of the silk lace are still visible.

There is also a probable iron purse frame (SF 1347) and three copper-alloy twisted ring (SF 2412 and 3379), interpreted as purse rings (Egan 2005, 62). To the small group of stratified buckles should be added the unstratified items. These include thirty-six copper-alloy buckles, with the majority (30 buckles) dating from the Tudor and Stuart periods (Table 4). Several have traces of matt black lacquer/coating, characteristic for the late 15th to mid-17th centuries (Egan and Forsyth 1997, 217; Whitehead 2003, 8).

Horse equipment, weapons and armour are represented by 18 finds, including a handful of iron harness buckles and incomplete horseshoes and a snaffle bit. Two possible bridle bosses are also among the finds; one of these may be of gilt silver (SF 967). There are four spurs (SF 51, 52, 1752 and 2269) and a small assemblage of dagger fittings. Two front plates of dagger scabbard chapes are unstratified (SF 856 and 2646) while a further scabbard chape (SF 2882) is intrusive in Phase 9. There are also two copper-alloy dagger hand guards (SF 3179 and 3180) and an iron buckle with integral loop for suspension, probably for a dagger (SF 24).

Other activities are represented by a group of six book clasps and book mounts, with the majority unstratified (SF 708, 998, 1470, 1671, 2149 and 3133); an unusual find is the ivory sundial, SF 1082 (see Meddens, this report). Recreational activities are reflected in two ceramic gaming pieces and stone, chalk and wooden balls or alleys (SF 422, 1577 and 8173). Accounting and exchange, finally, is represented by two copper-alloy cup weights (SF 1000 and 1866), an unstratified Elizabethan lead token (SF 1809) along with fourteen coins, tokens or jetons, all of which require further identification. There is at least one residual coin; a possible James I farthing (SF 135) from a Phase 13 context and additional coins, tokens and jetons are expected among the unstratified finds listed in Table 9.

The distribution of finds across site shows the majority were retrieved from Trench 1 and associated areas (Area B1, B2 and D) and along the northern part of site, relating to properties fronting onto Long Lane (Areas E2-E4). Four of the book fittings came from this area, as well as the majority of unstratified buckles (28 of 32 could be identified to area; the vast majority, 21, came from Areas D and E). The two cup weights, and the majority of coins, jetons and lead tokens also come from here. The ivory sundial was recovered from Area E1 in the north-west, also fronting onto Long Lane, as was a solid iron knife handle (SF 1366).

Both Trench 1 and Trench 2, to the west, and their associated areas produced large amounts of bone waste, along with pinner's bones and copper-alloy wire. In the western part of the site, three jetons came from stratified contexts; the complete copper-alloy basin (SF 297) also came from here. To the east, Trench 3 with Area F2/G2 produced a smaller amount of bone and pin-working waste along with two leather and/or textile working tools, including the stiletto (SF 2613), and the Raeren stoneware spindlewhorl (SF 3554). Two of the three iron spurs also came from here, while the only coin was an intrusive 18th-century penny (SF 60).

## **An early Post-medieval portable sundial from Tabard Square**

**By Frank Meddens**

The excavations at Tabard Square produced a small portable ivory diptych sundial SF 1082, from the fill of a rubbish pit. The deposition date of the fill, based on associated pottery was c. 1580 to 1650 (pers. comm. B. Sudds). The object consists of a small ivory plaque, measuring c. 40mm in length by 30.5mm wide x 2.2mm thick. The inside has an engraved pattern with a half circle on a baseline from which 13 lines radiate out. From left to right these are numbered 6, 7, 8, 9, 10, 11, 12, 1, 2, 3, 4, 5, and 6. The central line, numbered 12, running along the central axis of the plaque, has two small circles along its length and the upper 13mm are split into 2 parallel running lines. Along the base, below the radiating and numbered lines, and partially cut by these are two pairs of parallel lines running at right angles across the width of the plaque. On the reverse side a central cross motif is surrounded by a circle in turn encircled by numbers, with 12 at the top followed by 1, 2, 3, 4, and 5 to the right, with 6 at the bottom. This is succeeded by 7, 8, 9, 10, and 11 going back near the top, next to the 12, forming the equivalent configuration of a modern analogue clock dial. This in turn is encompassed by a set of concentric circles. Along the margins of the plaque running along its length are single lines, which are superimposed by the numbered dial design. Running along the width of the plaque both above and below the dial between the vertical lines are single sets of parallel lines. In each of the four corners a small stylised flower is found and in each quarter of the central dial a mirrored step motif is located. Along the base of the plaque along the interior face two holes are visible and on the reverse side a small linear depression with circular recessions, which would have been part of a hinge mechanism attaching it to a similar sized base plaque are found. This probably would have held a small compass and would have anchored the other end of the gnomon. The gnomon in this case is missing, but its broken metal base comprising a copper based metal alloy is located in the centre of the half circle on the inner face of the plaque. The angle of a sundial's spike, or gnomon, would have corresponded with the angle of latitude for which the instrument is meant to indicate the time.

A small German dial made of boxwood, with its brass gnomon was discovered during excavations in the nave of St. Mary's Church in Bury St Edmunds in Cambridgeshire but portable sundials are uncommon from archaeological excavations.

Small portable sundials are known at least as far back as Saxon times. Many portable dials used to have a small compass built in to aid in positioning it correctly. Another common feature is that the setting of the gnomon can be adjusted to take account of changes in latitude. Examples from the 17th century are known to have been a contemporary fashion accessory. With the introduction and increasing prevalence of the mechanical watch from the late 17th century on the portable sundial started to decline in popularity.

This particular find appears to represent the lid of a Diptych dial similar to an example in the collections of the National Maritime Museum, London, such as (D8371) dated to c. 1565 and attributed to Jörg Miller.

The find is of sufficient rarity and interest to merit description and illustration for publication.

#### **PHASE 12: late 17th to mid-18th centuries (Table 5)**

In this phase buildings were recorded both in Trench 1 to the north, and Trench 2 to the west. Around 125 metal and small finds were identified, almost all from stratified contexts. In comparison with the earlier material this phase yielded a far smaller proportion of waste and other production related material, with finds consisting of bone waste with some copper-alloy wire. There is also one thimble (SF 128), an incomplete stone hone (SF 61) and a lead cloth seal (SF 90).

Household items are more numerous than previously, including both structural fittings – such as hinges, mounts and fittings and lead window came – and keys and lock furniture (SF 81, 89, 113, 1234, 1397). Other fittings include a ceramic acorn finial (SF 115) and an acorn-shaped bone object (SF 67), possibly also a finial. The majority of the 24 knives from this phase are likely to represent cutlery, although some may have other specialised functions as tools (SF 66 and 73). Only one spoon (SF 487) was retrieved; this is of copper alloy. There is also a glass linen smoother (SF 104) and two stone marbles/bottlestops (SF 3416 and 3417).

Few dress accessories were retrieved from this phase, comprising a few copper-alloy pins and buttons. Other personal items include three bone and ivory combs (SF 192, 472 and 3499) and a bone syringe (SF 102). Games and pastimes are reflected in three ceramic gaming pieces (SF 785, 3560 and 3561), wooden and stone balls or alleys (SF 103 and 106) and a bone skate (SF 3529). An unstratified lead-alloy toy watch (SF 2736) is datable to the first half of the 18th century (Forsyth and Egan 2005, 378 nos. 12.53-55).

The final category of material represented is coins and jetons, with six recorded. There is also an incomplete iron steelyard (SF 91) and a lead disc weight (SF 459)

The distribution of finds shows that almost all bone waste is now concentrated in Trench 2 and associated areas in the western part of site, something that is likely to relate to the probable workshop recorded here. Other finds from this area include the cloth seal, the steelyard, the lead weight and three of the coins/jetons. The majority of household related finds also come from here, including the spoon and 11 of the knives. In contrast, the area around Trench 1 produced a much more mixed assemblage, including three gaming pieces, eight knives, most of the dress accessories, the bone syringe and one comb. Some household items are represented in the form of the linen smoother and an iron rotary key. Trench 3 yielded only two fragmentary and undiagnostic finds, while this phase includes the earliest – but equally undiagnostic – finds from Area G3 in the north-east corner of the site.

### **PHASE 13: mid-18th to mid-19th centuries (Table 6)**

The nearly 100 finds from this phase include a small amount of production waste, most notably in the form of numerous pieces of copper-alloy wire (SF 4, 143, 264 and 3538); some of this is clearly pin-making waste, represented by short lengths of wire, sometimes with sharpened points. Other production related finds include two thimbles (SF 136 and 3339), two probable bone needlecases (SF 2972 and 3419), a possible bone netting needle (SF 139) and a bone implement of unknown function (SF 3469). There are also four stone hones.

Household items comprise both fittings – like a door hinge (SF 3297) and a pintle (SF 304) – and furnishings. The latter include a copper-alloy box or furniture mount (SF 44) and a casket or drawer handle (SF 1300). There is also a pipeclay figurine in the form of a cockerel (SF 3009). Kitchen or storage utensils are reflected in iron barrel hoops, iron vessel fragments and a bone honey dipper (SF 47). There are only four knives or implement handles (SF 369, 396, 790 and 3470) and two spoons, one of lead (SF 3395) and the other of pewter (SF 3364).

Dress accessories are represented in seven copper-alloy or composite buttons and a copper-alloy shoe buckle (SF 3539). Two copper-alloy headdress pins are interesting, as they belong to a category usually associated with the Tudor and Stuart periods (SF 140 and 202); they may be residual. Personal hygiene is reflected in a complete bone toothbrush (SF 2733) while four finds reflect toys or pastimes; a wooden spinning top (SF 325), a bone gaming piece (SF 261), a wooden alley (SF 2064) and a stone marble (SF 3502).

At least eighteen copper-alloy coins were retrieved from this phase, the majority of which would require some cleaning to identify. There is also a copper-alloy disc weight (SF 1310) and a possible lead token (SF 2526).

The majority of finds came from Trench 1 and associated areas. They included most of the copper-alloy wire and possible pin-making waste, as well as the two thimbles, one of the needlecases and the possible netting needle. The majority of dress accessories also came from here, as well as over half of the coins. In contrast, few household items were retrieved, mainly the honey dripper, the copper-alloy furniture handle and two knives/handles; also the gaming piece and the wooden alley came from here.

To the west, the Trench 2 area produced one needlecase and the unspecified bone implement, along with a small amount of copper-alloy wire, but little other production related finds. Household items are reflected

in iron barrel hoops, the two spoons and a bone handle. The wooden spinning top, the bone toothbrush and two copper-alloy buttons were also from this area as were the remaining coins.

Trench 3 and the southern part of site, apart from a stone hone, yielded no production related finds. The copper-alloy furniture mount and the iron door hinge are likely to relate to properties here; as is the wooden alley and the copper-alloy weight from Area F1 in the south-west. From Area G3, in the north-east corner of site, the pipeclay figurine and a stone marble constitute the main finds.

#### **PHASE 14: MODERN (Table 7)**

All finds from Phase 14 came from the backfill of a cellar structure in the corner of Trench 1. The finds include household items such as furniture fittings (SF 3336 and 3337) and lamp fittings (SF 33), along with the openwork lid of an iron vessel (SF 1394). There are also some dress accessories and personal belongings in the form of copper-alloy buttons (SF 28 and 319), a tortoiseshell comb (SF 29) and an ivory brush handle (SF 32).

#### **RECOMMENDATIONS FOR FURTHER WORK**

The post-Roman metal and small finds from Tabard Square form a large and important assemblage. Broadly, this material needs to be included in any publication of the site, and where possible associated with buildings and activities reflected in the wider evidence from finds and features. Encompassing also a sizeable amount of unstratified finds, recovered through metal detecting, the assemblage further includes both finds categories and periods that are of particular interest and which require further study. This is particularly the case for Phase 11, comprising finds from the Tudor and Stuart periods, a dynamic period of transition from medieval to early modern times.

The medieval assemblage from Phase 10 include a range of characteristic finds, such as dress accessories, horse-harness pendants, spurs and a candleholder. This material should be catalogued and related to the body of medieval material published by the Museum of London. A category of particular interest is the late medieval lead tokens; further analysis of the group of 13 unstratified tokens may reveal additional examples to the two listed above (cf. Egan 2001, 99-102; Egan 2005, 167-72).

Another category of significance is the bone-working waste, with its implications of activities carried out in the area. This material should also be discussed in a wider context, as bone waste form a notable part of the finds from the Roman period and through to Phase 12, reflecting changing directions in production through time. Here also the small amount of perforated mussel shell is of interest, as this may relate to the retrieval of mother-of-pearl during the medieval period (Gaimster and Yeomans in prep.).

The large Phase 11 assemblage, as already pointed out, represents an important, and for long underrepresented, source to the material culture of the Tudor and Stuart periods. The finds from Tabard Square include numerous categories that require cataloguing, illustration and further discussion, such as household items, dress accessories and the group of dagger fittings. A category of particular significance here is the knives, as this is a period that saw the transition of these from general-purpose implement to cutlery (cf. Egan 2005, 84-94); this group should be analysed further. Of specific interest are also the series of lead tokens, coins and jetons, which all require further identification and study.

For Phase 12, the concentration of production waste in the western part of site is of specific interest and likely to be associated with the presence of a possible workshop here. Within the context of production and manufacture, the series of unstratified cloth seals form an important group of finds which require further identification and study. As in Phase 11, the large number of knives retrieved deserves further study; these assemblages could be studied as a whole from the perspective of newly developing eating and table customs.

The later post-medieval finds from Phase 13 and 14 have a wider interest as exponents of this final period of local household waste disposal in the archaeological record. This material recently been recognised as

a significant source to the economic and cultural history of London and Londoners, and the finds may be related to research and developments in this field of study (Hicks and Jeffries 2004).

For the purpose of further study of the post-Roman metal and small finds some groups of material require further cleaning and/or identification. This concerns chiefly the number of coins and jetons (marked in Tables 3, 5, 6 and 9), but also some lead tokens and cloth seals will need further cleaning and identification. In addition, some of the metal objects require further cleaning; these include the two dress hooks (SF 1512 and 1867), the openwork box mount (SF 2777), the copper-alloy harness pendant (SF 143) and the possible gilt-silver bridle boss (SF 967).

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context	SF	description	pot date (ctp)	group/location
1830	268	complete copper-alloy head-dress pin; wire-wound spherical head; thick shank; L 46mm; 15th-17th centuries; ?intrusive Phase 11 object		956/Area B2
9291	3487	bone waste	1170-1350	837/Area E3-E4
9369	1838	copper-alloy lace-chape; incomplete; silk lace still extant.		1006/Area E2
9805	3460	bone waste		765/Area E3-E4
	3461	bone waste		765/Area E3-E4
	3462	bone waste		765/Area E3-E4
	3463	bone waste		765/Area E3-E4
	3464	bone waste		765/Area E3-E4
11505	2604	stone hone; incomplete; chlorite mica schist	1080-1350	334/Area F2/G2
12201	2785	double-sided lead token; complete; quatrefoil // striate quartering (mill-wheel design); diam 16mm th. <1mm; c.1350s-1430s; cf Mitchiner and Skinner 1984, pl. 8 no. 81 and pl. 10 no. 96; cf. also Mitchiner and Skinner 1985, pl. 1 no. 2	1250-1650	413/Area G1
	3410	roughly rectangular lead plaque with 12 holes for nails/rivets; eight iron nails/rivets extant; L 75mm W 80mm	1250-1650	413/Area G1
12585	2882	complete copper-alloy front plate of dagger scabbard chape; serrated top edge and openwork heart on lower half; very similar to early pmed chape SF <856> above, but not with lobed end; instead one side sloping in to make a point (broken off). ?15th/16th centuries; cf. Egan 2005, fig.180 no. 1080.	1140-1220	413/Area G1

context	SF	description	pot date	group/location
+	810	trapezoidal copper-alloy strap loop with internal projections; W 23mm L 18mm; medieval		
	864	copper-alloy annular brooch; diam. 25mm; faceted decoration; late 13th/early 14th centuries, cf. Egan and Pritchard 1991, fig. 160.1311		Area D
	1438	rectangular copper-alloy harness pendant; complete; L 29mm W 36mm; late medieval; <b>requires cleaning</b>		Area E
	2168	copper-alloy ?buckle with two loops and integral plate; L 30mm; medieval, cf. Egan and Pritchard 1991, 109		Area E
	2323	plain trapezoidal copper-alloy strap loop with hole for rivet; W 18mm L 14mm; top with bevelled edge; late medieval/14th century, Egan and Pritchard 1991, fig. 147s		Area E
	2402	oval lipped copper-alloy buckle with narrowed, offset bar; notch for pin; W 10mm L 15mm; 1250-1500, Egan and Pritchard 1991, fig.45		Area E?
	2428	copper-alloy annular brooch; incomplete; flat section; rectangular protrusions set with domed copper-alloy rivets; traces of gilding?; diam. c. 25mm; ?14th century		Area F
	2454	?tinned copper-alloy shoe/spur buckle; asymmetrical with lipped frame and notch for pin; central bar with rib projecting at both ends; W 15mm; complete; ?1350-1450, cf. Egan and Pritchard Fig. 65; Whitehead 2003, 87		Area E
	2482	trapezoidal copper-alloy buckle; lipped frame with notch for pin; W 19mm L 18mm; ?medieval		Area F
	2632	D-shaped ?tinned copper-alloy buckle with narrowed, offset bar; thickened frame with notch for pin; W 15mm L 17mm; 1250-1500, Egan and Pritchard 1991, p.70; Whitehead 2003, nos 52-53; Biddle 1990, fig. 130 no. 1124: mid-13 <sup>th</sup> c		Area G

	2968	copper-alloy annular brooch; complete; one half of frame with twisted cable ornament and the other half plain; pin with ridge at base; diam. 25mm; 13th century, cf. Egan and Pritchard 1991, fig. 160 no. 1310; Ottaway and Rogers 2002, fig.1486 no.1442		Area F
	3030	wheel-shaped copper-alloy mount; diam. 35mm; cf. Ottaway and Rogers 2002, fig.1484		Area F
	3571	complete lead token; double-sided; bird/robin within border//stylised ?human head within border of zig-zag or parallel strokes; diam. 16mm th. <1mm; 14th/15th centuries; cf. Egan 2001, fig. 35 nos 90-104		Area E
765	148	glass bead; green cylindrical; L 12mm	1240-1270	274/Area A
827	164	copper-alloy		519/Area A
837	3568	incomplete bone needle; L 75mm	1080-1150	257/Area A
838	179	thin, narrow stone hone; incomplete; chlorite mica schist	1240-1350	257/Area A
	180	lead waste	1240-1350	257/Area A
	181	perforated oyster shell	1240-1350	257/Area A
873	386	iron knife; incomplete; whittle tang; cutler's mark	1400-1500	286/Area A
891	3501	perforated oyster shell	1340-1500	287/Area A
		bone waste	1340-1500	287/Area A
939		bone waste	1400-1599	530/Area A
966	1219	iron gouge/chisel	1080-1350	530/Area A
973	389	copper-alloy	1000-1150	579/Area E1
1061	198	bone waste	1350-1500	530/Area A
	1232	iron rod	1350-1500	530/Area A
1118	217	cast copper-alloy cast mount or fitting; no traces of holes for attachment, but one end clearly broken off; decorated with ovolo design; L 48mm W 27mm; NB: also Roman coin from this context	1580-1700	530/Area A
1306	222	copper-alloy pin	1240-1270	948/area B2
	223	copper-alloy	1240-1270	948/Area B2
	225	copper-alloy ring	1240-1270	948/Area B2
	226	copper-alloy	1240-1270	948/Area B2
	233	copper-alloy	1240-1270	948/Area B2
	248	copper-alloy	1240-1270	948/Area B2
	3188	iron	1240-1270	948/Area B2
1306	3189	iron ?buckle	1240-1270	948/Area B2
	3191	iron strap	1240-1270	948/Area B2
		bone waste	1240-1270	948/Area B2
2955	407	long, narrow stone hone; incomplete; chlorite mica schist	1170-1350	288/Area A
3708	475	silver short-cross penny; medieval	1230-1300	577/Area B1
	488	copper-alloy ring	1230-1300	577/Area B1
3913	525	copper-alloy ring		188/Area C1
4257	350	iron		573/Area B1
4769	1272	iron sheet	1000-1150	209/Area C1
5065	617	rectangular probable horse-harness copper-alloy pendant; suspension loop broken; L 30mm W 42mm; rivet in centre; if harness pendant late medieval		521/Area C2
5553		bone waste		209/Area C1
5980	769	iron hasp	1270-1500	784/Area D
7262		bone waste	1080-1100	1084/Area E1
7932	3247	iron horse bit	1250-1480	1083/Area E1
	3533	bone waste	1250-1480	1083/Area E1
8150	3344	copper-alloy bar/handle		1083/Area E1
10028	3349	copper-alloy ?stud		473/Area F1
10226	2250	iron wire	1270-1350	460/Area F1
10237	2220	copper-alloy wire	1290-1350	460/Area F1
10238	3327	iron		460/Area F1
10239	2296	bone waste	1340-1350	460/Area F1
10260	3277	iron knife blade?; incomplete	1170-1200	474/Area F1
	3278	iron vessel	1170-1200	474/Area F1
	3497	bone point	1170-1200	474/Area F1
10718	3355	copper-alloy rings; ?residual Roman	1300-1650	434/Area E3
11211	2523	iron key	1480-1600	475/Area F1
11282	3523	bone waste	1140-1150	474/Area F1



11303	3197	iron horseshoe; complete but twisted out of shape; Type 2; 11th-13th centuries	1140-1200	475/Area F1
11418	3467	bone waste	1270-1500	475/Area F1
11435	2582	small copper-alloy twisted-wire ring	1170-1350	320/Area F2/G2
	3201	iron staple	1170-1350	320/Area F2/G2
	3358	fragment of cast copper-alloy vessel	1170-1350	320/Area F2/G2
11452	2587	copper-alloy hairpin; incomplete		494/Area F1
	2588	iron double-spiked loop		494/Area F1
11486		bone waste	1170-1220	481/Area F1
11533	3202	iron candle holder with pricket and single cup; cf. Margeson 1993, fig. 50 no.550, 15th century	1170-1350	320/Area F2/G2
	3406	iron staple	1170-1350	320/Area F2/G2
11571	3205	iron	1140-1150	125/Area F2/G2
11694	2794	copper-alloy hairpin; complete; applied head of copper-alloy wire, wrapped twice around the shaft and crimped into a pentagonal shape; L 50mm head W 4mm	1300-1650	475/Area F1
12592	3216	iron fitting	1580-1800	409/Area G1
	3217	iron rowel spur; near-complete; long spur with neck L 55mm; one spur buckle extant; fine annular buckle with central bar; W 20mm; separate ?triangular plate, presumably with hook for fastening to spur; cf. Margeson 1993, fig. 170 no. 1810, AD 1400-1600	1580-1800	409/Area G1
	3412	lead	1580-1800	409/Area G1
12598	3218	iron staple/chain	900-1250	400/Area G1
12603	3537	bone waste	1270-1500	409/Area G1
12629	3221	iron slide key; ?residual Roman	1150-1300	407/Area G1
12704	3520	bone waste	1080-1150	440/Area G1
12729	3372	fragment or foot of copper-alloy vessel	1170-1220	378/Area G1
12742	2877	copper-alloy scales, near complete with rigid arm and handle; wire ring still in hole at one end	1170-1350	440/Area G1
12795		bone waste	1340-1500	404/Area G1
12830	3230	the blades of a pair of iron scissors; L 75mm; rivet hole present at top	1430-1500	382/Area G1
13498		bone waste	1270-1350	323/Area G1
13827	3425	bone skate of horse metacarpal; incomplete	n/a	577/Area B1

**Table 3: metal and small finds from Phase 11**

context	SF	description	pot date (ctp)	group/location
+	708	copper-alloy book clasp; near complete; expanded end and engraved herring-bone decoration; part of sprung backplate extant; L 38mm W 7mm; early pmed; cf. Margeson 1993, fig. 40		
	856	copper-alloy front plate of dagger scabbard chape; complete; rectangular with lobed end with cast radial grooves and knob; serrated top edge with an openwork heart between moulded horizontal ridges; openwork ?trefoil in lobed end; L 40mm W (top) 23mm; early pmed; Museum of London Type III		Area D
	893	brass dress-hook; decorated with three bosses; Tudor period		Area D
	1102	copper-alloy hooked tag or corresponding ?eye; rectangular loop W 15mm; late 15th/16th centuries, cf. Margeson 1993, fig. 8; Egan 2005, 43		Area E
	1164	copper-alloy ?coat button; domed; diam. 30mm		Area E
	1470	copper-alloy ?book mount; double-folded rectangular sheet; rivet with solid knob; 15mm by 15mm		Area E
	1512	copper-alloy hooked tag; ?openwork decoration and rectangular loop W 13mm; <b>requires cleaning</b>		Area E?
	1671	copper-alloy book clasp; incomplete; lobed knob at end and incised circle-and-dot decoration; L 52mm W 14mm; two holes for rivets extant; early pmed		Area E
	1763	pewter spoon; incomplete and very corroded; stem with finial probably broken off; flat fig-shaped bowl with maker's mark stamped on top of the bowl; may indicate 1503+; if medieval cf. Egan 1998, fig. 195; late med/early pmed		Area E
	1809	double-sided lead token; complete; bearing letters		Area E?

		only; W // I ; Elizabethan; cf. Mitchiner and Skinner 1985, pl. 13		
	2149	copper-alloy book clasp; incomplete; cf. SF 708; early pmed		Area E
	2269	finial of copper-alloy spur; decorative with moulded ridges; pmed		Area E
	2412	copper-alloy twisted purse ring; diam. 11mm; early 17th century, cf. Egan 2005, 62		Area E
	2528	complete round-sectioned stem of pewter spoon with rounded knob and fragmentary oval/fig-shaped bowl; late medieval or early post-medieval		
	2569	lead rectangular apothecary weight; complete with ?merchant's mark; 15th-16th centuries		Area E
	2646	copper-alloy front plate of dagger scabbard chape; complete; shaped top edge and tapering rounded terminal with knob; openwork decoration with a pair of trefoils at the top, three rectangular perforations below and a trefoil at the bottom; L 45mm W (top) 36mm; 15th/16th centuries		AreaG1/W end
	2654	copper-alloy ?bridle boss; incomplete; embossed decoration of flower petals		Area F/G
	3133	copper-alloy ?book mount; rectangular with applied cast cross with globular ends and central globular rivet; 24mm by 27mm; four rivet holes extant; ?early pmed		Area G
	3179	copper-alloy dagger hand guard; remnants of iron blade; traces of wood in socket; ?16th century		Area G
	3180	copper-alloy dagger hand guard?; similar to above		Area G
	3564	copper-alloy double-loop asymmetrical ?spur buckle; moulded ribs on frame; trefoil knob on rounded loop; W 14mm L 20mm; late 16th-17th centuries; cf. <2418>		
10	1	copper-alloy pin; end bent into decorative spiral; L c. 190mm	1580-1630	1238/trench 3
13	19	iron mount/fitting	1580-1600	1240/trench 3
	21	antler waste; red deer	1580-1600	1240/trench 3
	23	iron fitting	1580-1600	1240/trench 3
	1395	iron mount/fitting	1580-1600	1240/trench 3
	1396	iron drop handle	1580-1600	1240/trench 3
	3553	double-oval copper-alloy buckle; W 24mm; traces of black laquer; late 15th-mid-17th centuries	1580-1600	1240/trench 3
		bone waste	1580-1600	1240/trench 3
49	2	copper-alloy wire	1580-1600	1238/trench 3
	12	iron whittle-tang knife; incomplete	1580-1600	1238/trench 3
	15	iron wire	1580-1600	1238/trench 3
	3471	pinner's bone	1580-1600	1238/trench 3
57	16	copper-alloy curtain ring	1570-1600	1238/trench 3
	1312	iron ?handle	1570-1600	1238/trench 3
58	6	iron wire	1630-1700	1238/trench 3
	7	copper-alloy wire	1630-1700	1238/trench 3
	9	iron whittle-tang knife; incomplete	1630-1700	1238/trench 3
	11	iron scale-tang knife with bolster; incomplete; only traces of scales left; five ?cu rivets forming a pattern; handle with straight back but lower side tapering out to flat end plate; almost identical to wooden handle from Margeson 1993, fig. 95 no. 863, 1750-1800; fig. 97 no. 889-890, 17th century; for style of handle; Egan 2005, 94, with 16th-century date	1630-1700	1238/trench 3
	55	straight neck and part of sides of long rowel spur; crest above neck; L (neck)75mm; 15 <sup>th</sup> /early 16th century	1630-1700	1238/trench 3
60	35	double-sided bone comb; incomplete; ht. 60mm	1580-1600	1237/trench 3
	36	iron knife	1580-1600	1237/trench 3
	37	iron whittle-tanged implement; incomplete; wide and ?short blade; leather-working tool?; cf. Margeson 1993, fig. 141 no. 1473 and 1475, 17th century	1580-1600	1237/trench 3
	39	perforated oyster shell	1580-1600	1237/trench 3
	40	copper-alloy wire	1580-1600	1237/trench 3

	41	iron wire	1580-1600	1237/trench 3
	60	George II penny; ?1734	1580-1600 (1570-1910)	1237/trench 3
61	301	iron whittle-tang knife; incomplete	1620-1650	1236/trench 3
	302	iron whittle-tang knife; incomplete	1620-1650	1236/trench 3
	3477	bone waste	1620-1650	1236/trench 3
	3554	incomplete Raeren stoneware spindle whorl; dated in Gaimster 1997 to c. 1500-1550	1620-1650	1236/trench 3
67	17	iron knife blade; incomplete	1550-1600	1237/trench 3
68	24	double-oval iron buckle with integral loop for suspension; complete; W 23mm L 28mm; cf. Margeson 1993, fig. 17 no. 178 for copper-alloy version; perhaps for dagger?; 17th century	1600-1900	1237/trench 3
	52	iron knife with ?solid rectangular-section iron handle; incomplete; cf. Cunningham and Drury 1985, fig. 32 no. 36, late 17th century	1600-1900	1237/trench 3
		bone waste	1600-1900	
81	56	structural iron fitting?; rectangular strip/mount with three holes visible on x-ray; possibly nail extant in fourth hole; would need re-xray from other angle	1480-1600	1242/trench 3
90	51	iron spur; neck and part of sides of long rowel spur; rowel box damaged; L (neck) 140mm; 15th/early 16th centuries	1480-1600	1239/trench 3
179	64	copper-alloy chain	1630-1650	1225/trench 2
290	63	copper-alloy ?farthing token; <b>requires cleaning for id</b>	1570-1650	1194/trench 1
	3559	ceramic gaming counter; see Sudds this report	1570-1650	1194/trench 1
374	101	copper-alloy curtain ring	1580-1600	1196/trench 1
	3542	lead strip	1580-1600	1196/trench 1
526	97	iron rod	1580-1600	1225/trench 2
604	100	copper-alloy pin	1570-1800	1197/trench 1
		ceramic gaming counter; see Sudds this report	1570-1800	1197/trench 1
655	123	ivory whittle-tang handle; incomplete length 60mm	1670-1690	1193/trench 1
	124	copper-alloy ?jeton; <b>requires cleaning for id</b>	1670-1690	1193/trench 1
	125	copper-alloy coin/token; <b>requires cleaning for id</b>	1670-1690	1193/trench 1
	126	copper-alloy ring	1670-1690	1193/trench 1
	127	copper-alloy ?coin/jeton; x-rays missing; <b>requires cleaning for id</b>	1670-1690	1193/trench 1
	3342	copper-alloy vessel	1670-1690	1193/trench 1
	3449	bone apple corer; complete; decorated with a few incised lines; L 105mm	1670-1690	1193/trench 1
	3468	small ivory whittle-tang handle; complete; L 67mm; open end with inset ivory plug; late 17th-18th centuries	1670-1690	1193/trench 1
700	3183	iron horseshoe; incomplete; pmed	1630-1700	1193/trench 1
788	387	copper-alloy	1580-1630	242/Area A
	528	knife with bone-scale handle; near-complete; L handle with bolster 95mm; four iron rivets; flat rounded end	1580-1630	242/Area A
	1210	iron ?staple	1580-1630	242/Area A
	3184	iron bar	1580-1630	242/Area A
	3185	iron	1580-1630	242/Area A
	3517	bone waste	1580-1630	242/Area A
	3518	bone waste	1580-1630	242/Area A
	3527	pinner's bone	1580-1630	242/Area A
818	168	annular iron shoe buckle; complete; diam. 15mm ; late med/early pmed	1340-1500	490/Area A
820	156	composite handle	1630-1650	242/Area A
	328	iron bar	1630-1650	242/Area A
825	163	iron fitting	1580-1700	242/Area A
832	1213	iron strap	1580-1600	501/Area A
856	157	copper-alloy		246/Area A
864	162	silver long-cross penny; medieval; <b>requires cleaning for id</b>	1580-1650	242/Area A
877	1214	iron horseshoe; incomplete; pmed	1580-1700	497/Area A
		bone waste	1580-1700	497/Area A
878		bone waste	1630-1650	497/Area A

885	1215	two-loop iron buckle or harness link?; two loops; diam. 20mm; linked with 20mm bar; cf. Norwich p.225; for buckle cf. Egan and Pritchard 1991, 108: 13th-14th centuries	1480-1650	499/Area A
922	172	bone waste	1580-1600	268/Area A
	173	edge piece of lava quern; residual medieval	1580-1600	268/Area A
	174	copper-alloy wire	1580-1600	268/Area A
	177	copper-alloy waste	1580-1600	268/Area A
	178	iron fitting	1580-1600	268/Area A
	182	iron fitting	1580-1600	268/Area A
	183	iron awl? or nail	1580-1600	268/Area A
	388	copper-alloy wire with concretions; may be headdress with traces of silk?	1580-1600	268/Area A
	1218	iron strap/mount	1580-1600	268/Area A
	3284	small knife with bone-scale handle; complete; total L 140mm; short blade with straight cutting edge and angled back; long bolster; cutler's mark near tip; handle with lower edge widening towards end with flat iron cap; ?medieval: blade of York type A2; cutler's mark cf. Cowgill <i>et al.</i> 1987, no. 267	1580-1600	268/Area A
	3427	bone waste	1580-1600	268/Area A
	3528	pinner's bone	1580-1600	268/Area A
1010	297	complete oval copper-alloy basin; c. 355 x 300mm; ht. 100mm; flat rim with 11 rivet holes; pmed	only find	495/Area A
1035	205	complete annular copper-alloy buckle; hemispherical section with bevelled inside edge; possibly traces of iron pin; W 30mm L 34mm; med/pmed?	1580-1600	268/Area A
	209	bone waste	1580-1600	268/Area A
	210	pinner's bone	1580-1600	268/Area A
	376	copper-alloy pin	1580-1600	268/Area A
	377	copper-alloy wire	1580-1600	268/Area A
	378	copper-alloy wire	1580-1600	268/Area A
	379	copper-alloy	1580-1600	268/Area A
	380	copper-alloy	1580-1600	268/Area A
	381	copper-alloy	1580-1600	268/Area A
	382	copper-alloy wire hook	1580-1600	268/Area A
	391	copper-alloy	1580-1600	268/Area A
	1228	iron horseshoe; incomplete; pmed	1580-1600	268/Area A
	3428	bone waste	1580-1600	268/Area A
	3429	bone waste	1580-1600	268/Area A
	3519	bone waste	1580-1600	268/Area A
1053	190	ivory whittle-tang handle; near-complete; L 83mm+; bulbous end; pmed	1625-1630	943/Area B2
	1229	iron hook	1625-1630	943/Area B2
		bone waste	1625-1630	943/Area B2
		bone waste	1630-1680	940/Area B2
1117	206	pig fibula pin; highly polished from wear; oblique-cut head; L 102mm; this type of pin mostly common in the Saxon, Viking and very early post-Conquest periods; MacGregor 1985, 120-21; cf. Allan 1984, fig. 195, 11th-12th centuries	1620-1650	944/Area B2
	208	copper-alloy	1620-1650	944/Area B2
	783	copper-alloy	1620-1650	944/Area B2
	1237	iron staple	1620-1650	944/Area B2
		bone waste	1620-1650	944/Area B2
1245	254	copper-alloy head-dress pin; complete; wire-wound spherical head; L 45mm; 15th-17th centuries	1620-1650	945/Area B2
1308		bone waste	1580-1600	268/Area A
2615	299	silver coin/jeton; <b>requires cleaning for id</b>	1630-1650	571/Area B1
	368	bone waste	1630-1650	571/Area B1
	420	bone waste	1630-1650	571/Area B1
3619		bone waste	1580-1700	161/Area C1
3687	471	copper-alloy vessel	1580-1700	161/Area C1
	473	copper-alloy	1580-1700	161/Area C1
	491	copper-alloy	1580-1700	161/Area C1
3721		large cast-iron vessel; three pieces of upper part; tall out-turned rim and two handles; diam.c.280mm	1580-1650	205/Area C1

3902	3424	bone tube/handle; incomplete; L 63mm; cf. <3468> above; ?late 17th-18th century		205/Area C1
4098	418	copper-alloy head-dress pin; complete; wire-wound spherical head; L 42mm; 15th-17th centuries	1630-1650	571/Area B1
	422	stone marble/shot	1630-1650	571/Area B1
	424	ivory whittle-tang handle; complete; rounded end; L 83mm	1630-1650	571/Area B1
4468	357	iron knife; incomplete; whittle tang; straight back angling towards tip; Type C	1550-1600	571/Area B1
	356	iron bar	1550-1600	571/Area B1
	358	iron knife; near-complete; whittle tang; York Type C1?; blade L 105mm	1550-1600	571/Area B1
	359	iron wire	1550-1600	571/Area B1
	3522	bone waste	1550-1600	571/Area B1
4493	434	iron knife; incomplete; whittle tang; straight back; cf. above	1580-1600	571/Area B1
	435	copper-alloy wire with concretions; may be headdress with traces of silk	1580-1600	571/Area B1
	3433	bone waste	1580-1600	571/Area B1
5033	636	lead plaque with Roman bust within circular frame; one rivet hole at one end; L 46mm W 22mm	1650-1700	510/Area G2
5051	612	copper-alloy	1480-1500	496/Area C2
	615	copper-alloy	1480-1500	496/Area C2
6019	786	?silver coin; <b>requires cleaning for id</b>	1580-1600	780/Area D
6021	788	complete double-oval copper-alloy buckle; W 23mm L 38mm; tin coating?; 14th century? Cf. Egan and Pritchard 1991, fig. 50	1550-1600	780/Area D
	1306	scale-tang knife; long bolster; rectangular bone scales with four iron rivets; end with hollow iron cap finished with double knobs; cf. Egan 2005, no.354, 1550-1600; <b>should be cleaned</b>	1550-1600	780/Area D
6054	1347	iron purse frame?; oval shape; W 130mm; u-shaped section and series of holes for attachment along edge;	1480-1500	773/Area D
	3435	bone waste	1480-1500	773/Area D
6074	879	copper-alloy pins	1580-1700	771/Area D
	1348	iron knife; incomplete; whittle tang; ferrule/shoulder plate with single central rivet	1580-1700	771/Area D
	3506	copper-alloy wire	1580-1700	771/Area D
6075	998	copper-alloy ?brass book corner mount; sheet with circular boss and two folded edges; three rivets set within raised circles; one ?brass rivet extant; 33mm by 33mm	pmed	771/Area D
6081	819	pinner's bone	1620-1650	769/Area D
6102		bone waste	1580-1600	776/Area D
6108	820	copper-alloy ring	1580-1600	776/Area D
	3442	iron wire	1580-1600	776/Area D
6111		bone waste	1480-1550	776/Area D
6129	832	complete, lathe-turned, bone toilet implement with toothpick and earscoop; cf. similar from Oyster Street, Portsmouth, from a late 18th-century level; Fox and Barton 1986, fig. 150.11.	1550-1600	776/Area D
6134	866	iron knife	1580-1600	768/Area D
6141		bone waste	1580-1600	773/Area D
6181	1350	large rectangular iron buckle; looped sides for separate ar; W 53mm L 38mm; horse-harness buckle	pmed	771/Area D
6423	925	copper-alloy ?stud	1550-1600	775/Area D
	930	rectangular iron buckle; complete; W 22mm L 25mm	1550-1600	775/Area D
6427	3530	highly polished bone ?implement	pmed	775/Area D
6596	999	copper-alloy	pmed	771/Area D
	1000	copper-alloy cup weight; complete; diam. 25mm; wt. 16 g but concretion inside	pmed	771/Area D
6610	967	part of ?gilt silver circular sheet mount; embossed in concentric circles with dots and ridges; <b>requires cleaning and material id</b>	1350-1500	777/Area D
7022	3456	bone waste	1610-1650	1069/Area E1
7036	1089	green-stained, lathe-turned bone disc with rebate	1580-1800	1069/Area E1

		edge and traces of copper alloy shank; part of composite button; Noël Hume 1969, Type 4: 18th century		
7054	1083	copper-alloy ring	1620-1650	1069/Area E1
	1085	lead window came	1620-1650	1069/Area E1
	1086	copper-alloy	1620-1650	1069/Area E1
7055	1082	ivory sundial; early pmed; see Meddens in this report	1580-1630	1069/Area E1
7265	1301	incomplete ?strap end; pointed terminal; rivet/wire in centre	1550-1580	1069/Area E1
7341	1135	copper-alloy ?fish hook	1580-1630	1069/Area E1
	1363	iron	1580-1630	1069/Area E1
7436	3379	two small twisted-wire copper-alloy ?purse rings; diam. 9 and 12mm; cf. Egan 2005, 62	1480-1550	Area F eval W
7486		bone waste		775/Area D
7527	1366	solid iron knife handle; complete; moulded end with finial; L 83mm; cf. Margeson 1993, fig. 97 no. 894-95 and Moorhouse 1972, fig. 17 no. 6-7; late 16th-17th centuries	1580-1600	1072/Area E1
	1441	ceramic bead	1580-1600	1072/Area E1
	1442	bone waste	1580-1600	1072/Area E1
7621	1368	iron wire	1580-1700	999/Area E2-E1
	1369	iron vessel	1580-1700	999/Area E2-E1
	1370	iron ?spike	1580-1700	999/Area E2-E1
8088		bone waste	1570-1650	1073/Area E1
8089	1375	iron knife; incomplete; whittle tang; straight back	1480-1500	1073/Area E1
	1376	iron strap	1480-1500	1073/Area E1
	1377	iron pin	1480-1500	1073/Area E1
	3510	iron wire	1480-1500	1073/Area E1
8173	1556	chalk ?alley	pmed	1073/Area E1
8248	1381	iron mount/fitting	1580-1600	997/Area E2
	1382	iron ring	1580-1600	997/Area E2
	1496	double-sided ivory comb; incomplete; pmed	1580-1600	997/Area E2
	1497	iron latch or hasp; complete; hole for fixing; L 75mm	1580-1600	997/Area E2
	3444	complete copper-alloy head-dress pin; wire-wound spherical head; thick shank; L 55mm; 15th-17th centuries	1580-1600	997/Area E2
8430	1729	glass ?bead; blue cylindrical; hole at one end only; L 30mm	1630-1700	430/Area E3
8446	1701	cast copper-alloy plaque; incomplete; motif including ?drapery	1550-1600	423/Area E2-E3
		bone waste	1550-1600	423/Area E2-E3
8480	1577	wooden bowling ball/alley	pmed	430/Area E3
	3480	bone waste	pmed	430/Area E3
8488	1303	copper-alloy wire	1630-1650	430/Area E3
8642	3531	pinner's bone	1630-1650	430/Area E3
8654	1385	iron vessel	1550-1600	997/Area E2
	1386	iron awl?	1550-1600	997/Area E2
	1387	iron strap	1550-1600	997/Area E2
8679	3482	bone waste	1630-1680	430/Area E2-E3
8916	1722	double-sided bone comb; incomplete; pmed	1630-1680	418/Area E3
8945	1725	double-sided ivory comb; incomplete; pmed	1580-1600	418/Area E3
8956	3325	iron wire	1580-1650	418/Area E3
8976	1726	copper-alloy thimble; pmed	1580-1600	418/Area E3
	3483	bone waste	1580-1600	418/Area E3
9061	1731	Nuremberg-type jeton; <b>requires cleaning for id</b>	1580-1620	426/Area E3-E4
	3402	iron strap	1580-1620	426/Area E3-E4
	3511	iron ring	1580-1620	426/Area E3-E4
9072	3380	copper-alloy wire	1580-1620	426/Area E3-E4
9133	1751	two copper-alloy wires twisted together like a chain	1620-1650	423/Area E3
	1752	iron rowel spur; incomplete; very wide back; 25mm; and curved sides; now very fragmentary; probably 14th century; cf. Margeson 1993, fig. 169 no. 1795	1620-1650	423/Area E3
	1753	iron knife; incomplete; whittle tang; tang on level with neck; cf. Margeson 1993, fig. 92 no. 799	1620-1650	423/Area E3
	1839	copper-alloy ?jeton; <b>requires cleaning for id</b>	1620-1650	423/Area E3
	1859	copper-alloy	1620-1650	423/Area E3
	1861	iron wire	1620-1650	423/Area E3

	1865	copper-alloy	1620-1650	423/Area E3
9171	3486	bone waste		418/Area E3
9202	1770	complete copper-alloy thimble; ?medieval	1580-1610	82/Area E4
9214	1810	iron knife?	1240-1600	423/Area E3
	1811	copper-alloy pin/wire	1240-1600	423/Area E3
	1812	copper-alloy nail	1240-1600	423/Area E3
9295	1771	copper-alloy	1570-1600	85/Area E4
	1866	copper-alloy cup weight; diam. 30mm; ht. 13mm; wt. 28g.	1570-1600	85/Area E4
9341	1837	iron whittle-tang knife with bolster; near-complete but in two pieces; probably Type C; L 150mm; 16th century+	1580-1600	418/Area E3
	1867	copper-alloy hooked tag; complete; openwork decoration and rectangular loop; W 12mm; 16 <sup>th</sup> -17 <sup>th</sup> centuries cf. Margeson 1993, fig. 8; <b>requires cleaning</b>	1580-1600	418/Area E3
	3283	very decayed wooden scale-tang handle; two copper-alloy rivets; straight end with flat copper-alloy cap	1580-1600	418/Area E3
	3403	decorative iron ?scabbard mount; now completely deteriorated but visible on x-ray; splayed/v-shaped with long oval arms finished in heart-shape with central rivet; L 70mm; W between arms 25mm; x1053	1580-1600	418/Area E3
9343	3404	iron wire	1550-1600	78/Area E4
9350	3489	bone waste	1550-1600	418/Area E3
9406	3261	iron awl?; L 125mm	1080-1350	418/Area E3
9567	3475	highly polished bone ?implement	1580-1600	78/Area E4
9685	2032	lead shot/cannonball	1550-1600	426/Area E3
	3264	iron	1550-1600	426/Area E3
9857	2068	copper-alloy	1580-1700	85/Area E4
9886	2097	copper-alloy ?token; <b>requires cleaning for id</b>	1550-1600	447/Area F1
	3381	copper-alloy wire	1550-1600	447/Area F1
9993	2106	copper-alloy	pmed	86/Area E4
	2107	silver ?penny; Tudor period: Henry VII – Elizabeth I; <b>requires cleaning for id</b>	pmed	86/Area E4
	2108	copper-alloy sheet/vessel	pmed	86/Area E4
10118	3491	bone waste	pmed	447/Area F1
10125	2197	copper-alloy sheet/vessel	1080-1350	107/Area E4
10180	3273	iron rod	1550-1600	464/Area F1
10182	3350	copper-alloy cistern tap handle; shaft with transverse hole and moulded key with double loops; L 70mm	1550-1600	464/Area F1
	3476	highly polished bone ?implement	1550-1600	464/Area F1
10327	2384	?brass jeton; Nuremberg; late med/early pmed; <b>requires cleaning for id</b>	1550-1580	128/Area E4
10338	3353	copper-alloy wire	1580-1650	85/Area E4
10505	3540	iron knife		85/Area E4
10521	3282	large D-shaped iron buckle; complete but in two pieces; W 45mm L 35mm; horse-harness buckle	1580-1700	467/Area F1
11209	2571	bone waste	1480-1550	461/Area F1
	3193	composite handle; tapering scale-tang handle; complete; three ?non-ferrous rivets and shoulder plate; rounded end with non-ferrous cap and reinforced hole for attachment; L 83mm; ?16th century	1480-1550	461/Area F1
11302	2527	copper-alloy buckle; incomplete; pin with moulded ridge	1170-1200	35/Area F2/G2
	3196	iron ?ferrule	1170-1200	35/Area F2/G2
	3357	copper-alloy	1170-1200	35/Area F2/G2
11337	3393	lead ?stylus	1550-1700	467/Area F1
11363	2572	wooden object; in Chatham for conservation	1580-1700	121/Area F1
	2573	hemispherical-section copper-alloy ring; part of buckle or annular brooch?	1580-1700	121/Area F1
		bone waste	1580-1700	121/Area F1
11393	2584	Nuremberg-type jeton; <b>requires cleaning for id</b>	pmed	467/Area F1
11463		bone waste	1480-1600	467/Area F1
11753	2612	complete whittle-tang knife with bolster and bone handle; L 165mm; iron finial knob; ?early pmed/16th	only find	415/Area F2/G2

		century; <b>requires x-ray for id of maker's mark</b>		
11767	2613	iron?stiletto (for making eyelet holes for cords/laces); complete; ?whittle tang and ?organic handle; flat slightly extended end with oval top and decorative finial; L 52mm (handle) 77mm (prod); cf. Margeson 1993, fig. 141 no. 1483; Cunningham and Drury 1985, fig. 31 no. 7	only find	415/Area F2/G2
11792	2641	copper-alloy ?curtain ring; complete; diam. 22mm	1570-1800	37/Area F2/G2
11857	3209	iron	1580-1650	39/Area F2/G2
11898	2640	iron scale-tang knife; Type E?; blade complete; L 160mm; one non-ferrous rivet visble on x-ray	1550-1600	22/Area F2/G2
11929	2651	iron scale-tang knife?; incomplete; straight and rectangular with back and cutting edge; two rivets: slightly tapering; L 100mm W 12mm	1400-1500	105/Area F2/G2
	2652	iron fitting	1400-1500	105/Area F2/G2
12178	3366	copper-alloy sheet/vessel	1000-1150	393/Area G1
12189	2748	copper-alloy ?stud	1240-1400	392/Area G1
12197	2776	complete copper-alloy pin with globular ?twisted-wire head; L 63mm	970-1100	397/Area G1
	2777	complete copper-alloy openwork ?box mount with external iron rivets; W 76mm; decoration including heart and scrolls looks more like 17 <sup>th</sup> -century?; <b>requires cleaning</b>	970-1100	397/Area G1
	2778	three lengths of copper-alloy wire of two different thicknesses	970-1100	397/Area G1
	2779	piece of copper-alloy sheet; c. 70 x 90 mm	970-1100	397/Area G1
	2780	copper-alloy jeton; complete; <b>requires cleaning for id</b>	970-1100	397/Area G1
	2781	iron whittle-tang knife; near-complete; L (blade) 115mm+	970-1100	397/Area G1
	3407	iron wire	970-1100	397/Area G1
	3418	incomplete stone hone; schist	970-1100	397/Area G1
12243	3213	iron horse bit; one half of snaffle bit with folded-over ends; cheek piece consisting of double-eyed side link; W (side link) 60mm; ?medieval; Margeson 1993, fig. 172 no. 1820; Ottaway and Rogers 2002, fig. 1524 no. 13049	1480-1600	393/Area G1
	3214	iron whittle-tang knife; Type C; blade near-complete; tang broken; L (blade) 143mm	1480-1600	393/Area G1
12379	2869	copper-alloy ?jeton; complete but in several pieces; <b>requires cleaning for id</b>	1400-1500	392/Area G1
12515	2833	Nuremberg-type jeton; complete; <b>requires cleaning for id</b>	1480-1600	389/Area G1
12620	3220	iron waste		28/Area F2/G2
12853	3532	pinner's bone		397/Area G1



**Table 4: Unstratified buckles and belt accessories**

SF	description	date	area
621	fine ?lead-alloy buckle; oval frame/twisted out of shape?; orig. <i>diam.</i> c.25mm		
191 1015 1690 2745	three complete and one incomplete copper-alloy double-oval ?shoe buckles; W 20mm L 27mm	?15th-16th centuries	Area D Area E Area G
384	annular copper-alloy buckle with central bar; diam. 30mm; black laquer on obverse; cf. Whitehead 2003, 45 no. 254	1350-1650,	
730 873 1124	three copper- and ?lead-alloy shoe buckles; fine circular frame with central bar, <i>diam.</i> 15mm; ? traces of black laquer	? 15th-century	AreaD? Area E?
1018	copper-alloy annular shoe buckle with copper-alloy pin; <i>diam.</i> 17mm	?15th-16th centuries	Area D
2885 2886 3165	iron annular shoe buckles with iron pins; <i>diam.</i> 13mm, 13mm and 17mm	15th-16th centuries	Area G Area G Area G
1043	?lead-alloy shoe buckle; circular frame with central bar, <i>diam.</i> 20mm	15th-16th centuries	Area D?
1060 1488	two copper-alloy double-oval ?shoe buckles; copper-alloy pins; W 17mm L 24mm	15th-16th centuries	Area D? Area E
2564	copper-alloy double-oval ?shoe buckle; ?lead coating; W 10mm L 22mm; cf. Egan and Pritchard 1991, fig. 50 no. 337, 339	15th-16th centuries	Area F
596	copper-alloy "mouse shaped" mount; tail is acorn knob?; two integral rivets; L 37mm W 15mm	late med/early pmed	
1099	copper-alloy plain rectangular buckle; W 22mm L 28mm; cf. Egan and Pritchard 1991, fig. 62; Cunningham and Drury 1985, fig. 26.14; Allan 1984, fig. 190.83	late med/early modern	Area E
2140	copper-alloy double-oval buckle with decorative, grooved and serrated, edges; ?tin coating; W 22mm L 30mm; cf. Whitehead 2003, no.354	late 15th-16th centuries	Area E
2153	sub-annular copper-alloy buckle with rectangular copper-alloy plate; frame with scalloped outer edge and raised inside edge; W 20mm L 23mm; plate L 23mm; cf. Whitehead 2003, no.123	?c.1450-1550	Area E
2631	copper-alloy single-loop kidney shape buckle; ?tin coated; copper-alloy pin; frame flattened like folded-sheet frames but cast in one with strap bar; W 52mm L 20mm; cf. Whitehead No.120-121	c.1450-1550	Area F
317	copper-alloy double-oval buckle with angled frames and concave moulding at ends of central bar; W 18mm L 52mm	c.1500-1650	
523 2335	copper-alloy double-oval buckle; W 25mm L 34mm; knobs at end of central bar; slightly angled frame; similar incomplete; W 20mm; cf. Whitehead 2003, 55	c.1500-1650,	Area E
709	copper-alloy double-oval buckle; incomplete; knobs at end of central bar; moulded rosette on outer edge of loop; cf. Margeson 1993, no.174; Cunningham and Drury 1985, no.12	c.1550-1650,	
1691	copper-alloy double-oval buckle with overall moulded surface decoration; W 23mm L 35mm; traces of black laquer; cf. Whitehead 2003, 68 no. 426	c.1550-1650,	Area E
1692	large copper-alloy double-oval ?baldrick buckle; incomplete; W 45mm L c.60mm; pointed knobs at end of central bar; black laquer on both sides; cf. Whitehead 2003, 54	c.1500-1650,	Area E
1855	copper-alloy double-oval shoe buckle; W 19mm L 25mm; knobs at end of central bar; black laquer on both sides; cf. Whitehead 2003, 54 no. 309	c.1500-1650,	Area E
619	copper-alloy double-loop trapezoidal buckle with pointed frames; copper-alloy pin; W 30mm L 55mm; knobs at end of central bar; cf. Whitehead 2003, 82	17th century,	
775 1014	two incomplete copper-alloy double-oval buckles with one large and two small knobs on outer edge of loop; W 17-19mm L 32-33mm; cf. Whitehead 2003, 63 no. 382; 67 no. 415	?16th-17th centuries,	Area D

2413	copper-alloy double-loop asymmetrical ?spur buckle; transverse grooves on rectangular loop; trefoil knob on rounded loop; W 12mm L 18mm; cf. Whitehead 2003, 92	late 16th-17th centuries	Area E
902	copper-alloy mount/strap-end; two integral rivets; cast floral decoration;	pmed	Area D
1075	copper-alloy mount; multi-petal; two integral rivets; diam. 22mm	pmed	Area D
2278	copper-alloy bar mount with loop?; L26mm loop diam. 12mm	pmed?	Area E
2400	?lead-alloy ?mount o decorative rivet; two rowel-like shapes	?pmed	Area E?
2433	copper-alloy ?bar mount; incomplete; one integral rivet extant; L 22mm		Area F

**Table 5: metal and small finds from Phase 12**

context	SF	description	pot date (ctp)	group/location
+	292	bone whittle-tang handle; complete; L 68mm; open end with bone plug; end decorated with incised lines in star shape; top edge decorated with oblique lines; from upper fill of ditch [808]; cf. handles <3424>, <3468> and <3472> below; late 17th-18th centuries		Area A
	1795	ivory whittle-tang handle; complete; L 67mm; round haft but slightly rectangular handle; pmed		Area E
	2736	near-complete dial plate of lead-alloy toy watch; early 18th century (1700-1750)		Area G
4	1304	copper-alloy chain		1234/trench 3
51	3	iron	1580-1600	1234/trench 3
123	1397	lower part of iron rotary key; only visible on x-ray; probably solid stem; med/pmed	pmed	1215/trench 2
60	60	copper-alloy coin; George II halfpenny	1670-1900	1212/trench 2
135	50	Nuremberg-type jeton; <b>requires cleaning for id</b>	pmed	1218/trench 2
172	62	copper-alloy	1670-1700	1218/trench 2
177	399	iron knife	1720-1780	1214/trench 2
	1200	iron knife	1720-1780	1214/trench 2
193	385	copper-alloy	1670-1700	1208/trench 2
199	3513	bone waste	1720-1750	1222/trench 2
	3514	bone waste	1720-1750	1222/trench 2
246	3515	bone waste	1700-1800	1187/trench 1
281	1399	iron	1650-1800	1178/trench 1
287	61	incomplete stone hone; greensand	1690-1700	1188/trench 1
295	57	copper-alloy ?button	1680-1710	1174/trench 1
		coral	1680-1710	1174/trench 1
373	121	?silver coin; <b>requires cleaning for id</b>	1690-1720	1179/trench 1
377	3560	ceramic gaming counter; Berni	1670-1700	1181/trench 1
	95	?bone waste	1670-1700	1181/trench 1
384	785	ceramic gaming counter; see Sudds this report	1660-1700	1188/trench 1
418	3561	ceramic gaming counter; see Sudds this report	1670-1710	1183/trench 1
432	65	copper-alloy	1630-1700	1179/trench 1
463	113	iron bolt	1670-1700	1179/trench 1
	3472	highly polished bone tube/handle; incomplete; L 70mm; cf. <3468> below; ?late 17th-18th centuries	1670-1700	1179/trench 1
478	66	flat ivory handle for ?ivory tool/object; slightly pistol-shaped end; L 52mm; broken at incised decoration and no sign of metal tang	1720-1730	996/trench 1
	67	acorn-shaped bone object; bottom with central hole and decorated with concentric grooves; large opening in one side; ht. 28mm	1720-1730	996/trench 1
	1206	whittle-tang knife with very decayed wooden handle; incomplete; traces of ?shoulder/ferrule on xray	1720-1730	996/trench 1
	1295	copper-alloy pin	1720-1730	996/trench 1
	1296	copper-alloy	1720-1730	996/trench 1
	1297	copper-alloy	1720-1730	996/trench 1
	1298	copper-alloy ring	1720-1730	996/trench 1
	1400	iron ?buckle	1720-1730	996/trench 1
479	3516	bone waste	1701-1720	1188/trench 1
484	3341	dome-shaped copper-alloy button; integral loop; diam.	1701-1720	1189/trench 1

		13mm		
518	73	iron whittle-tang ?knife; complete; York Type E; straight back and very short blade curving up to the tip; L 60mm; special-purpose knife?/tool?; ?unfinished/blade not sharpened	1630-1650	1222/trench 2
	74	lead	1630-1650	1222/trench 2
	311	lead window came	1630-1650	1222/trench 2
519	76	iron rod	1670-1700	1222/trench 2
	77	lead window came	1670-1700	1222/trench 2
520	78	small iron hinge pivot/pintle for window or furniture; rectangular section; L 40mm+ Ht 30mm	1612-1650	1222/trench 2
522	81	iron ?lock furniture; flat fitting with rectangular recess for bolt?	1670-1700	1222/trench 2
	82	iron sheet	1670-1700	1222/trench 2
	83	iron buckle	1670-1700	1222/trench 2
	84	iron fitting	1670-1700	1222/trench 2
	85	iron vessel	1670-1700	1222/trench 2
	86	small bone handle; incomplete; L 40mm; widening to bulbous end; pmed	1670-1700	1222/trench 2
522	87	ivory handle for whittle-tang knife/implement; incomplete; L 75mm; pmed	1670-1700	1222/trench 2
	88	iron ?door mount with integral hinge of decoratively rolled up end; incomplete; W 35mm	1670-1700	1222/trench 2
	89	iron rotary key; complete; solid stem and kidney-shaped bow; pmed	1670-1700	1222/trench 2
	90	lead cloth seal with inscriptions; to be seen by Geoff Egan	1670-1700	1222/trench 2
	91	large iron scales/steelyard; incomplete; rectangular-section balance arm; near-complete with hooked and looped end for suspending pan; L 270mm	1670-1700	1222/trench 2
	306	iron whittle-tang knife; incomplete	1670-1700	1222/trench 2
	307	rectangular-section iron fitting with rolled-up finial; incomplete; perhaps window fitting?	1670-1700	1222/trench 2
	3453	bone waste	1670-1700	1222/trench 2
	3454	bone waste	1670-1700	1222/trench 2
523	93	copper-alloy pin	1630-1700	1222/trench 2
	308	small ?moulded iron fitting with pierced central circular expansion: L 40mm; x.04	1630-1700	1222/trench 2
535	118	iron ?buckle	1750-1800	1222/trench 2
	120	iron	1750-1800	1222/trench 2
551	106	wooden alley; Chatham	1750-1800	1222/trench 2
	111	wooden ?broom head	1750-1800	1222/trench 2
	115	ceramic acorn finial	1750-1800	1222/trench 2
605	3182	iron knife; incomplete; whittle tang; cutler's mark "S" above "T"; x1060	1670-1700	1181/trench 1
608	105	George II penny; 1718	pmed	1177/trench 1
610	102	bone syringe head	1670-1690	1182/trench 1
	103	stone alley	1670-1690	1182/trench 1
	104	glass linen smoother	1670-1690	1182/trench 1
649	3323	iron strap	1580-1700	1190/trench 1
656	128	complete copper-alloy thimble; ht. 24mm; diam. 17mm; pmed.	1850-1900	1180/trench 1
	129	copper-alloy	1850-1900	1180/trench 1
	312	copper-alloy waste	1850-1900	1180/trench 1
772	153	composite handle; ?in Chatham for conservation	1670-1700	482/Area A
	154	ivory whittle-tang handle; complete length 78mm; recessed for metal ferrule	1670-1700	482/Area A
1044	188	ivory whittle-tang handle; complete; L 80mm; pmed	1660-1700	940/Area B2
1063	192	double-sided ivory comb; incomplete; ht. 56mm; pmed	1630-1680	241/Area A
	193	ivory whittle-tang handle; near-complete; L 78mm+; bulbous end; pmed	1630-1680	241/Area A
1091	1234	iron rotary key; complete but very corroded; L 100mm; oval bow; would need cleaning/better x-ray to identify further; late med/early pmed	1630-1650	940/Area B2
1121	1238	iron staple	1630-1700	940/Area B2
1135	200	copper-alloy pin	1630-1700	941/Area B2
	201	copper-alloy stud	1630-1700	941/Area B2

1140	395	razor/pocket knife; bone scales partly calcined from contact with fire; handle L 75mm	1630-1680	276/Area A
1268	212	copper-alloy	1240-1350	941/Area B2
3481	458	Nuremberg-type jeton; <b>requires cleaning for id</b>	1580-1650	483/Area A
	459	lead ?disc weight; thin and crude; diam. 35mm; wt. 28g	1580-1650	483/Area A
	461	lead ?pot repair patch; perforated	1580-1650	483/Area A
	462	possibly part of Roman mirror	1580-1650	483/Area A
3672	397	copper-alloy wire	1580-1600	245/Area A
3681	487	bowl and part of stem of large copper-alloy spoon; oval bowl W 48mm L 68mm; flat rectangular-section stem; ?17th century	1670-1690	203/Area C1
3699	472	double-sided bone comb; incomplete; ht. 50mm W 70mm	1670-1800	181/Area C1
3792	3432	bone waste	1230-1300	205/Area C1
3815	499	copper-alloy coin; corroded beyond identification	1670-1690	181/Area C1
	500	ivory whittle-tang handle; decorative groove below flat end; handle L 80mm; pmed	1670-1690	181/Area C1
	1264	iron whittle-tang knife; incomplete; York Type D?; common throughout Anglo-Saxon and medieval periods	1670-1690	181/Area C1
	3529	bone skate; incomplete	1670-1690	181/Area C1
3857	1291	lead	1580-1700	245/Area A
5060	614	bone waste	1690-1730	488/Area C2
8406		iron	1650-1900	996/Area E2
8475	1623	fine ivory whittle-tang handle; near-complete; L 70mm+; bulbous end with raised circle around hole for ?finial, pmed	1670-1690	383/Area E3
	1624	copper-alloy wire	1670-1690	383/Area E3
8588	3285	bone whittle-tang handle; complete; L 92mm; straight with raised edge at end; separate ?threaded bone end; diam. 24mm	1700-1720	396/Area E3
	3292	iron fitting	1700-1720	396/Area E3
8850	1685	copper-alloy	1630-1700	395/Area E3
8923	3255	iron bar/fitting	1580-1650	59/Area E4
8987	3345	copper-alloy	1620-1650	383/Area E3
9075	3257	iron strap	1670-1700	783/Area E4
	3451	ivory whittle-tang handle; complete; rounded end; L 70mm; ?shoulder plate/?decorated bolster	1670-1700	783/Area E4
	3499	double-sided ivory comb; incomplete; pmed	1670-1700	783/Area E4
		bone waste	1670-1700	783/Area E4
9076	3485	bone waste	1580-1650	69/Area E4
9300	3258	iron whittle-tang knife; incomplete; L 105mm	1550-1650	69/Area E4
11365	3199	iron vessel	1240-1350	458/Area F1
12096	3524	bone waste	1670-1690	381/Area G1
12100	3210	iron pintle	1690-1710	381/Area G1
	3416	stone marble/bottle stop	1690-1710	381/Area G1
	3417	stone marble/bottle stop	1690-1710	381/Area G1
12188	3295	iron socketed object	1690-1700	381/Area G1
	3329	iron knife blade; incomplete; small separate ?non-ferrous rivet	1690-1700	381/Area G1
12705	3371	plain triangular-shaped copper-alloy mount or clasp; ?iron rivet still extant; L 35mm	1630-1680	387/Area G1
	3383	copper-alloy wire	1630-1680	387/Area G1
13018	3232	iron rod	1735-1770	54/Area G3
13103		iron	1740-1780	51/Area G3
13104	3233	iron fitting; slightly cupped rounded end; one ?rivet/nail hole; L 105mm W15mm	1720-1780	51/Area G3

**Table 6: metal and small finds from Phase 13**

context	SF	description	pot date (ctp)	group/location
+	646	copper-alloy disc button with starburst design; complete; diam. 16mm		
	1111	copper-alloy disc button with decorated border;		Area E

		complete; diam.35mm		
11	1311	iron sheet/vessel	1770-1800	1233/trench 3
18	43	copper-alloy hook	1770-1800	1232/trench 3
	44	copper-alloy box/furniture mount; cut to fit hinge	1770-1800	1232/trench 3
103	4	copper-alloy pin/wire		1205/trench 2
117	49	iron	1720-1780	1206/trench 2
217	47	bone honey dripper	1850-1900	1170/trench 1
	48	copper-alloy object	1850-1900	1170/trench 1
243	34	composite button; bone back with four holes; openwork copper-alloy front with petal pattern; diam. 23mm; 18th-19th centuries		1152/trench 1
258	1398	square horse-harness iron buckle; complete; 35 x 35mm	1720-1730	1152/trench 1
273	46	copper-alloy button	1790-1800	1150/trench 1
	3286	iron fitting	1790-1800	1150/trench 1
	3287	iron	1790-1800	1150/trench 1
	3419	bone tube; incomplete L 30mm; diam. 13mm; threaded at both ends; small threaded lid at one end	1790-1800	1150/trench 1
354	3339	complete copper-alloy thimble; squashed and badly decayed	1780-1800	1158/trench 1
368	1300	copper-alloy casket/drawer handle; W 66mm	1700-1720	1157/trench 1
388	1317	iron	1740-1800	1160/trench 1
404	59	incomplete stone hone; greensand or chlorite mica schist	1750-1770	1166/trench 1
434	1318	iron	1770-1820	1156/trench 1
439		bone waste	1840-1860	1159/trench 1
443	304	iron pintle; near-complete; L 75mm Ht. 55mm	1770-1800	1161/trench 1
464	1203	iron fitting	1720-1780	1167/trench 1
466	3538	copper-alloy wire	1630-1800	1161/trench 1
683	130	George II, halfpenny; 1743	pmed	1148/trench 1 WB
	131	George II, halfpenny; 1743	pmed	1148/trench 1 WB
	132	George II, halfpenny; 17??	pmed	1148/trench 1 WB
	133	George II halfpenny; 1732	pmed	1148/trench 1 WB
	134	?George I, farthing; 1720	pmed	1148/trench 1 WB
	135	?James I (1603-1625), farthing; harp & crown type; <b>requires cleaning for id</b>	pmed	1148/trench 1 WB
	136	complete copper-alloy thimble; ht. 13mm diam. 15mm; Type III; 18 <sup>th</sup> century?	pmed	1148/trench 1 WB
	137	copper-alloy disc button with integral loop; diam. 25mm; plain but evenly spaced dots along edge	pmed	1148/trench 1 WB
	138	copper-alloy disc button with integral loop; diam. 18mm	pmed	1148/trench 1 WB
	139	bone ?netting needle; incomplete; L 60mm	pmed	1148/trench 1 WB
	140	complete copper-alloy head-dress pin; wire-wound spherical head; thick shank; L 48mm; 15th-17th centuries	pmed	1148/trench 1 WB
	141	copper-alloy		1148/trench 1 WB
	142	long, narrow stone hone; incomplete; schist	pmed	1148/trench 1 WB
	143	copper-alloy ?pin-making waste; numerous short lengths 10-20mm of wire; some sharpened to a point	pmed	1148/trench 1 WB
711	386	copper-alloy	1630-1650	1148/trench 1 WB
753	145	iron bar	1670-1690	239/Area A
	146	copper-alloy button	1670-1690	239/Area A
	383	copper-alloy ?coin	1670-1690	239/Area A
754	1286	copper-alloy	1770-1780	239/Area A
758	149	?18th-century copper-alloy coin; halfpenny	1720-1780	239/Area A
	150	?18th-century copper-alloy coin; penny	1720-1780	239/Area A
759	158	iron barrel hoop		239/Area A
	159	iron barrel hoop		239/Area A
	160	iron barrel hoop		239/Area A
760	3469	bone implement; similar to bone skate but wrong shape/wear	1700-1800	239/Area A
916	175	Victoria, penny; ?1865	1800-1880	472/Area A
	176	copper-alloy coin ; farthing	1800-1880	472/Area A
918	325	wooden spinning top; in Chatham for conservation	1670-1800	470/Area A
	396	"raw" antler whittle-tang handle; near-complete; L 95mm; recess for metal ferrule	1670-1800	470/Area A

	639	thin, narrow stone hone; incomplete; chlorite mica schist	1670-1800	470/Area A
919	687	copper-alloy coin; ?18th-century halfpenny; illegible	pmed	470/Area A
	771	copper-alloy coin; ?18th-century halfpenny; illegible	pmed	470/Area A
1107	202	small copper-alloy head-dress pin; complete; wire-wound spherical head; L 30mm; 15th-17th centuries	1800-1900	938/Area B2
1552	257	series of flat copper-alloy rings partly corroded together in a stack; copper-alloy coins; ?pennies; illegible	1800-1834	567/Area B1
	258	copper-alloy coin; halfpenny; illegible	1800-1834	567/Area B1
	259	copper-alloy coin; halfpenny; illegible	1800-1834	567/Area B1
	260	copper-alloy	1800-1834	567/Area B1
	261	thin circular bone counter/gaming piece; inscribed with the letter "Q"; diam. 24mm	1800-1834	567/Area B1
	262	copper-alloy coin; halfpenny; illegible	1800-1834	567/Area B1
	263	copper-alloy coin; penny; illegible	1800-1834	567/Area B1
	264	large amount of copper-alloy wire and pin-making waste	1800-1834	567/Area B1
	369	whittle-tang knife; ivory pistol-grip handle; handle complete L 85mm; 18 <sup>th</sup> century	1800-1834	567/Area B1
6026	790	straight ivory handle with rounded end; L 80mm; pmed	1720-1760	778/Area D
7009	2512	iron barrel hoops	1760-1770	1062/Area E1
	3539	incomplete rectangular shoe-buckle; ribbon openwork frame, drilled for separate spindle; 18th century	1760-1770	1062/Area E1
8129	1557	bone ?lid; diam. 22mm	1810-1830	335/Area E2-E3
	1753	fragment of threaded bone object	1810-1830	335/Area E2-E3
	2458	copper-alloy coin; <b>requires cleaning for id</b>	1810-1830	335/Area E2-E3
9102	1748	copper-alloy	1780-1820	354/Area E3
9807	2064	wooden alley; Chatham	1701-1710	449/Area F1
	2065	copper-alloy nail or pin?; small flat head diam. 6mm; L 78mm	1701-1710	449/Area F1
	3405	iron ?knife	1701-1710	449/Area F1
9910	1307	unidentified bone and copper-alloy object	1780-1800	449/Area F1
	1310	copper-alloy ?disc trade weight: sunken centre; thick raised edge at back; diam. 38mm; wt. 56g.	1780-1800	449/Area F1
	2109	wooden disc	1780-1800	449/Area F1
	3465	bone waste	1780-1800	449/Area F1
11292	2526	possible lead token; small and crude with a small punched hole; diam. 14mm	1780-1800	459/Area F2/G2
11370		numerous bits of thin iron vessel; one large piece with simple edge and applied ?welded handle; handle simple and straight with three vertical ribs/moulds	1720-1780	68/Area F2/G2
	3452	flat rectangular stone ?hone; incomplete; greensand	1720-1780	68/Area F2/G2
12116	3360	circular copper-alloy mount or fitting; traces of two ?iron rivets; diam. 26mm	1840-1860	385/Area G1
	3395	small lead spoon; complete but stem bent double; oval pointed bowl and square-sectioned stem flattening out to a flat, rounded end; probably 18th century	1840-1860	385/Area G1
12140	2733	bone toothbrush; complete	1810-1820	386/Area G1
	2734	copper-alloy coin; complete but illegible from x-ray	1810-1820	386/Area G1
	3350	composite ferrule	1810-1820	386/Area G1
12146	2972	lathe-turned bone ?needlecase	1800-1830	386/Area G1
	3362	copper-alloy curtain ring; diam. 29mm	1800-1830	386/Area G1
	3363	flat copper-alloy disc button; diam. 28mm	1800-1830	386/Area G1
	3364	complete pewter spoon; long oval bowl; rectangular-section stem with rat tail and flat rounded end; L 165mm; probably 18th century	1800-1830	386/Area G1
12637	3297	large iron door hinge; near-complete; six holes for nails; L 270mm W 63mm	1800-1850	452/Area F2/G2
12820	3399	lead	1835-1860	333/Area G1
	3408	iron vessel	1835-1860	333/Area G1
	3470	flat rectangular bone handle; L 77mm; pmed	1835-1860	333/Area G1
13051	3008	wooden brush; in Chatham for conservation	1765-1780	55/Area G3
	3009	pipeclay figurine of cockerel; flat base; horizontal opening through body; ht. 65mm	1765-1780	55/Area G3

	3502	stone marble	1765-1780	55/Area G3
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**Table 7: metal and small finds from Phase 14**

context	SF	description	pot date (ctp)	group/location
9	318	copper-alloy	1884-1927	1145/trench 1
	319	copper-alloy buttons	1884-1927	1145/trench 1
	320	copper-alloy	1884-1927	1145/trench 1
	323	Victorian halfpenny; 1860	1884-1927	1145/trench 1
	1394	openwork iron lid for vessel; two hinges and decorated handle on top; diam. 130mm	1884-1927	1145/trench 1
	3336	complete embossed copper-alloy ?backplate for handle	1884-1927	1145/trench 1
224	27	copper-alloy halfpenny	1850-1900	1145/trench 1
	28	copper-alloy button	1850-1900	1145/trench 1
	29	tortoiseshell comb	1850-1900	1145/trench 1
	30	copper-alloy penny	1850-1900	1145/trench 1
	31	slate pencil	1850-1900	1145/trench 1
	32	ivory brush handle; complete; "sargent in.erring st"	1850-1900	1145/trench 1
	33	copper-alloy lamp fittings	1850-1900	1145/trench 1
	321	copper-alloy ?curtain ring	1850-1900	1145/trench 1
	322	copper-alloy	1850-1900	1145/trench 1
	3312	George III halfpenny; 1760-1820	1850-1900	1145/trench 1
	3337	copper-alloy furniture handle	1850-1900	1145/trench 1
	3338	copper-alloy	1850-1900	1145/trench 1

**Table 8: unstratified weights**

SF	description	date
758; 2048; 2186; 2322; 2373; and 2565	fishing-net weights of rolled-up lead sheet	?medieval
950; 1156 and 2759	large lead disc weights: SF 950: punched circular depression on both sides; diam. c.54mm; wt. 146g. SF 1156: punched circular depression on one side; diam. 52mm; wt. 220g. SF 2759: diam. 38mm; wt. 114g.	
2192	?disc bullion weight of copper alloy; sunken centre; two raised circles at edge; diam. 45mm; wt. 34g.	
697, 1711 and 1787	small disc/cup weights of lead: SF 697: raised centre; diam. 24mm; wt. 36g. SF 1711: raised edge on one side; diam. 15mm; wt. 6g. SF 1787: near-central circular depression with raised circle; diam. 18mm; wt. 6g.	
2274	small disc/cup weight of copper alloy; ht. 8mm; diam. 19mm; wt. 4g.	
2248, 2533 and 3013	cylindrical lead weights: SF 2248: solid; top broken off; ht. 40mm; diam. 14mm; wt. 46g. SF 2533: central hole; ht. 15mm; diam. 24mm; wt. 62g. SF 3013: rolled with central hole; ht. 33mm; diam. 15mm; wt. 36g.	
859	rectangular-section standing weight; lead with ?iron centre; rounded end with hole for suspension; ht. 44mm; base 9 by 13mm; wt. 32g.	
1758	rectangular pyramid standing weight; hole for suspension; ht. 50mm, base c. 35 by 55mm; wt. 373g.	
2277	?conical lead weight; handle broken off; ht. c.15mm; wt. 10g.	
741	biconical lead weight; ht. 30mm; wt. 74g.	
2231	roundish irregular lead weight with integral handle; ht. 25mm; wt. 43g.	
1858	square brass coin weight; wt. 1-2g.; would need id. at the BM; probably 17th century.	

**Table 9: unstratified coins and jetons**

SF	description	comment
703	silver long-cross penny; medieval	requires cleaning and/or identification
808	copper-alloy token; pmed	requires cleaning and/or identification
853	Nuremberg-type jeton	Area D; requires cleaning and/or id
877	Victorian penny; 1872	

919	silver long-cross penny; medieval; ?14th/15th centuries	Area D; requires further identification
933	Victorian halfpenny; 1881	
954	Nuremberg-type jeton	Area D; requires cleaning and/or id
1034	Nuremberg-type jeton	Area D; needs c requires leaning and/or id
1112	silver long-cross penny; medieval	Area D; requires cleaning and/or id
1113	copper-alloy coin/token; pmed	requires cleaning and/or id
1114	Victorian ½ farthing; 1837-1901	
1195	Nuremberg-type jeton	SW eval trench; requires cleaning and/or id
1481	copper-alloy coin/token; pmed	requires cleaning and/or id
1531	Nuremberg-type jeton	Area F; requires cleaning and/or id
1700	silver long/short-cross penny; medieval; quartered	Area E; requires cleaning and/or id
1741	Nuremberg-type jeton	Area E; requires cleaning and/or id
1797	copper-alloy token; pmed	requires cleaning and/or identification
1869	?lead token; pmed?	Area E; requires cleaning and/or id
1878	silver coin; med/pmed	Area E; requires cleaning and/or id
2027	Nuremberg-type jeton	Area E; requires cleaning and/or id
2240	?lead token; pmed	Area E; requires cleaning and/or id
2473	copper-alloy ?jeton; ?17th century	Area E; requires cleaning and/or id
299	?silver jeton	requires cleaning and conservation
2621	George IV farthing; 1825	Area G
2660	George IV farthing; 1821-1826	Area F/G
2661	copper-alloy coin; pmed	Area F/G; requires cleaning and/or id
2716	copper-alloy ?token; pmed	Area G; requires cleaning and/or id
2770	copper-alloy coin; ?18th century	Area F; requires cleaning and/or id
2831	Nuremberg-type jeton; complete but bent	requires cleaning and/or identification
3307	?James I silver coin	requires cleaning and/or identification
3308	silver long-cross penny; medieval	requires cleaning and/or identification





## APPENDIX 11: IRON SLAG AND OTHER HIGH TEMPERATURE DEBRIS

By Lynne Keys

### Introduction and methodology

A medium assemblage (just under 60kg) of iron slag and other debris was examined for this report. This is probably 90% of the entire assemblage (18 boxes) recovered mostly by hand on site.

The material was examined by eye and categorised on the basis of morphology alone. Each slag or other material type in each context was weighed; smithing hearth bottoms were individually weighed and measured to obtain statistical information. Quantification data are given in the table below in which weight (wt.) is shown in grams, and length (len.), breadth (br.) and depth (dep.) in millimetres.

### Quantification table

		Tabard Square, Southwark	LLS02			
cxt	^no.	identification	wt.	len	br	dep comment
13	1	undiagnostic	230			
124		hammerscale	10			flake & tiny spheres
124		smithing hearth bottom	466	110	85	60
124		smithing hearth bottom	223	100	70	45
124		smithing hearth bottom	266	-	-	60 fragment
124		smithing hearth bottom	500	130	90	50
124		smithing hearth bottom	516	120	95	65
124		smithing hearth bottom	283	120	70	35
124		smithing hearth bottom	194	80	80	45
124		smithing hearth bottom	286	110	70	40
124		undiagnostic	2793			some pieces of smithing hearth bottoms?
124		undiagnostic	3654			
134		cinder	170			runny
134		ferruginous concretion	130			with slag
134		furnace structure	3359			fragments
134		run slag	306			
134		sandstone	311			
134		smithing hearth bottom	1035	160	140	65
134		smithing hearth bottom	342	190	105	60
134		undiagnostic	935			slag conglomerate
144		cinder	29			
144		glass slag	90			
144		smithing hearth bottom	590	150	130	65
144		smithing hearth bottom	587	120	90	70
144		undiagnostic	369			
144		vitified hearth lining	50			
193		undiagnostic	208			smithing slag?
193		vitified hearth lining	128			
194	17	undiagnostic	59			
258		undiagnostic	122			
271		burnt coal	49			
758		fuel ash slag	26			
758		smithing hearth bottom	259	80	80	40

758	undiagnostic	558				coal as fuel
758	undiagnostic	769				
765	smithing hearth bottom	167	90	50	30	
838	undiagnostic	298				
838	vitriified hearth lining	229				
843	cinder	29				
856	vitriified hearth lining	22				
918	smithing hearth bottom	756	130	100	65	
918	smithing hearth bottom	204	90	75	35	
918	smithing hearth bottom	312	105	90	45	
918	smithing hearth bottom	833	155	105	75	
918	undiagnostic	696				three pieces
918	undiagnostic	25				lots
922	iron nail	1				
922	smithing hearth bottom	657	120	100	65	
922	undiagnostic	84				
1019	vitriified hearth lining	207				
1035	smithing hearth bottom	204	105	67	20	
1035	smithing hearth bottom	632	130	120	85	
1035	smithing hearth bottom	267	105	85	35	
1035	vitriified hearth lining	15				
1129	iron lump	86				
1140	undiagnostic	46				
1209	smithing hearth bottom	367	190	90	34	incomplete
1209	undiagnostic	411				includes some vitriified hearth lining
1268	smithing hearth bottom	92	60	50	20	
1299	smithing hearth bottom	180	80	60	35	
1299	smithing hearth bottom	198	90	70	35	
1299	smithing hearth bottom	164	85	65	30	
1299	smithing hearth bottom	149	75	60	40	
1299	smithing hearth bottom	910	150	110	70	
1299	undiagnostic	808				
1299	vitriified hearth lining	95				
1299	vitriified hearth lining	89				
1341	vitriified hearth lining	26				
1386	iron-rich undiagnostic	2550				**
1386	smithing hearth bottom	249	90	60	45	
1386	smithing hearth bottom	420	100	85	50	
1386	smithing hearth bottom	612	125	80	55	
1386	smithing hearth bottom	309	95	80	45	
1386	smithing hearth bottom	257	105	60	50	
1386	undiagnostic	630				
1386	undiagnostic	827				part of smithing hearth bottom?
1386	vitriified hearth lining	775				
1386	vitriified hearth lining	136				
1448	smithing hearth bottom	483	130	80	50	
1466	undiagnostic	36				
1468	smithing hearth bottom	220	80	70	40	
1475	vitriified hearth lining	125				

1510	undiagnostic	316				
1552	burnt coal	12				
1552	iron	98				
1552	smithing hearth bottom	642	110	90	60	
1552	vitified hearth lining	72				
1703	undiagnostic	39				
1888	vitified hearth lining	87				
1889	vitified hearth lining	77				
2037	undiagnostic	86				
2885	opsig mortar	398				one piece; Roman
2885	undiagnostic	633				smelting?
3048	vitified hearth lining	82				
3443	vitified hearth lining	66				
3470	smithing hearth bottom	105	80	50	25	incomplete; charcoal as fuel
3742	smithing hearth bottom	335	105	85	40	
3742	undiagnostic	94				probably smithing slag
3792	smithing hearth bottom	375	110	90	50	
3802	smithing hearth bottom	1181	140	100	65	
3828	vitified hearth lining	112				
4048	cinder	9				
4048	smithing hearth bottom	283	110	85	40	
4048	undiagnostic	27				
4095	undiagnostic	88				iron inclusion
4452	undiagnostic	66				
5033	burnt coal	92				cindery
5082	undiagnostic	353				
5252	vitified hearth lining	229				
5260	undiagnostic	90				
5915	smithing hearth bottom	379	90	90	50	
5915	smithing hearth bottom	1056	130	130	80	
5915	undiagnostic	99				
5987	undiagnostic	701				probably smithing slag
6136	run slag	191				high silica content
6136	vitified hearth lining	36				
6228	smithing hearth bottom	335	85	80	50	
6236	vitified hearth lining	187				
6307	vitified hearth lining	74				
6388	undiagnostic	524				vitified hearth lining adhering
7009	undiagnostic	351				
7167	copper alloy & mortar	428				
7222	smithing hearth bottom	177	85	70	30	
7238	vitified hearth lining	16				
7255	vitified hearth lining	221				
7385	ferruginous concretion	47				
7564	iron-rich undiagnostic	79				
7564	vitified hearth lining	20				
7769	undiagnostic	434				
7797	vitified hearth lining	17				
7847	undiagnostic	252				

7975	undiagnostic	22				
8055	iron	97				
8129	undiagnostic	104				tiny coal inclusions
8265	coal	3				
8277	undiagnostic	108				
8378	smithing hearth bottom	88	65	60	30	
8378	undiagnostic	631				
8468	nail	6				
8468	undiagnostic	170				part of smithing hearth bottom?
8854	slagged coal	19				pmed?
9133	slagged coal	5				
9220	undiagnostic	69				
9220	vitrified hearth lining	205				
9311	undiagnostic	529				may be glassmaking slag
9628	hammerscale	5				and smithing slag
9628	smithing slag	20				and hammerscale spheres
9738	vitrified hearth lining	202				
9807	undiagnostic	117				
9910	cinder	339				
9910	coal	232				
9953	undiagnostic	34				
9986	fuel ash slag	42				
9986	smithing hearth bottom	160	90	85	30	
9986	smithing hearth bottom	79	60	45	30	
9986	undiagnostic	54				
9986	vitrified hearth lining	223				
10237	undiagnostic	57				
10551	cinder	7				
10551	fuel ash slag	10				
10551	iron	66				
10551	smithing hearth bottom	424	135	90	50	
10551	smithing hearth bottom	356	100	90	30	
10551	undiagnostic	268				part of smithing hearth bottom?
10551	undiagnostic	489				
10551	vitrified hearth lining	422				
10705	fuel ash slag	6				
10705	smithing hearth bottom	778	150	105	55	
10705	undiagnostic	30				
10705	vitrified hearth lining	41				
10862	smithing hearth bottom	244	90	75	40	
11209	undiagnostic	82				with Cu alloy
11571	smithing hearth bottom	448	90	85	50	
11677	undiagnostic	60				
11776	undiagnostic	106				
12028	vitrified hearth lining	117				
12064	2728 natural concretion	27				
12064	2729 ferruginous concretion	24				and natural concretion
12064	2731 natural concretion	84				
12064	2732 ferruginous concretion	34				

12097	cinder	10			
12097	undiagnostic	266			
12200	vitrified hearth lining	18			
12325	vitrified hearth lining	82			
12574	smithing hearth bottom	750	120	105	45
12592	cinder	34			
12592	smithing hearth bottom	554	110	85	60
12592	undiagnostic	339			
12916	smithing hearth bottom	664	130	110	65
13121	cinder	36			
13121	undiagnostic	84			probably smithing slag
13190	undiagnostic	23			cindery run
13219	iron-rich undiagnostic	25			
13451	litharge	486			or heavy bronze

### Explanation of terms and iron working processes

Activities involving iron can take two forms:

1) *Smelting* is the manufacture of iron from ore and fuel in a smelting furnace. The resulting products are a spongy mass called an unconsolidated bloom (iron with a considerable amount of slag still trapped inside) and slag (waste). The latter may take various forms depending on the technology used: tap slag, run slag, dense slag, or furnace slag.

2a) *Primary smithing*: hot working (by a smith using a hammer) of the bloom on a stringhearth (usually near the smelting furnace) to remove excess slag. The bloom becomes a rough lump of iron ready for use; the slags from this process include smithing hearth bottoms and micro-slags, in particular tiny smithing spheres.

2b) *Secondary smithing*: hot working, using a hammer, of one or more pieces of iron to create or repair an object. As well as bulk slags, including the smithing hearth bottom, this generates micro-slags: hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) or tiny spheres from high temperature welding to join or fuse two pieces of iron.

Much of the slag in the assemblage was undiagnostic, i.e. could not be assigned to either smelting or smithing because of its morphology or because it had been broken up during deposition, re-deposition or excavation. Other types of debris in the assemblage may be the result of a variety of high temperature activities - including domestic fires - and cannot be taken on their own to indicate iron-working was taking place. These include fired clay, vitrified hearth lining and cinder.

The slag type described as 'smithing hearth bottom' is a plano-convex shaped slag formed as a result of high temperature reactions between the iron, iron-scale and silica from either a clay furnace lining or the silica flux used by the smith. The iron silicate material from this reaction slag dripped down into the hearth base forming slag which, if not cleared out, developed into the smithing hearth bottom. Before it could grow large enough to block the tuyere hole (where the air from a bellows entered the hearth) the smithing hearth bottom was removed and dumped in the nearest pit, ditch or unused area. The proximity of cut features or dumps with amounts of smithing hearth bottoms to a building is often a good indication the structure may have been used for smithing activity. In looking for foci of smithing, the number of smithing hearth bottoms in features in an area is taken into account. In the Roman period, however, bulk slag (including smithing hearth bottoms) were often collected in an area near the smithy for collection by a civic authority for use as metallurgy on roads, bridgeheads and other open surfaces requiring re-inforcement. Because of this possible absence of bulk slag from areas of smithing it is necessary to look more closely at the evidence and assess other types of slag (particularly hammerscale) and where they were located.

### Discussion of the assemblage

All the diagnostic slag was produced by secondary smithing and is most evident in Roman Phases 4 and 5 and in post-medieval Phases 11, 12 and 13. These are periods where evidence for iron working has previously been found in Southwark.

#### Roman

In Phase 4, Groups 1020, 1026 and 1127 in Area E1 are of most interest. In Phase 5, it is mainly Groups 249 and 669 in Area A.

#### Post-medieval

Phase 11, Groups 268 in Area A and 9628 in E4 are of most interest. In Phase 12, Trench 2, Groups 1211 1218 are of particular interest (although further work may relate others to the activity). In Phase 13, Groups 239, 470 in Area A are of interest but, again, other contexts may be spatially associated with these.

#### **Recommendations for further work**

If necessary, the rest of the assemblage should be examined before any publication work is undertaken.

Complete contextual information and details of parent contexts will be required before further work can be undertaken.

The spatial relationship of some features to others will probably be required and so plans or other visual information will be required.

## APPENDIX 12: STRUCK FLINT ASSESSMENT

By Barry Bishop

### Introduction

Excavations at the above site resulted in the recovery of a total of 291 prehistoric struck flints. This report quantifies and describes this material, assesses its significance and recommends any further work required for it to achieve its full research potential. It was recovered from a variety of contexts, most came from relatively undisturbed prehistoric soil horizons whilst a substantial minority came from Roman or later features, and these may be regarded as residual. A full catalogue detailing the distribution of struck flint by individual context is presented in Appendix 1

### Quantification and Distribution

	Primary/preparation Flakes	Maintenance/ modification flakes	Useable flakes	Squat Flakes	Other specialised flake/blade	Chips (< 15mm max dimension)	Flake Fragments < 10mm	Flake Fragments > 10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Blade/Narrow Flake Core	Flake Core	Minimally Reduced Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	
Prehistoric Deposits and Features No.	23	12	17	3	0	13	6	12	1	4	13	20	24	6	3	4	4	0	1	0	1	0	0	1	4	3	1	
%	13.1	6.8	9.7	1.7	0.0	7.4	3.4	6.8	0.6	2.3	7.4	11.4	13.6	3.4	1.7	2.3	2.3	0.0	0.6	0.0	0.6	0.0	0.0	0.6	2.3	1.7	0.6	
Peat	1	0	1	0	0	0	0	0	0	0	0	2	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0
Roman and Later Features No.	21	5	12	0	1	4	1	4	0	4	18	7	15	0	0	1	1	1	1	2	1	1	4	0	5	0	0	
%	19.3	4.6	11.0	0.0	0.9	3.7	0.9	3.7	0.0	3.7	16.5	6.4	13.8	0.0	0.0	0.9	0.9	0.9	0.9	1.8	0.9	0.9	3.7	0.0	4.6	0.0	0.0	

Table 1: Quantification of Lithic Material

The struck material was distributed across the site within both prehistoric and later features (see Table 1). Most came from pre-Roman soil horizons and a few possible prehistoric features (Phases 1 and 2), these providing 175 pieces or just over 60% of the assemblage. Within the soil horizons, the material was mostly evenly distributed and at low densities. No *in situ* knapping scatters were identified although further examination of the spatial distribution may reveal broader activity foci or preferred areas of occupation. The overlying peat horizon contained relatively few struck flints, these being limited to just six pieces that, as far as could be deduced from such a small sample, were similar to the material from the underlying prehistoric soil horizons and may well have been redeposited from them. Roman and later features provided the remainder of the material and this could be regarded as residual, it also probably originating from the prehistoric soil horizons and perhaps from truncated prehistoric features.

### Raw Materials

All of the struck material consisted of flint or cherty flint which varied considerably in colour, ranging from translucent browns and blacks to opaque oranges, browns, greys and black. Some 'Bullhead Bed' flint was also utilized. Two broadly differing types of raw materials, as identified from surviving remnants of cortex, were utilized. The most common comprised rounded pebbles with a smooth, hard and grey stained cortex. The other consisted of more-irregularly shaped nodules with a thicker and softer, but still extensively weathered, chalky cortex. The knapping potential of the rounded pebbles was limited but this



would have been offset by their ease of procurement, as they would have been readily obtained from the local terrace gravels. The second type appeared to have been of better knapping quality and may have been brought to the site from sources located nearer the parent chalk, although it is quite possible that similar cobbles would have been present, at least in localized patches, within the local terrace gravels.

#### Condition

The condition of the struck flint varied considerably. That from the prehistoric soil horizons and features was predominantly in a good, often sharp, condition and this would indicate that, apart from limited trampling and abrasion caused by settling within the sandy soils, they were recovered from close to where originally discarded. The material from the Roman and later features was in a much more variable condition with a number of these pieces exhibiting at least slight edge chipping and abrasion, as would be consistent with their residuality. It is interesting to note that the assemblages from the Roman and later features contained lower proportions of broken pieces than those from the prehistoric phases, despite the former material being redeposited. It is possible that this discrepancy reflects differences in the recovery methods, with more attention being given to recovering even very small flake and blade fragments from the prehistoric phases than was warranted whilst excavating the later features.

#### Description

The struck flint exhibited a variety of technological traits and had evidently been manufactured over a long period. Possibly the earliest pieces comprised a number of systematically produced blades that were noticeably larger than the others recovered from the site. Many of these were over, or if broken, potentially over, 100mm in length. Probably associated with these was a cylindrical blade core from Palaeosol [1632] that also exceeded 100mm in length. Blades and blade cores of this length are rarely encountered in north Southwark, where raw materials generally constrain the size of flint implements. They are perhaps most comparable with early Holocene or perhaps even late Glacial assemblages which are typically dominated by large and carefully produced blades. Such assemblages are rare within the London region although an Early Mesolithic site was excavated at the B&Q site on the Old Kent Road, and even rarer late Glacial assemblages have been recorded at Uxbridge and other sites on the west London gravel terraces (eg Lewis 1991).

The only diagnostic implement of Mesolithic date consisted of a truncated blade from Palaeosol [1632], whilst the recovery of a leaf-shaped arrowhead from Phase 3 pit [11312] indicated activity at the site continued into the Early Neolithic. Also of note were the two polished axes, one of flint from the palaeosol and the other of an exotic stone from unstratified contexts, both being of Neolithic date. The site also produced a relatively high proportion of blades, these forming over 23% of the assemblage. Associated with these were the blade-like flakes, which contributed a further 13%, and blade cores formed over 40% of the cores that were recovered. Blade-based reduction strategies are characteristic techniques of Mesolithic or Early Neolithic industries and, taken together, these pieces indicate that the bulk of the assemblage probably belongs to these periods. The retouched component, which formed over 7.5% of the assemblage, was dominated by scrapers of indeterminate date, but many of the other pieces, such as some of the serrates and edge trimmed pieces, were manufactured on blades and these were also likely to be of Mesolithic or Early Neolithic date.

No diagnostic pieces that could confidently be placed within later periods were identified but a small but nevertheless significant proportion of the assemblage did consist of rather crudely produced flakes, core tools made on thermal blanks and minimally and randomly reduced cores, which may indicate later, probably Bronze Age, activity at the site.

#### Significance

The struck flint assemblage is informative and has the potential to further contribute to the study of prehistoric occupation in north Southwark as well as to broader, regional, research questions and themes. It is of moderate to large size for the area, and predominantly originates from a preserved prehistoric soil horizon that extends across many of the islands in north Southwark.

The identification of possible late Glacial flintwork is of great significance as no definite cultural evidence from this period has so far been identified in Greater London, despite a number of sites of this date having

been recorded to the west in the Heathrow area and at other locations in the surrounding regions (eg Barton 1991; 1998). These sites indicate that during that during the late Glacial and early Post-glacial periods activities involving flint use were largely confined to the river valleys, and similar sites may be expected along the margins of the Thames in the London region, where suitable deposits have survived.

Most of the struck flint from this site was probably of later Mesolithic or Early Neolithic date. Mesolithic activity is slightly better attested in north Southwark; an *in situ* scatter has been recorded at the B+Q site on the Old Kent Road (Sidell *et al* 2002) and numerous diagnostic implements of this period have been found on the islands of north Southwark (eg Proctor and Bishop 2002). Early Neolithic flintwork is more rarely encountered and of particular significance are the two polished axes, not least the exotic stone axe, which must have come from a distance source. Numerous stone axes have been recovered from the Thames, including along the Southwark/City stretches, but these are rarely encountered during excavation although, intriguingly, a polished flint and a polished stone axe were recovered during excavations at the Bricklayers Arms Railway Yard on Rolls Road, approximately 1.5km to the southeast and located in a comparable topographical setting (Cotton 1991). These were apparently deposited into a lake and the deposition of polished axes is often accompanied by ritual or ceremonial activity, particularly that associated with 'watery' places. Bearing in mind the presence of a springline at the site and its later religious use during the Roman period, it is tempting to suggest that the presence of these axes at the site was in some way connected to this.

There was limited evidence from the lithic assemblage for activity at the site following the Early Neolithic, although the presence of a small component of crudely produced flakes and opportunistically worked cores may indicate some flint use during the Bronze Age, perhaps associated with the agricultural use of the site as evidenced by the ardmarks.

#### Recommendations

Due to its significance and its potential to contribute to wider studies concerning the prehistoric occupation of north Southwark and add to any future syntheses of the prehistory of this area, it is recommended that the assemblage is examined in greater detail and fully described for publication. This would involve characterizing the overall assemblage with particular attention being paid to describe the more notable pieces, such as the possible Late Glacial flintwork and the Neolithic axes, and placing these in the context of comparable finds from the area. The stone axe should be offered to the Implement Petrology Group to determine its suitability for provenancing. There should also be an examination of the spatial distribution of the struck flint and its relationship to the prehistoric topography of the area. Additionally, there should be considerations of the chronological changes in typology and technology with the aim of investigating and charting changes in flint use at the site, particularly the possible ceremonial aspects of the Neolithic assemblage but also the nature of occupation at the site during earlier periods as well as the possible use of flint within the agricultural landscape of the Bronze Age.

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## APPENDIX 13: BURNT FLINT ASSESSMENT

By Barry Bishop

### Introduction

Excavations at the above site resulted in the recovery of just under 13kg of burnt stone fragments. This report quantifies and describes this material, assesses its significance and recommends any further work required for it to achieve its full research potential. It was recovered from most of the provisional phases identified by the excavator although it was predominantly present within the Phase 2 prehistoric layers. A full catalogue detailing its distribution within individual context is presented in Appendix 1

Phase	Burnt Stone (g)	Burnt Stone (No.)
1	164	19
2	8502	732
3	1972	109
4	763	53
5	247	32
6	384	30
7	165	12
8	225	11
9	62	7
10	259	19
11	221	3
12	9	1
13	0	0

Table 1: Distribution of Burnt Stone by Provisional Phase

### Description

The burnt stone principally consisted of heat-affected flint with a few burnt quartzite pebbles also present. The degree that these had been heated did vary; most had been intensively burnt, resulting in the flint becoming uniformly grey-white and severely fire crazed, whilst the quartzite had turned red or, in some cases, white and very friable.

### Distribution

Burnt stone was recovered from all but the recent of the phases provisionally identified by the excavator, although by far the largest quantities came from the Phase 2 prehistoric soil horizons (see Table 1). Within the soil horizons there were some notable concentrations, such as within and around grid squares 112/275 or 103/257 in Areas A, B1 and C1 amongst others. It is likely that these represent the locations of disturbed hearths or dumped hearth material and an actual hearth was identified, as context [2169] in grid square 110/275, which produced just over 2kg of burnt stone. Only one Phase 2 feature, pit [2625], produced any significant quantities of burnt stone. This produced almost 1.5kg of intensively burnt stone and it may represent a dump of intentionally burnt material or possibly even an *in situ* cooking-pit.

Small quantities were present in the Phase 1 natural deposits, where it presumably intruded from the overlying Phase 2 deposits. More-substantial quantities were present in Phase 3, nearly all coming from the peat deposits, although it is uncertain whether this represents material redeposited from the earlier prehistoric soil horizons or indicates continued activity at or near the site during the period that the peat was forming. The burnt stone from the Phase 3 features and the later phases was generally found in small

quantities within a variety of feature types. This may reflect the incidental and sporadic production of burnt stone during the Roman and later periods, but there was no clear evidence for its deliberate production or use. Much of it was possibly redeposited from the earlier, prehistoric, periods and it is perhaps significant that the largest individual quantities from these phases were recovered from dumps, levelling layers and soil horizons, all of which may have retained residual material.

#### Significance

Burnt stone can arise from the incidental burning of naturally occurring pebbles during hearth use. Although this might explain some, perhaps even most, of the material recovered here, the quantities present and the intense degree of its burning would suggest that at least some of it may have deliberately heated. This could arise from the use of stone for lining hearths, although as most of what recovered was flint, which tends to explode when heated, it would seem unlikely that this was routinely practiced. The deliberate heating of flint is often documented from prehistoric sites and a variety of reasons have been forwarded for its production, including for cooking and a variety of craft and industrial processes (eg Barfield and Hodder 1987; Barfield 1991; Jeffery 1991).

#### Recommendations

The burnt stone is of importance in that it may provide evidence for the extent and location of prehistoric activity and hearth use at the site, as well as help elucidate the range of activities that were conducted there. It is therefore recommended that its spatial distribution is plotted and its significance included in any consideration of the prehistoric occupation at the site. This information will primarily relate to the Phase 2 prehistoric occupation but plotting its distribution will have the additional benefit of elucidating the extent that the burnt stone from earlier/later phases is intrusive/residual or contemporary.

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## APPENDIX 14: FLINT BUILDING MATERIAL ASSESSMENT

By Barry Bishop

### Introduction

During the excavations at the above site a number of dressed (struck) flint nodules and flakes struck from similar nodules were recovered. This material was interpreted as representing flint building material and it was recovered from a variety of contexts dateable to the Roman and the post-medieval periods. This report quantifies and describes this material and recommends any further work required for it to achieve its full research potential.

### Quantification

Context	Date	Type	Weight (g)	Function
518	Post-medieval	Nodule	375	Road Metalling
518	Post-medieval	Nodule	270	Road Metalling
518	Post-medieval	Nodule	305	Road Metalling
518	Post-medieval	Nodule	310	Road Metalling
518	Post-medieval	Nodule	580	Road Metalling
522	Post-medieval	Nodule	310	Road Metalling
522	Post-medieval	Nodule	580	Road Metalling
522	Post-medieval	Nodule	315	Road Metalling
551	Post-medieval	Nodule	295	Road Metalling
552	Post-medieval	Nodule	585	Road Metalling
825	Post-medieval	Nodule	565	Road Metalling
916	Post-medieval	Nodule	1300	Road Metalling
1552	Roman	Nodule	330	Dressed wall stone
9343	Post-medieval	Nodule	115	Road Metalling
9343	Post-medieval	Nodule	95	Road Metalling
9878	Post-medieval	Nodule	225	Road Metalling
9878	Post-medieval	Nodule	135	Road Metalling
9878	Post-medieval	Nodule	385	Road Metalling
9937	Post-medieval	Nodule	585	Road Metalling
11031	Roman	Flake	160	Waste from dressing wall stone
11031	Roman	Flake	235	Waste from dressing wall stone
11031	Roman	Flake	175	Waste from dressing wall stone
11675	Roman	Nodule	1855	Dressed wall stone

Table 1: Description of Flint Building Materials

### Description

The flint building material can be divided chronologically. The material from Roman contexts consisted of two large nodules that had been deliberately but crudely dressed into rough cube shapes, along with three large flakes that probably originated from the shaping of similar nodules. The flakes and nodules consisted of translucent black flint with frequent grey 'swirly' inclusions and a rough but weathered cortex. They had been thermally fractured and they would be typical of flint from superficial deposits, the flints' colour and cortex being particularly reminiscent of North Downs flint. Flint nodules were used as foundation material in Roman stone walls, it being used in the City's perimeter wall foundations for example, but its use as dressed facing stone in London is less commonly attested. It is possible that here, the flint was brought in for other purposes, such as ballast, and opportunistically used as a building material.

The medieval material consisted of similar types of raw materials and a similar source may be expected. It all consisted of rounded cobbles, only sometimes flaked into shape, and these had up to 50% of their surface smoothed and 'polished', and covered by densely packed incipient Hertzian cones (chattermarking). This attrition was caused by repeated wear and battering and suggesting that these cobbles were used as road metalling (stone sets). The attrition was sometimes visible on two discrete surfaces, suggesting that in some cases they had been reused or repositioned.

#### Recommendations

No further analytical work is recommended but mention should be made of use of these building material types in any published account of the excavations.

**Appendix 1: Catalogue of Struck Flint and Burnt Flint by Context**

Context No	Sample	Flakes	modification flakes	Useable Flakes	Squat Flakes	Flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt Flint (#)	Burnt Flint No
2100	114/270			1			4	4									1										16	Well made small LES	4	1	
4895												1													2		3	Very well made large convex short-end: small arced end	12	1	
2299	101/262																							1			1	Very nice elaborate	23	1	
8154		2									2	2															6	Very much like [8942]			
7265																				1							1	Very crude on thermal spall – poss. Natural			
953													1														1	Thermal ventral			
2983					1						1																2	Sort of crested flake			
4326																								1			1	Small thumbnail type			
2750	117/266														1												1	Small (14g) extensive random			
13159																						1					1	Several flakes removed from DD on 1st flake			
4158	111/253																								1		1	Serrations and rounding from wear on Right lateral margin and blunting on left, for handling/hafting			
2100	114/273											1															1	Poss. Truncated			
4688	SF 546											1															1	Poss. Truncated			
2806	095/270			1																							1	Poss. Edge-trimmed along DD			
US	Tr 1 SF 26																		1								1	Polished stone axehead			
2750	114/265											1					1								1		3	Petit SES on BLF			
4944		1																							1		2	Part of one margin serrated			
1632	113/269-114/270	2	1		1	1					3	2															10	One BLF has poss. ET after recort. Also all recort except SqF			
4014	115/260	2																									2	One 1st flake poss. Crested			
2100	115/265			1																					1		2	Nice convex short end scraper			
8379																									1		1	Nice convex short end scraper			
2658				1						1				2	2	1											7	Nice ‘front and back’: FC small (15g) extensively reduced; Min core ‘testing nodule’ burnt: Resembles handaxe/adze: Core is exhausted opposed platform 60mm	152	14	
2299	096/269															1											1	Min. core Thermally shattered			
2100	114/274											1															1	Med blade frag. Uitl? Delib fracture?			
1771	118/274	1																									1	MBA+			
1771	119/275																1										1	MBA+			
3363																1											1	MBA+	13	2	
11311	SF 2524																1										1	LSA not recort.!			



Context No	Sample	Flakes	modification Flakes	Useable flakes	Squat Flakes	flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt flint (g)	Burnt Flint No
8942				2							4																	Large blades! From 6 same nodule!			
3783																								1				Finely worked circular scraper			
12587				1																					1			End scraper broken and scar inversely retouched and with 2 notch on LD			
7584																												Distal of narrow flake with crude denticulations around all margins - ?			
2299	098/261			1																								1 Crudely crested blade			
US	105/240							1																	1			2 Crude side scraper			
3094																												1 Crude scraper on thermal spall			
2299	095/267			1																								1 Core-tablet	2	1	
1632	114/269			1		1	1					1	1													1	6	Core tablet; Cylindrical, opposed platform, c100mm long, probably abandoned at early stage due to thermal flaws			
2658	112/263												1	1														2 Core is large 'front and back' 83mm; BLF from the core?			
2404	110/272							1																				1 Burnt			
9389	SF 2022																											1 Bulbar blade fragment with 'bruising' around edges and smooth worn bulbar end			
10593																												1 Broken Blade/BLF lightly trimmed on both margins			
2806	102/262										1																	1 Blade=91mm			
2484	111/267										1	1																2 Blade=>59mm			
3445																												1 Blade with very oblique truncation to LD near distal and RD near bulbar			
4158	113/254																											1 Blade of polished flint axe			
4462	110/240			1							1																	2 Blade has poss. Notch cut into it – may be accidental			
2227	116/226											1																1 Blade core thermally shattered	1	1	
2484	109/271			1																								1 BH flint; bad thermal fault			
10708	SF 2383																											1 Amazing-some type of piercer?			
3440											1																	1 84X30X4mm	50	3	
10329				1								1																2 1st flake= 113X70mm!	156	21	
2484	112/268										1																	1 129X36X7mm!			
1436												1																1 >84X25X8			
2624	112/274											1																1 >77mm	1490	71	
8787												1																1 >67mm, poss.			

Context No	Sample	Flakes	modification flakes	Useable flakes	Squat Flakes	flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt flint (g)	Burnt Flint No
																												'bruised' sides			
2299	096/270														1												1	?Blade core thermally shattered	6	1	
2299	88			3							1	1	1														6	?blade core thermally frag: Most mineral stained			
US	100/258																										0		19	5	
US	105/265											1															1				
US	115/240										1																1				
US	118/276							1																			1				
US	125/295			1							2																3				
5121												1															1				
2042	119/269																1					1					2				
2042	119/271																										0		5	1	
2042	119/274																										0		2	3	
2042	120/269	1																									1				
2042	122/267	1																									1		5	1	
2658	109/268												1														1				
2658	112/269									1																	1				
765										1	1	1															2		38	2	
912		1						1																			2				
1306				1																							1				
3742																											0		55	1	
4116																											0		18	1	
4257											1																1				
4708																											0		38	1	
5116			1																								1				
5181																											0		14	1	
5832													1														1				
11571																											0		1	6	
12800				1																							1				
13205																											0		95	7	
1117																											0		220	1	
6234																											0		1	2	
10124												1															1				
10522										1																	1				
407																											0		9	1	
919			1																								1				
1549	111/276																										0		43	2	
1549	111/277				1																						1				
1549	112/274																										0		65	4	
1549	112/275																										0		560	53	
1549	112/276																										0		115	10	
1549	113/276																										0		71	19	
1549	113/278																										0		30	5	
1549	114/276					1																					1				
1549	114/277																										0		89	3	
1549	114/279																										0		20	1	
1549	115/278																										0		30	1	
1602	114/269						3				1	1															5				
1632	112/172	1																									1		12	2	
1632	112/173																										0		6	1	
1632	112/273																										0		25	5	
1632	112/274																										0		615	51	
1632	113/264		1																								1				
1632	113/272																										0		3	2	
1632	113/273																										0		14	2	

Context No	Sample	Flakes	modification	Useable flakes	Squat Flakes	flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt flint (g)	Burnt Flint No
1632	113/274																									0		278	38	
1632	114/264					1	1																			2		145	8	
1632	114/267											1														1				
1632	114/275	1																								1				
1632	115/264										1															1		13	8	
1632	115/272			1																						1				
1632	115/275	1		1																						2				
1632	115/277																									0		37	5	
1632	117/269											1														1				
1632	117/270											1														1				
1771	118/272																									0		1	1	
1771	119/269			1		1										2										4				
1771	119/271		1																							1				
1771	120/266		1																							1				
1771	120/269											1														1				
1771	120/271																									0		1	1	
1771	120/272	1																								1				
1771	121/267	1		1																						2				
1845	116/267											1														1		1	1	
1923	118/278																									0		1	1	
2100	112/273																									0		35	2	
2100	112/274										1															1		69	3	
2100	112/275																									0		185	25	
2100	113/269					1	1			1	2	1														6				
2100	113/274																									0		35	1	
2100	114/269		1				1	2			1	1														6				
2100	114/271						1																			1		2	1	
2100	114/272	1																								1				
2100	114/275																									0		52	6	
2100	115/266	1																								1				
2100	115/274							1																		1				
2100	117/268											2														2		6	1	
2100	117/269											1														1				
2100	118/267																									0		8	1	
2100	116/269			1																						1				
2101	115/266									1																1		4	1	
2101	S99							1																		1				
2169	75																									0		1265	91	
2299	094/270											1														1				
2299	095/270																									0		9	1	
2299	096/267																									0		18	1	
2299	097/262																									0		10	1	
2299	097/264																									0		49	1	
2299	097/270											1														1				
2299	098/262																									0		6	1	
2299	098/268																									0		15	1	
2299	098/269																									0		4	1	
2299	098/272			1																						1		1	1	
2299	099/250																									0		38	3	
2299	099/251																									0		37	6	
2299	099/270											1														1				
2299	100/263																									0		5	1	
2299	101/257																									0		44	4	
2299	101/260					1																				1				
2299	102/252																									0		16	1	
2299	102/255																									0		41	6	

Context No	Sample	Flakes	modification	Useable flakes	Squat Flakes	flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt flint (g)	Burnt Flint No
2299	102/256																										0		195	19	
2299	102/261																											0		3	1
2299	103/253																											0		14	2
2299	103/256																											0		28	3
2299	103/257																											0		445	62
2299	103/258																											0		725	67
2299	105/251																											0		11	1
2299	105/255																											0		59	2
2340	107/273	1																										1			
2340	108/275	1																										1		92	1
2484	105/269	1																										1			
2484	106/275										1																	1			
2484	107/266											2																2			
2484	107/268							1																				1		3	1
2484	107/272	1																										1			
2484	107/273																											0		79	2
2484	108/265	1	1																									2			
2484	108/269																											0		16	2
2484	109/269				1																							1			
2484	110/271			1																								1			
2484	111/266										1																	1			
2484	111/270	1																										1			
2484	112/266		1																									1			
2484	113/266		1	1																								2			
2484	93						1																					1			
2552							1						1															2			
2750	116/266			1																								1			
3215																												0		725	84
3215	127/256																											0		120	5
3215	128/250																											0		21	2
3417			1						1																			2		19	2
3447																												0		56	2
3447	121/254																											0		2	1
3447	122/253																											0		2	2
3447	122/254																											0		38	1
4158	110/223																											0		3	1
4158	111/254			2								1																3			
4158	115/224																											0		86	2
4158	115/255																											0		2	2
4918		1										1																2			
8012													1															1			
9294																												0		91	3
11013	SF 2486												1															1			
11125										1																		1			
11144								1		1		1																3			
11389	SF 2531										1																	1			
1377				1																								1			
1466																												0		61	3
1531	065/270																											0		270	9
1593																												0		27	1
1648																												0		77	4
1915																												0		16	2
2158																												0		210	7
3029												1																1			
3052																												0		1	1
3123																	1											1		370	8

Context No	Sample	Flakes	modification flakes	Useable flakes	Squat Flakes	flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt flint (g)	Burnt Flint No
3500		1																									1				
4330																												0		22	2
4580	123/255																											0		101	4
4615													1															1		245	37
4793																												0		48	2
4979																												0		13	1
7568																												0		51	1
7965																												0		159	11
8643																												0		141	6
9205		1																										1		86	5
10779																												0		46	1
10888																												0		9	1
10921																												0		6	1
10953													1															1			
11849												1																1			
1521		1																										1			
1769		1																										1			
3033																												0		6	1
3051																												0		115	1
3071											1																	1		87	3
3100	112/275																											0		220	17
3814				1																								1			
3941		1																										1			
4036																												0		27	2
4043																												0		62	1
4165							1																					1			
4256																												0		10	1
4584																												0		38	3
6388		2		1																								3			
9220		1																										1			
9986			1																									1			
10254																												0		6	1
10427																												0		6	1
10713													1															1			
12916																												0		30	1
1025				1																								1			
1171	119/273						2											1										3			
1442																												0		12	3
2925																												0		9	1
2941	115/260										1																	1		18	1
2953																												0		15	2
3919																												0		37	4
4032	232																											0		65	11
5477																												0		15	5
6136		1																										1			
7159																												0		11	1
8378										1																		1			
8729												1																1		15	1
1017		1																										1			
1285	29																											0		32	8
2671			1								1	1																3			
3299																												0		21	1
3997																												0		13	1
9331																												0		315	19
9538																												0		3	1
9869		1																										1			

Context No	Sample	Flakes	modification flakes	Squat flakes	Useable flakes	Squat flakes	flake/blade dimension)	<10mm	>10mm	Chunks/core shatter	Preparation Blades	Blades	Broken Blades	Blade-like flakes	Core	Flake Core	Core	Chunk	Arrowhead	Axe	Core Tool	Edge Trimmed	Denticulate	Other retouched	Piercer	Scraper	Serrate	Truncated Blade	Context Total Struck	Comments	Burnt flint (g)	Burnt Flint No
9890														1														1				
10292																													1			
10424														1															1			
1132	115/264						1																						1			
3595					1																								1			
3627																													0		15	1
3891																													0		55	1
3957														1															1		5	1
4486																													0		35	1
9141										1																			1			
12984								1																					1			
13256	462																												0		55	8
805																													0		50	2
2666													1																1			
2962					1																								1			
3049																													0		15	1
4042	S233	1		1																									2			
4880																													0		2	1
8270					1																								1			
8389																													0		27	1
8663												1																	1			
11628																													0		51	1
11846																													0		18	1
11886		1																											1		62	4
1033		1																											1			
2295		1											1																2			
9779		1																											1			
10129																													0		44	6
12225																													0		18	1



## **APPENDIX 15: WOODWORK AND TIMBER ASSESSMENT**

**By Damian Goodburn**

### **Introduction**

The site lies to the south of the main area of the Roman Southwark settlement, just north of the cemetery areas of Great Dover Street etc. The whole area is very low lying and would flood during high tides today if the Thames side river walls were not in place. Prehistoric peat layers existed on parts of the site which can yield worked and naturally deposited wood. It is known that in the Roman period there was an E-W tidal back channel that ran along its northern border, indeed it was expected that much of the site might lie over the ancient channel. In practice it was found to occupy the partially waterlogged land just to the south of the channel. The site was expected to yield some evidence of the edges of the settlement and possibly later Roman burials. However, the intensity of Roman building activity on the site was far in excess of what had been predicted. Waterlogging preserved the lower parts of many foundation timbers and others associated with large waterlogged ditches.

Little medieval activity took place in the immediate area but by the post-medieval period buildings, and timber lined wells were built on the site together with a timber lined tank used in tanning.

In sum, we must note that a huge volume of waterlogged wood was exposed ahead of the new building works, and has had to be dealt with before its inevitable degradation in storage. Limits on time and safe access have required the adoption of a prioritised, rapid approach to all the work carried out on this assemblage both on-site and off-site. Some post-excavation record cross referencing work normally carried out at assessment stage has thus been deferred until the following analysis stage.

### **The Comparative Roman And Post-Medieval Woodwork Corpus In The London Region**

The London area includes many zones of waterlogged ground which have preserved a large quantity of varied waterlogged woodwork from later prehistory onwards. The range of structures of timber and roundwood encountered varies from trackways to wharves, river walls, mills, slip ways, artificial platforms, fish weirs, fences, well and cistern linings, lined drains, culverts, pipes, and tanks to building foundations and above ground elements, monumental structures such as theatres, boat finds, machinery and portable items. Quite often timbers have been found to have been reused from little known structures very rarely preserved in waterlogged conditions, such as parts of timber framed buildings of Roman date, a key area of future analysis for parts of the Tabard Square assemblage. Although some publications of this material have been produced far more comparative material is at the 'In Prep' stage or in unpublished archives. The fundamental point here is that there is a large well recorded and dated corpus with which the Tabard Square assemblage can be compared in due course. The corpus also throws much light on the changing nature of the extinct woodlands of the region and issues such as the timber trade and woodmanship, themes accessible through the analysis of the Tabard Square assemblage in due course.

### **Methodology**

The total number of structural timber/ wood related 'contexts' recorded for the project was c. 850, even by London standards a large group. Additionally there were also a number of wooden portable artefacts labelled as 'finds' within deposits. However, it should be noted that some items of structural woodwork could not be lifted for detailed recording. It is also the case that there was much repetition of character and function in many of the individual pieces of worked wood and timber; that is the sampling policy for many parts of the site was to start recording as many 'timbers' as possible within safety constraints. For example, many similar, truncated, Roman foundation pile tips were attributed 'context status' and lifted, it was clearly difficult to predict the eventual bulk of material as the project progressed due to the excavation being broken up into many separate areas C2, G1 etc.



Of the 850 'contexts' c. 80 were post-medieval in date including a great number of cask linings to cut features such as wells or pits (loosely cask = 'barrels', c. 39 are noted in the timbers indexed, these would each have comprised c. 25 –50 component parts). The vast majority of the remainder of the structural timber/ wood contexts were of Roman date, with c. 10 of prehistoric date and c. 4 believed to be of medieval date.

### **This Writer's Specialist Involvement In The Project**

This writer was asked, during the later part of the excavation, to carry out a brief site visit to provide some advice on the interpretation of exposed woodwork, principally planking, pales and uprights associated with a major Roman ditch. Later a large sample of the lifted woodwork items were passed onto this writer for additional checking and updating of the recording followed by tree-ring and Sp Id sampling where appropriate. The total number of bagged worked timber/ wood 'contexts' passed to this writer was c. 300, of which c. 20% were rather large re-bagged tree-ring or sp ID samples, many fragmentary items occupied several bags. Additionally D. Killock kindly provided a verbal illustrated introduction to the site noting initial interpretations of key timber groups. He also supplied photocopies of the written, sketched and drawn records of the timbers together with various basic lists of the timbers. It was intended to amend the copy records in coloured ink as an 'up-dated timbers archive', however, it soon became obvious that this would be very time consuming due to cross referencing drawings, 'timber' sheet copies and timbers which were not in the same number order. The other problem was the sheer bulk of the paper archive. Therefore, a simplified, stream-lined procedure had to be adopted which was not ideal, but the aim was to be as commensurate as possible with the standards set out in English Heritage's Waterlogged Wood whilst attempting to keep within the funded time limit. Here the help of experienced volunteer archaeologist J. Minkin has been very useful.

This sample of lifted material has all been subject to the following procedure; unwrapping, cleaning and rapid examination, followed by entry on annotated timber list sheets (on gridded film) where key features are noted such as Sp where this was clear, type of conversion, evidence for reuse, clear tool marks etc. Most repetitive items were also provided with a rapid 'thumb nail' sketch and a representative selection where documented with detailed scale 'timber drawings', these latter replaced some earlier drawings made on-site where they were incomplete (eg lacking cross sections, tool marks etc).

The resultant additions to the site archive therefore comprise; amended copy timber records (filed in number order where possible), from the initial phases of checking; selected scale timber drawings on gridded film (in number order where possible), but the bulk of the material is covered by annotated timbers lists (in number order where possible). Long hand lists of tree-ring and Sp ID samples taken or checked and retained off-site are also included.

Clearly a checked, updated project wide 'timbers index' noting stratigraphic and other key information is an ideal before in depth analysis work can proceed although short cuts using plan lead groupings may also be possible.

### **The Prehistoric Naturally Deposited Wood Found**

Many of the peat deposits surrounding London contain both worked and naturally deposited wood from the Neolithic to Early Iron Age periods, such as at the Bricklayers Arms, or St Christopher's House sites, or under the Roman sunken timber warehouse at the old Courage Brewery Site all of which are nearby. A number of logs and branches were found and sampled during the Tabard Square excavations, eg [11037] which appears to be a fallen tree lying horizontally. A small number of the more solid items of this type have been sampled and it would be useful to identify their species and possibly carry out C14 dating. It should be noted that 'logs' [11053], [11057] and [11037] all lie on the same alignment and are probably drowned later prehistoric trees felled during a severe storm.

### **Summary Of The General Characteristics Of The Roman Period Woodwork Found**

Foundation piles, pile cluster alignments and their functions

The vast bulk of the timbers of Roman date found were foundation piles of oak mostly driven in clusters of two or three such as the large group excavated in Area E1 in the north-west corner. The use of clusters of piles driven approximately 1.2-2m apart has been found on a number of Roman sites in wet areas of the City such as the Walbrook Valley. Many foundations of this type have been recorded and understood since 1985, several are under excavation at the time of writing at the PCA Drapers Gardens in the eastern Walbrook area. The pile clusters typically supported sill beams of timber framed buildings or sill beams for walls of rammed earth ('pise') or mud brick. Some of the piles lie under the sill beams and some to the side. With truncation by human activity or decay, preservation often varies from wall bases- sill beams and piles to a line of pile clusters and eventually just irregular pile tip voids forming alignments.

It is important to note that these types of constructional features have not been found associated with waterfront structures in Roman London. This writer would strongly suggest that interpretations of some of the piles clusters on this site as parts of jetties or quays is extremely unlikely, an alternative explanation for the large group in Area E1 is briefly sketched out below.

The piles varied greatly as did the preservation from a few mm of the very tip to largely complete examples. Where they survived as more than the very tip it was noted that the vast majority were produced in the typical Roman style by splitting medium sized to large oak logs radially into 1/4ths, 1/8ths and 1/16ths. Some of the wedge shaped sections were also cleft again following the annual rings. In many cases the timber used was relatively fast grown and the resultant pile tips had less than the 45-50 annual rings needed for tree-ring dating eg [13228]. In other cases over 50 rings were found with sapwood and bark in a very few cases eg [10376]. Apart from apparently freshly made piles many were weathered and or had relict joints and fastenings indicating that they were second hand timbers (below). A small number of the piles were hewn to rectangular sections from whole or half logs eg boxed heart pile [13228] and box halved pile [12132].

In due course it may be possible to phase some timber foundations both with the aid of limited tree-ring dating and possibly by generating plans grouped for piles made in different ways.

### **A possible theatre-like structure indicated by radiating foundation pile alignments in Area E1 (The north-west corner)**

It was immediately realised that many of the more than 100 Roman piles in the north-west corner (Area E1) of the site formed alignments and these have been described as parallel. However, during this initial phase of post-excavation work this writer scanned 1:50 plans of the pile cluster lines and an alternative possibility sprung to mind. Assuming typical Roman London practice was followed, one can draw straight lines approximately down the centres of the pile clusters in Area E1. This then creates a radiating plan of piled foundation lines such as would fit the oval configuration of the end of a small theatre-like structure (here this writer's work on London's timber amphitheatre is relevant where radiating timber foundations are also known). If this interpretation is correct then the structure would have had a raking seating bank perhaps 15-16m wide with a foundation free 'arena' space about 10-12m wide. If the structure was oval in plan then it would have run E-W, if it was just an arc of seating then it would have faced east. Clearly this initial proposal requires further investigation but it could be a significant addition to the group of unusual public structures found on the site.

The pile group is thought to be of fairly early Roman date but as many of the piles are reused it is unlikely to date long before the last quarter of the 1st century AD at the earliest. Unfortunately only a very small number of the piles tips have been found to be viable for tree-ring dating and at least one of those is reused [9392] whilst pile [10376] appears a good fresh sample with bark edge.

Roman foundation piles of second hand timber from buildings and pale fences

The range of conversion methods noted above was also found in the piles showing clear signs of previous use, with relict joints etc. They fell into three main groups indicated by the type and disposition of joints cut into them. Very few were over 1.5m long. Two groups derived from timber framed buildings, they were vertical wall timbers (studs and posts) and horizontal mortised beam elements, the third category were less regular timbers with lap joints pierced by iron nails. The latter group eg radially cleft oak timbers [11018], [11055], [10803] have the form of driven posts that supported fence rails clad with thin radially cleft oak pales. Such timbers have been found *in situ* at the PCA Tokenhouse Yard and elsewhere in the Walbrook Valley.

The vertical wall timbers from buildings had the typical sloping recesses cut for holding cross battens around which wattle or laths were woven and then daubed. These types of timbers are now known from a small number of waterlogged Roman timber framed buildings in London (and waterlogged Roman sites elsewhere in Britain and the S Netherlands) and some other groups of reused timbers. The best preserved example was radially cleft and hewn stud [10680] which had three tiers of cross batten recesses cut in each edge for the in fill.

Horizontal beam elements or 'plates' with typically broad, un-pegged, Roman mortices include boxed heart oak timbers [12135] and [10916]. The mortices would originally have held the tenons of studs and major wall posts, they were not locked with pegs as in later examples from this site.

Some of the timbers recycled as piles had long groove joints cut in their faces or edges and may have derived from less well known styles of building wall or large scale furniture e.g. timbers [10391] and [13071]. During the analysis phase of work it should be possible to pin down the original functions of this material more tightly. We can already note that this recycling is an indication of cost saving on the part of whoever commissioned the construction work.

#### **Timbers associated with the major SW-NE late Roman ditch**

This major largely waterlogged ditch had groups of oak piles and occasional posts at several places along its length but is mainly notable for the second hand oak planks and fairly fresh thin oak pales dumped into it, mainly along the edges (they may have been used as duckboards). The planking bore some saw marks and also relict features such as large peg holes and occasional iron nails eg plank [12126]. This plank also had a bevelled end (resembling a 'through scarf'). The cleft pales resembled modern vertical fence pales but were made by radial cleaving down the planes of weakness in straight grained oak. The cleaving was done very carefully to very thin sub divisions (c. 1/64ths or even 1/128ths, often under 8mm thick). Large numbers of these were lifted and several provided tree-ring samples eg [12131], but unfortunately the edges had been carefully trimmed removing the sapwood in just about all cases. Occasional large earth fast posts were also found such as [13180] that may have supported gates or bridge type structures, but here plan and stratigraphic evidence would have to be assessed before a function can be reliably suggested.

So far pottery found in the ditch backfill layers has been dated to the fourth century AD.

#### **Roman firewood or 'cord wood'**

Several short logs with axe cut ends were found in contexts attributed to the Roman period. Log [12949] was ash, and log [12824] elm. Both items were around 1 metre long and may well have been abandoned cord wood.

#### **A Roman cask**

This writer has not been able to examine any of the elements of this decayed cask [12067] but samples are held at PCA facilities, which could be identified and subject to C14 dating if required. Roman casks are typically large and made with cleft softwood staves.

#### **Roman woodwork offcuts**

Several small oak off-cuts were found which indicate woodworking took place in the vicinity, and which may repay further study in due course. Some were distinctive such as item [12988] which appears to have been an off-cut from making oak pales from thick cleft billets.

### **Items Of Possible Medieval Date**

The site timbers index lists [8811], [8817], [8818] and [8819] as stakes of medieval/post-medieval date but there is little further information. Generally the site seems to have been agricultural land without surviving woodwork clearly attributable to it in the medieval period.

### **Summary Of The General Characteristics Of The Post-Medieval Woodwork Found**

The post-medieval woodwork found on the site took a variety of forms many related to water management. The largest group of material was reused and abandoned coopers work- stave built vessels. New materials were used from the late 16th century such as imported softwood timber from Scandinavia and the Baltic.

A large sample of cooper's work

The site timbers indexes record a total of 38 post-medieval 'barrels' or cask-type stave built containers, were found. In some cases they lay in inaccessible situations on-site and could not be lifted but a substantial amount of this specialised woodwork has been examined and recorded in detail. In due course it has the potential to add considerably to the corpus of coopers work recovered from London. As coopers, merchants and shippers often marked their casks the staves and head pieces found at Tabard Square were all washed and scanned but few marks survived. Some tree-ring samples were taken and these will probably provenance the oak timber used and this sheds light on London as an important port. The bulk of the material used was radially cleft oak although in some of the reused casks a combination of radially and tangentially cleft staves were used. In cask [8401] for example wide radially cleft oak staves were used with narrow tangentially faced stave possible of young oak or even more likely chestnut (samples were taken to check the species). During the reuse of the casks to line cut features the ends or heading were often left out, for wells for example. In other cases where the casks had been used as sub-ground tanks for tanning etc the construction of the ends might be improvised such as in the case of cask [11194] where the 'head' was roughly made of a sawn oak plank with softwood planks on the sides. This cask had several holes bored into it to act as a filter for the pump noted below.

Even small scale cooperage is represented by such finds as a small oval oak tub base [12122].

A well preserved bored log pump with metal filter

Timber [11216] was actually found set into the cask noted above and was of c. 18th century date. It comprised a trimmed and bored elm log pipe set up vertically in the above cask. The pipe was provided with a lead sheet base and had been repaired with another nailed on lead patch higher up and a metal grill was fitted over a hole in the side through which water would have been sucked. Making such pipes was a Southwark industry in the post-medieval period.

A large timber lined tank

Timber lined tanning pits are a typical feature of the archaeology of this area of Southwark in trench 2 the remains of a large timber lined tanning pit tank were found which was a pile and plank structure largely made of hand sawn softwood planks and also sawn waste slabs cut off the irregular faces of hewn softwood baulks. The structure had been fitted with corner braces and was deeper than most seen by this writer.

Second hand oak timbers

A small amount of oak timber of post-medieval date was also found reused in foundations, such as pile timber [4153] which bore a typical 16th to 17th century pegged mortice joint with an oak locking peg *in situ*. Economy was still a key concern at this period when fresh oak would have become more expensive.

Small items made of wood

This writer has examined some but not all of this material. An unusual item included a decayed radially cleft oak timber [8397] with a large semi-circular hole cut in it and notches with nails on two edges. This may have been part of a toilet seat cut in half made from a large cask timber, or possibly a bracket for supporting a log pipe? Other items not yet examined include items such as a broom head, spinning tops and other objects such as an item described as a 'diablo'.

### **Conclusions And Key Areas Of Future Work**

It is clear that such a large assemblage of waterlogged woodwork is worthy of targeted further work. The prehistoric wood samples could be identified and C 14 dated and will shed light on the environment of late prehistoric Southwark. For the Roman period several areas would clearly repay further study such as the pile foundation alignments in Area E1 and other areas. The further study of groups of second hand pile timbers would also be productive. The varied post-medieval cooperage is also worthy of further analysis in its own right and as containers of trade reflecting London's port heritage.

Following further work such as; the study of tree-ring and Sp Id samples and the production of more timber pile plans specialist analysis work could take place ending in the production of targeted, fully referenced, publication drafts, including some interpretative reconstruction drawings.

## **APPENDIX 16: LEATHER AND TEXTILE ASSESSMENT**

**By Mårit Gaimster**

In total, nearly 300 bags of leather were retrieved from the excavations; one third of this material is now dry and conserved with the remainder still untreated. In addition, there are five bags of textile. Both the wet and dry finds have been scanned for assessment, with the wet material kept under controlled conditions awaiting further conservation (Table 1).

Leather was retrieved from Roman, medieval and post-medieval phases with the vast majority from Phase 11; a similar picture is reflected in the metal and small finds from the site. Together, these categories form a significant representation of finds from the Tudor and Stuart periods, something that has for a long time been weakly represented in the archaeological material (cf. Egan 2005). A significant number of finds also came from Phases 12 and 13, while smaller assemblages belong to the Roman and medieval periods.

### **Roman period (Phases 3–8)**

Roman finds consist exclusively of shoes; the majority are of nailed construction, the most commonly found type of Roman footwear. A single shoe is attributed to Phase 3 (43-70 AD) and is of interest because of its early date.

### **Medieval period (Phase 10)**

The small group of medieval finds comprises mainly shoes and/or cobbling waste. There is also a possible panel from context [12635]. At least one medieval shoe is residual in Phase 11; SF <3579> is a complete late medieval 'poulaine' with moss stuffing still present in the toe.

### **Phase 11 (16th to late 17th centuries)**

The majority of finds from Phase 11 consist of shoes and/or cobbling waste. Some shoe uppers are decorated with characteristic slashing. Besides shoe fragments, there are numerous straps, some with metal rivets or buckles (e.g. SF <3582>). However, there are also other objects represented, notably parts of a leather jerkin decorated with an incised basket-weave design (SF <3572>); further jerkins may be represented by fragments of decorated panel (SF <3577>; <3580>). One plain panel may be part of a saddle (SF <3574>). There are at least two sword scabbards (SF <3576>; <3581>); and a further one from context [7055] and a leather pouch with metal rivets along the edge (SF <3573>). An unusual find is a triangular panel decorated on one side with a tooled (impressed) linear pattern (SF <3575>); this object is unidentified at present.

Textile finds include two pieces of coarsely woven wool and a piece of fabric with an iron nail for fixing still attached to the corner (SF <2783>).

### **Phase 12 (late 17th to mid-18th centuries)**

With the exception of an unusual leather cylindrical object with iron nailing (SF <109>), yet to be identified, the finds from Phase 12 consist of shoes and/or cobbling waste. There is also one piece of textile.

### **Phase 13 (mid-18th to mid-19th centuries)**

With the exception of a leather cylinder with copper alloy nailing (context [916]) and a leather fitting (SF <1134>), both unidentified at present, the small group of finds from Phase 12 consist of shoes and/or cobbling waste.

### **Recommendations**

The leather forms an integral part of the finds from Tabard Square and should be included in any future publication of the site. For this purpose it is recommended that the assemblage is scanned by Quita Mould and a basic record (as defined in the RFG & FRG Guidelines 1993) of the assemblage made. This will allow the assemblage to be summarised by phase and the significant and diagnostic finds described. The diagnostic leatherwork will provide useful dating evidence to support that deriving from the ceramic and numismatic evidence. The types of leather items recovered will also help characterise the use of the site and the nature of the activities undertaken in the locality from the earliest Roman activity to the early modern period. This information will be incorporated into the site narrative. The assemblage includes objects unidentified at present and it is possible that items not previously, or rarely, recovered in the archaeological record may be represented. The finds from Phase 11, with jerkins, sword scabbards and other larger objects represented by panels, are of particular interest. Leather from this period remains weakly represented among finds from excavations. In London, only one major group of leather finds dating from the 16th and 17th centuries has been published (Egan 2005, 17-32); here the Tabard Square material will provide a significant contribution.

### **References**

Egan, G., 2005. *Material culture in London in an age of transition. Tudor and Stuart period finds c 1450-c 1700 from excavations at riverside sites in Southwark*. Museum of London Archaeology Service Monograph 19.

Roman Finds Group and Finds Research Group AD 700-1700, 1993. *The Guidelines for the Preparation of Site Archives and Assessments for all finds other than fired clay vessels*.

**Table 1: Leather from Tabard Square**

<b>Phase 3: Roman</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
13356		shoe	43-70	70/Area G3	yes
<b>Phase 4: Roman</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
12029		?shoe	60-100+	349/Area F1/G1	yes
<b>Phase 5: Roman</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
7118	1003	hobnail sole	140-180	789/Area D	no
7118	1004	hobnail sole	140-180	789/Area D	no
12699		hobnail sole	140-200+	350/Area F1	yes
12825		shoe	180-250	350/Area G1	yes
12839		hobnail sole	130-180	350/Area F1	yes
12855		hobnail sole	140-180	5/Area F2/G2	yes
12855	2974	hobnail sole	140-180	5/Area F2/G2	yes
12855	2997	hobnail sole	140-180	5/Area F2/G2	yes
12855	3000	sandal with upper	140-180	5/Area F2/G2	yes
12855	3070	shoe	140-180	5/Area F2/G2	yes
12855	3071	shoe	140-180	5/Area F2/G2	yes
12855	3072	hobnail sole	140-180	5/Area F2/G2	yes
<b>Phase 6: Roman</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
9704		?shoe/cobbling waste	n/a	1114/Area E1	yes
<b>Phase 7: late Roman</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
10285		shoe frgts; from sample 386	200-300	144/Area E4	yes
13194	3054	hobnail sole; complete	280-350	21/Area F2/G2	yes
<b>Phase 8: late Roman</b>					
<b>context</b>	<b>SF</b>	<b>description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
5744	942	shoe with hobnails	n/a	148/Area C1	yes
9095		?shoe	n/a	1012/Area E2	yes
<b>Phase 10: medieval</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
3780		shoe	1230-1300	200/Area C1	no
10266		shoe frgt; strap	1340-1500	142/Area E4	yes
10559		sole; complete	1280-1350	142/Area E3-E4	yes
10718		shoes	1300-1650	434/Area E3	yes
12059		shoes/cobbling waste	1080-1350	321/Area F2/G2	yes
12635		shoes/cobbling waste	1340-1500	321/Area F2/G2	yes
12635		?panel with stitching	1340-1500	321/Area	yes



				F2/G2	
12830		shoes/cobbling waste; offcut	1430-1500	382/Area G1	yes
12850		shoe/cobbling waste	270-400	382/Area G1	yes
12897		shoe, from sample 433	n/a	321/Area F2/G2	no

<b>Phase 11: 16th to late 17th centuries</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
10		shoes/cobbling waste; circular patch	1580-1630	1238/trench 3	no
13		shoes/cobbling waste	1580-1600	1240/trench 3	no
48		?shoe	n/a	1236/trench3	no
49		shoe	1580-1600	1238/trench 3	no
57		shoe	1570-1600	1238/trench 3	no
59		shoes/cobbling waste	1580-1600	1236/trench 3	no
60		shoes/cobbling waste	1580-1600	1237/trench 3	no
61		shoes	1620-1650	1236/trench 3	no
62		offcut	1600-1610	1239/trench 3	no
65		shoe	1580-1700	1236/trench 3	no
68		shoes/cobbling waste	1600-1900	1237/trench 3	no
68	25	shoe	1600-1900	1237/trench 3	no
517		child's shoe	1600-1610	1226/trench 2	no
519		shoe	1670-1700	1222/trench 2	no
655		shoe	1670-1690	1193/trench 1	no
861		shoe	1630-1650	497/Area A	no
877		strap/offcut	1580-1700	497/Area A	no
879		shoe	1580-1600	497/Area A	no
922		shoes/cobbling waste	1580-1600	268/Area A	no
1035		shoes/cobbling waste	1580-1600	268/Area A	no
1426		shoe	1300-1650	268/Area A	no
2615		shoe	1580-1600	268/Area A	no
4098		shoes/cobbling waste	1630-1650	571/Area B1	no
4146		shoes/cobbling waste	1580-1700	947/Area B2	no
4493		panels/waste	1580-1600	571/Area B1	no
5036	610	shoe	1630-1680	510/Area C2	no
6021		shoes/cobbling waste	1550-1600	780/Area D	no
6021	787	sole, complete	1550-1600	780/Area D	no
6054		shoes/cobbling waste	1480-1500	773/Area D	no
6074		?leather or felt	1580-1700	771/Area D	no
6075		shoe	pmed	771/Area D	no
6102	818	shoe	1580-1600	776/Area D	no
6111		shoes/cobbling waste	1480-1550	776/Area D	yes
6111	830	shoe	1480-1550	776/Area D	yes
6201		shoe upper; with slashing	1550-1600	776/Area D	yes
6312	910	shoe	1550-1600	775/Area D	no
6459		shoes/cobbling waste	1580-1650	777/Area D	yes
6459		strap/offcut	1580-1650	777/Area D	yes
6459	940	shoes/cobbling waste	1580-1650	777/Area D	yes
6459	941	strap; with metal rivets	1580-1650	777/Area D	yes
6481		fragments	1580-1700	771/Area D	no
6616		shoes/cobbling waste	1550-1700	771/Area D	no
6740		shoe	1480-1650	777/Area D	yes

6742		shoes/cobbling waste	1480-1600	777/Area D	no
6744		offcuts	1480-1650	775/Area D	yes
6820	965	shoe	1200-1350	775/Area D	yes
6820	966	shoe	1200-1350	775/Area D	yes
6820	3580	panel with decoration	1200-1350	775/Area D	yes
6859		shoe	1480-1550	775/Area D	no
7054		straps/offcuts	1620-1650	1069/Area E1	yes
7054	1084	shoe	1620-1650	1069/Area E1	yes
7055		straps; numerous	1580-1630	1069/Area E1	no
7055		?sword scabbard	1580-1630	1069/Area E1	no
7055		wooden patten	1580-1630	1069/Area E1	no
7055		offcuts/waste	1580-1630	1069/Area E1	no
7055	3581	sword scabbard	1580-1630	1069/Area E1	no
7489		offcut	1580-1630	1237/trench 3	no
7492		fragment	n/a	1040/Area E2	no
7621		shoes	1580-1700	999/Area E2- E1	no
8088		sole; complete	1570-1650	1073/Area E1	no
8813		fragment	1580-1650	430/Area E2- E3	no
9053		strap/offcut	1630-1650	426/Area E4	no
9072		shoes/cobbling waste	1580-1620	426/Area E3- E4	no
9072		uppers/panels with slashing	1580-1620	426/Area E3- E4	no
9072	??	child's shoe; complete	1580-1620	426/Area E3- E4	no
9203		offcuts	1480-1600	86/Area E4	yes
9565		shoes/cobbling waste	1580-1600	85/Area E4	no
9567		strap	1580-1600	78/Area E4	no
9720		shoes/cobbling waste	1580-1600	78/Area E4	yes
9720		decorative edging	1580-1600	78/Area E4	yes
9720	3582	strap with copper-alloy strap- end/hook	1580-1600	78/Area E4	yes
9950	3572	leather jerkin; decorated with basketweave pattern	1550-1650	86/Area E4	yes
9950	3573	?pouch; metal rivets along upper edge	1550-1650	86/Area E4	yes
9951	3574	?saddle panel; W 300mm ht.230mm	1580-1600	86/Area E4	yes
9951	3575	two matching pieces of triangular panel; tooled decoration on one side only; L 122mm	1580-1600	86/Area E4	yes
9951	3576	?sword scabbard; two pieces attached with leather strap; L 340mm; W 60mm	1580-1600	86/Area E4	yes
9951	3577	?jerkin; panel fragment with pinking	1580-1600	86/Area E4	yes
9951		shoes/cobbling waste	1580-1600	86/Area E4	yes
9951		strap with iron rivet	1580-1600	86/Area E4	yes
10026		shoe	1630-1700	454/Area F1	yes
10046		shoe; from sample 380	1570-1650	430/Area E2- E3	yes

10086		shoes/cobbling waste	1550-1610	107/Area E4	yes
10086	2172	strap; with metal buckle	1550-1610	107/Area E4	no
10327		shoes/cobbling waste	1550-1580	128/Area E4	yes
10327		?panel/shoe upper with slashing	1550-1580	128/Area E4	yes
10327		scalloped border	1550-1580	128/Area E4	yes
10338		shoes/cobbling waste	1580-1650	85/Area E4	yes
11767		shoes/cobbling waste	n/a	415/Area F2/G2	yes
12170		shoes/cobbling waste	1580-1650	389/Area G1	yes

<b>Phase 12: late 17th to mid-18th centuries</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
114		shoe	n/a	1211/trench 2	no
116		shoe	1630-1650	1215/trench 2	no
123		shoe	pmed	1215/trench 2	no
124		shoe	n/a	1211/trench 2	no
150		child's shoe	n/a	1220/trench 2	no
177		shoe	1720-1780	1214/trench 2	no
522		shoes/cobbling waste	1670-1700	1222/trench 2	no
536		shoe	n/a	1222/trench 2	no
539	117	shoes/cobbling waste	1580-1700	1222/trench 2	no
540	99	strap; with iron rivet	1580-1600	1222/trench 2	no
551	107	shoes/cobbling waste	1750-1800	1222/trench 2	no
551	108	straps	1750-1800	1222/trench 2	no
551	109	cylinder; diam.70mm; iron rivets along edge	1750-1800	1222/trench 2	no
610		shoe	1670-1690	1182/trench 1	no
761		shoe	1701-1800	480/Area A	no
772		shoes/cobbling waste	1670-1700	482/Area A	no
3815		shoes/cobbling waste	1670-1690	181/Area C1	no
5026		shoe	1670-1690	488/Area C2	no
7297		shoes/cobbling waste	1650-1680	1063/Area E1	no
8231		strap/offcut	1580-1700	403/Area E3	no
8277		shoe	1630-1680	403/Area E3	no
9024		shoe	1630-1650	59/Area E4	no
9075		shoes; numerous	1670-1700	783/Area E4	no
9075		offcut	1670-1700	783/Area E4	no
9075		strap	1670-1700	783/Area E4	no
9254		strap	1550-1600	75/Area E4	no
9256		straps	1580-1600	75/Area E4	no
9300		shoes/cobbling waste	1550-1650	69/Area E4	no
12096		shoe	1670-1690	381/Area G1	yes
12100		shoes/cobbling waste	1690-1710	381/Area G1	yes
12166		shoe	1690-1700	387/Area G1	yes
12188		shoe	1690-1700	381/Area G1	no
12625	3578	shoe; complete	n/a	116/Area F2/G2	yes
12625	3579	shoe; complete; poulaine with moss stuffing in toe	n/a	116/Area F2/G2	yes

<b>Phase 13: mid-18th to mid-19th centuries</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
754		shoe	1770-1780	239/Area A	no
757		shoes/cobbling waste	1775-1800	239/Area A	no
758		shoe	1720-1780	239/Area A	no
760		shoe	1700-1800	239/Area A	no
916		cylinder with copper-alloy rivets; diam.80mm; stamped decoration along edge	1800-1880	472/Area A	no
918		shoe	1670-1800	470/Area A	no
919		shoe	pmed	470/Area A	no
1552		shoe	1800-1834	567/Area B1	yes
3949	532	shoe	1770-1830	468/Area C2	no
7009		shoes/cobbling waste	1760-1770	1062/Area E1	yes
7167	1134	fitting	1800-1870	457/Area F1	no
9910	2110	shoes/cobbling waste	1780-1800	449/Area F1	yes
11370		shoe	1720-1780	68/Area F2/G2	yes
12116		strap with holes for glass phials; one phial still attached	1840-1860	385/Area G1	no
12146		shoe	1800-1830	386/Area G1	yes

**Table 2: textile from Tabard Square**

<b>Phase 11: 16th to late 17th centuries</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
13	3553	textile; from sample 1	1580-1600	1240/trench 3	no
7054	1087	textile; coarsely woven wool	1620-1650	1069/Area E1	no
9720		textile; coarsely woven wool	1580-1600	78/Area E4	no
12197	2783	textile; ?hanging; iron nail for fixing extant in corner	970-1100	397/Area G1	no
<b>Phase 12: late 17th to mid-18th centuries</b>					
<b>context</b>	<b>SF</b>	<b>Description</b>	<b>pot date</b>	<b>group/location</b>	<b>conserved</b>
3815		textile	1670-1690	181/Area C1	no



## **APPENDIX 17: ANIMAL BONE ASSESSMENT**

**By Kevin Rielly**

### ***Introduction***

This extensive excavation provided evidence for a late 1st century domestic/industrial development, followed by the construction of a religious precinct, probably by the mid 2nd century and its abandonment by the later 4th century, with various ditches suggesting late Roman field systems. A major hiatus of activity terminated with another series of ditches, probably medieval in date but clearly continuing in use well into the post-medieval era. The site was then developed in the late 17th/early 18th century including a series of brick buildings. Some or perhaps all of these were associated with industrial/craft activities, including leather working, as shown by the recovery of several tanning pits. These various industries continued at this site well into the 19th century.

The distribution and the extent of the Roman and post-medieval material is largely dependant on the sequence of excavations. The initial phase involved the full excavation of three sample areas situated at the northern, western and eastern parts of the site, the first two alongside Long Lane and Tabard Street respectively (Pickard 2003). Subsequent excavation took place following the machining of the remaining part of the site down to the upper Roman levels (Killock 2005). However, various late medieval and post-medieval features were recovered outside the sample areas, these cutting through the underlying Roman strata.

Animal bones were recovered from all phases of occupation, although particularly large collections were provided by the earlier Roman levels (predating the religious complex) and from the earlier post-medieval deposits from ditches and pits predating the development (industrial) phase. Of particular interest in this next phase, amongst the industrial buildings, was an 18th century 'knuckle bone' floor consisting of hundreds of sheep metapodials (foot bones). A description of this assemblage is included amongst other points of interest in an interim assessment based on the findings of the aforementioned three sample areas (Yeomans 2002), while an elaboration of the post-medieval findings, here including information from the underlying areas can be found in Yeomans (2006). Both of these reports have been extensively employed in this assessment report. The bone collections resulting from these sample areas as well as the later Roman level excavation were all recorded by Lisa Yeomans.

### ***Methodology***

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording (onto an Access database) follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered. A separate database was set up for the recording of the metapodials from the 'knuckle-bone' floor, with data fields including fragmentation (percentage of bone remaining), side, fusion and various measurements.

### ***Description of faunal assemblage by phase***

40,041 bones have been identified (to date) from the hand-collected assemblage. This includes a number of small mammal and bird bones, which have been placed in a general taxonomic group prior to full identification, scheduled for a later date. It also includes the large number of sheep metapodials comprising the knuckle-bone floor [101] (mentioned above), a total of 857 bones. There is also a small quantity of hand collected fish bones (149 fragments) as yet unidentified. All of these were taken from post-Roman levels, with the great majority (121 bones) recovered from early post-medieval levels.

Just 192 bones have been identified from the sieved collections, these arising from 10 samples. Several more sample collections are yet to be identified, amounting to 29 assemblages contained in 6 boxes. None of the identified sieved collections feature any fish bones.

Phase	Number of bones	Percentage of total
0	711	1.8
1	33	0.1
2	47	0.1
3	1043	2.7
4	4333	11.1
5	5535	14.1
6	1148	2.9
7	2091	5.3
8	2959	7.6
9	2087	5.3
10	3533	9.0
11	10243	26.1
12	4053	10.3
13	1343	3.4
14	27	0.1
Total	39184	

Table 1. Distribution of hand collected animal bones by phase (excluding bones from the phase 12 'knuckle-bone' floor)

The site has been divided into 14 phases, as follows:- 1. Natural, 2. Prehistoric, 3-6. Early Roman, 7-8. Late Roman, 9. Late Roman/early medieval, 10. medieval, 11-13. post-medieval, 14. modern. The total number of bones from each phase and the percentage distribution is shown in Table 1. Note that this does not include the metapodials from the 'knuckle-bone' floor, which was dated to the second post-medieval phase (Phase 12), coinciding with the development of this site. There are a number of bones from unphased deposits and a very few from natural and prehistoric levels. Combining the individual phases into general periods, it can be seen that there are 12,059 bones (30.8%) from early Roman compared to 5,050 bones (12.9%) from later Roman deposits, while the medieval and post-medieval levels provided 5,620 (14.3%, here assuming Phase 9 is medieval) and 15,664 (39.9%) bones respectively. Most of the site assemblage was clearly provided by early Roman and post-medieval levels, corresponding to the 1<sup>st</sup>/2<sup>nd</sup> centuries and the 16th through to 19th centuries respectively.

Tables 2 and 3 show the distribution of animal bones by phase and Trench/Area, divided according to the two main stages of excavation – the initial 3 Trenches concentrating on the recovery of post-medieval material (Table 2), and then the major open plan excavation concentrating on the Roman levels (Table 3). The latter trench was divided into areas and these have been organised in Table 3 according to their location, the northernmost strip (Areas E1 to E4 and G3), followed by the central section (Areas C1/C2 to D) and then the most southerly parts (Areas G1/F1 and F2/G2).

Phase	T1	T2	T3
11	2.3	1.4	14.7
12	20.3	19.7	0.7
13	31.3	16.3	0.2
14	3.7	0.0	0.0

Table 2. Percentage distribution of hand collected animal bones by phase and trench (based on total quantities given in Table 1) – First incursion.

Phase	E1/E2	E3/E4	G3	C1/C2	A	B1/B2	D	G1/F1	F2/G2
1	12.1	69.7	0.0	0.0	15.2	0.0	3.0	0.0	0.0
2	2.1	2.1	0.0	36.2	51.1	8.5	0.0	0.0	0.0
3	26.8	2.4	1.9	10.2	24.4	7.3	10.7	16.2	0.1
4	27.2	1.6	0.0	25.5	22.5	9.0	0.1	14.0	0.1
5	19.3	3.8	0.4	31.2	14.9	6.3	0.8	17.6	5.6
6	26.4	12.6	0.4	7.1	3.7	19.8	0.0	24.4	5.6
7	7.2	7.1	10.5	12.8	4.8	29.8	0.0	21.2	5.5
8	12.2	5.3	2.5	23.8	18.1	24.8	4.1	8.0	1.1
9	8.6	11.2	0.0	17.6	1.5	34.9	0.0	23.1	3.1
10	15.9	1.2	1.9	17.3	5.4	19.8	1.0	31.9	5.4
11	7.0	40.1	0.2	2.9	10.9	7.6	12.3	6.8	1.1
12	0.4	17.0	1.0	13.2	3.0	4.1	0.0	18.4	0.2
13	4.9	2.3	1.9	0.0	9.0	2.4	13.1	17.2	1.3
14	0.0	0.0	0.0	0.0	3.7	0.0	0.0	92.6	0.0

Table 3. Percentage distribution of hand collected animal bones by phase and area (based on total quantities given in Table 1) – Second incursion.

A large part of the post-medieval assemblages, and especially Phases 12 and 13, were recovered from Trenches 1 and 2, while the greater proportion of phase 11 bones was concentrated in adjoining Areas E3, E4 and D. The earlier assemblages were fairly well distributed, although there are clear concentrations of early Roman bones from areas in the northwestern part of the excavation. The late Roman assemblages appear to have arisen mainly from those areas in the southern part of this quadrant, particularly from Areas C1/C2, A and B1/B2. In contrast, though also widespread, the greatest proportion of medieval bones was recovered in the most southerly Areas G1 and F1.

The sample assemblage was provided by phases within each of the major periods, but especially by early Roman Phase 4 with 135 bones. Almost all of these bones were unidentifiable to species and as these form only a small proportion of the total quantity of sieved bones, it was decided to confine this assessment to a description of the hand collected assemblage. Other exclusions include the small quantities of hand-collected bones recovered from unstratified (Phase 0) and modern levels (Phase 14).

#### Phase 1 (Natural)

33 bones were recovered from four deposits, each from different parts of the site. Approximately 50% of the bones were identifiable, with a good proportion of horse bones (see Table 4). The latter include possible partial articulations from two deposits [11208] Group 441 and [10639] Group 833, presumably representing a minimum of two adult individuals. Complete bones from the former deposit allowed for the calculation of a shoulder height (using Boessneck etc) of 1451.9mm, about 1.45 metres. Otherwise there is a small quantity of pig and cattle bones.

#### Prehistoric (Phase 2)

17 deposits provided just 47 bones, the majority emerging from paleosoils [2299] Group 261 and [8012] Group 158 with 10 and 15 fragments respectively. There is also a sample assemblage, of 30 bones with 29 derived from [2299]. Most of the bones were not identifiable to species, mainly sheep-size fragments, with the identifiable portion comprising, in order of abundance, pig, sheep, cattle and horse, dog and roe deer (a single antler fragment).

#### Early Roman (Phases 3 to 6)

The lowest Roman levels (Phase 3), possibly dating to the late 1<sup>st</sup> century, consisted of a series of dumps as well as various cut features, as pits, ditches and postholes, which were situated directly above or



cutting into the underlying peat horizons. These were essentially concentrated in the northwestern part of the site, especially within Areas E1, E2 and A (Table 3), the larger assemblages being recovered from dumps within Groups 250 (in Area A, 59 fragments), 932 (Area C2, 35 fragments) and 1130 (Area E1, 93 fragments), and from cut feature groups 356 (Area G1, 71 fragments), 823 (Area D, 112 fragments) and 1135 (Area E1, 103 fragments). A large proportion of the dumping levels can be interpreted as attempts to consolidate this area in preparation for its development following the expansion of the Southwark Roman suburb. This marks the next stage in the Early Roman occupation (Phase 4), dated to the late 1st/early 2nd centuries, with the construction of a series of clay and timber buildings, again within the northwestern part of the site. It is perhaps not surprising that such local development coincides with a dramatic increase in bone waste (see Table 1).

Species	Phase							
	1	2	3	4	5	6	7	8
Cattle	2	3	131	444	648	121	424	623
Horse ( <i>Equus caballus</i> )	10	1	40	137	57	41	68	147
Cattle-size		6	146	435	664	196	655	1183
Sheep/Goat ( <i>Ovis aries</i> / <i>Capra hircus</i> )		4	117	403	366	56	104	102
Sheep ( <i>Ovis aries</i> )		1	28	92	130	22	30	28
Goat ( <i>Capra hircus</i> )			3	5	2			2
Pig ( <i>Sus scrofa</i> )	3	7	139	825	1208	195	253	282
Sheep-size	18	18	328	1531	1794	334	426	418
Red Deer ( <i>Cervus elaphus</i> )				12	12		2	1
Fallow Deer ( <i>Dama dama</i> )				1				
Large cervid				2	1			2
Roe deer ( <i>Capreolus capreolus</i> )		1	3	10	15	3	1	4
Dog ( <i>Canis familiaris</i> )		1	31	107	54	119	24	49
Fox ( <i>Vulpes vulpes</i> )								
Cat ( <i>Felis catus</i> )			6	10	8	6	1	
Hare ( <i>Lepus europeas</i> )			1	3	11		2	
Rabbit ( <i>Oryctolagus cuniculus</i> )					1			1
Small mammal			16	31	27	3	9	7
Brown bear ( <i>Ursus ursus arctos</i> )								1
Human		1	2	14	9	2	2	10
Domestic Fowl ( <i>Gallus gallus</i> )			35	156	340	31	41	48
Bantam				22	33	1		6
Goose ( <i>Anser anser</i> )			2	5	20	1	8	1
Duck ( <i>Anas platyrhynchos</i> )			1		9	1		1
Teal ( <i>Anas crecca</i> )					3			
Partridge ( <i>Perdix perdix</i> )			1	1	3			1
Pheasant ( <i>Phasianus colchicus</i> )				3	1			1
Curlew ( <i>Numenius arquata</i> )					1			
Golden/Grey Plover ( <i>Pluvialis</i> sp)					2			
Woodcock ( <i>Scolopax rusticolla</i> )				1				
Crow ( <i>Corvus corvus</i> )					9			
Chicken-size			3	10	35	9	4	5
Uniden. bird				5	5	2	3	2

Fish								1
Indeterminate		4	10	66	67	5	34	33
Total	33	47	1043	4333	5535	1148	2091	2959

Table 4: Counts of hand collected animal bone in the prehistoric and Roman phases

Particular concentrations were recovered from the fills of a large ditch, groups 930 (Area C2) and 1120 (E1), with 561 fragments, and also from building groups 920/921 and 926 (both in Area C2), with 327 and 245 fragments respectively. Several of these buildings were constructed either side of a metalled road, which represents the topmost feature of the aforementioned ditch. Various dumps and other cut features provided copious quantities of bones, with relatively large assemblages arising from Groups 305 (Area A, 286 fragments), 175 (Area C1, 130 fragments), 254 (Area A, 183 fragments) and Group 364 (Area G1, 125 bones) and 1124 (Area E1, 127 fragments) respectively.

Domestic occupation continues into Phase 5, dated to approximately the mid 2nd century, which is marked again by the deposition of large quantities of bone waste. Most of the bones in this phase were recovered from dumps, with particular concentrations taken from group 284 (Area A, 583 fragments) and group 1118 (Area E1, 981 fragments). Unlike the previous phases, a notable proportion of the assemblage was recovered from the southeastern part of the site, principally derived from a ditch aligned southwest to northeast within Areas F1, F2/G2 and D. This provided 449 fragments arising from groups 350 and 5 located in Areas F1 and F2/G2 respectively. The artefactual information from this feature strongly suggests it had some ritual significance and for this reason has been interpreted as the “*temenos* ditch” marking the eastern boundary of the temple precinct (see below).

The end of Phase 5 or perhaps the beginning of Phase 6, dating from the mid 2nd century, coincides with the demise of the clay and timber buildings, followed by further consolidation and then, in Phase 6, by the construction of two identical square masonry buildings, interpreted as Romano-Celtic temples (situated in Areas C1/C2 and E2). The abandonment of the domestic buildings and the construction of the ‘temples’ would appear to have taken place in the second half of the 2nd century. Now the aforementioned “*temenos* ditch”, placed in Phase 5, would appear to predate the construction of these structures. However, the dating evidence of the fills (generally AD 120 to 200) may suggest a contemporary usage of this feature and the temple precinct buildings.

The greatest concentration of Phase 6 bones was found in groups 1114 (postholes, 128 fragments) and 1116 (make-up for a mortar floor, 100 fragments) in Area E1, and groups 516 (floor, 101 fragments) and 517 (ditch, 68 bones) in Area F1. There were no bones recovered from the various groups in the vicinity of the temple structures, although it can be conjectured that those found in Area E1, just west of the northern temple, may have had some connection with activities within the temple precinct. The mortar floor group 1110 (placed in Phase 7), above the aforementioned make-up layer was situated to the west of the northern temple. It was suggested that the “*temenos* ditch” fills might actually date to this phase. Otherwise, it is of interest that the other major concentration of Phase 6 bones was found in an approximately similar area of the site and that many were found in a ditch.

The animal bone collections in each of the early Roman phases is dominated by the major mammalian domesticates, here including the cattle- and sheep-size fragments, which are likely to belong to cattle/horse and sheep/pig respectively (Table 4). Amongst the three main food species, there is a notably good representation of pig bones (Table 5), rising from an approximate level of parity with cattle and sheep in Phase 3 to a dominant position in Phases 4, 5 and 6. This is rather unusual for Roman London, where cattle bones tend to form the major part of the assemblage. Such cattle dominated collections have been found throughout the City and Southwark, clearly representing the major meat provider throughout the occupation period (see Rielly 2006, 114; Ainsley 2002, 265). It can be argued that a greater dependence/preference for pork may be related to status, as demonstrated at early Roman Winchester Palace (Rielly 2005, 166). The level of affluence at the Winchester Palace site was not only linked to the faunal evidence but also to certain artefacts as well as painted wall plaster (Yule 2005, 84). Notably, however, each of these sites provided very similar domestic structures, the clay and timber buildings that

were commonly used throughout Roman London in the first two centuries of the occupation period. This suggests that status was not necessarily linked to architecture.

Phase	C	H	S/G	P	N
3	28.6	8.7	32.3	30.4	458
4	23.3	7.2	26.2	43.3	1906
5	26.9	2.4	20.6	50.1	2411
6	27.8	9.5	17.9	44.8	435
<b>Early Roman (3-6)</b>	<b>25.8</b>	<b>5.3</b>	<b>23.5</b>	<b>45.4</b>	<b>5210</b>
7	48.2	7.8	15.2	28.8	879
8	52.6	12.4	11.2	23.8	1184
<b>Late Roman (7-8)</b>	<b>50.8</b>	<b>10.4</b>	<b>12.9</b>	<b>25.9</b>	<b>2063</b>

Table 5: Percentage abundance of major domesticates in the Roman phases where C is cattle, H is horse, S/G sheep/goat, P is pig and N is the combined total number of fragments.

A good representation of pig bones may, however, also relate to a demonstration of 'ritual' behaviour. Of particular interest is the relatively high counts of pig bones arising from the "*temenos* ditch", as clearly shown by a comparison of species abundance within each of the site areas (see Table 6). Here, the "*temenos* ditch" assemblages account for almost all the bones from Areas F1 and F2/G2 dated to Phase 5. In the absence of any obvious ritual element to the site in Phase 4, it can be assumed that the high counts of pig bones are related to issues of preference and/or status. The latter explanation could also be used for much of the Phase 5 data, with the notable exception of the aforementioned ditch. Pig bones are again well represented in Phase 6, but less so than Phase 5 overall (Table 5) plus very few area assemblages produced much more than 40% pig, contrasting with both the Phase 4 and 5 collections. The exception, Area F1, is perhaps significant considering the former location of the "*temenos* ditch", and notably both the ditch (Group 516) and floor (Group 517) assemblages produced more than 60% pig. It can perhaps be supposed that the Area F1 deposits were derived from some ritual activity, while the bones from other parts of the site are undoubtedly different from numerous other Roman assemblages that tend to be cattle dominated (as described above), but are relatively similar to those interpreted as domestic waste from Phases 4 and 5.

Phase 4	A	B1	B2	C1	C2	E1	F1	F2/G2	G1
Cattle	20.4	31.1	19.6	19.1	19.4	23.2	18.6		38.1
Sheep/Goat	27.2	35.6	41.0	27.5	22.3	19.3	15.7		35.2
Pig	49.7	33.3	37.5	51.9	35.8	54.6	55.7		24.6
Horse	2.7	0.0	1.9	1.5	22.5	2.9	10.0		2.1
N	334	90	56	131	355	207	70		236
<b>Phase 5</b>									
Cattle	43.2	26.7	33.3	27.1	22.1	33.8	18.3	10.9	18.9
Sheep/Goat	13.3	18.9	28.3	16.5	23.7	23.4	7.8	12.0	24.1
Pig	41.5	54.4	35.0	56.0	51.8	41.6	71.3	72.0	53.5
Horse	2.0	0.0	3.4	0.5	2.5	1.3	2.6	5.1	3.5
N	301	90	60	218	485	462	115	175	344
<b>Phase 6</b>									
Cattle		35.0	40.4			27.1	10.5	16.7	25.0
Sheep/Goat		15.0	17.0			23.7	14.0	20.0	13.6
Pig		40.0	36.2			42.4	70.9	36.7	38.6

Horse		10.0	6.4			6.8	4.7	26.7	22.7
N		40	47			59	86	30	44

Table 6: Percentage representation of major domesticates in Phases 4, 5 and 6 sorted by area, where N is the combined total number of fragments for each area and phase.

The similarity also extends to the age distribution of the pigs represented in each of these phases, where the great majority were culled in their second year. The remainder included minor proportions of juveniles (1st year) and adults (older than 2 years of age). This is in fact a general pattern, followed by the majority of Roman sites in London (see for example Rielly 2005 and 2006), perhaps indicating that animals brought to the precinct were no different to those regularly slaughtered for domestic consumption. The cattle and sheep in these early phases also follow a city wide trend with a great majority of adult individuals, the former with an emphasis on older adults, suggesting a greater usage of animals previously employed for work purposes and/or dairy production.

Several other food species featured amongst the early Roman deposits, with a notable variety of animals and birds within the domestic occupation phases, in particular in Phase 5. These include major concentrations of domestic fowl (with a large proportion of small fowl which could be bantams) and a combination of other poultry (goose and duck) as well as game species. There is an appreciable quantity of deer bones, which affords another similarity to the clearly affluent neighbourhood at Winchester Palace (Rielly 2005, 114). The recovery of fallow deer is of interest, this adding to a growing corpus of such finds suggesting that this species was first introduced to this country by the Romans, prior to its eventual and successful introduction by the Normans (Sykes 2003). Other examples from London include single specimens from Courages Brewery (Pipe 2003, 176, 182), 1 Poultry (Pipe in prep), 101 Queen Victoria Street (Bendrey 2008) and Watling Court, 41-53 Cannon Street (West 1983). Each of these bones, with the exception of Courages where dating was problematic, derive from deposits dating to the 2nd century. While fallow deer bones have been found at other Roman sites in England, the actual sum total of finds is still rather small, which perhaps suggests the importation of very few animals (for whatever reason) or even the import of preserved joints. These few finds include a majority of antler and foot parts, which could then suggest a craft, rather than a meat or live trade (Sykes 2003, 79). One of the London examples, from 1 Poultry is a foot bone, but the remainder are clearly from meat joints. The presence of rabbit, another supposed early medieval introduction, could be explained by the intrusion of this burrowing species into lower levels. If redeposited it is worth noting that no post-Roman potsherds were found in this deposit [9553] group755, although a single sherd dated 1000 to 1150 was found in pitfill [10320] in the same stratigraphic group.

Amongst the non-food species, there were notable concentrations of dog and horse, in particular from Phase 4 deposits. Both species feature a series of semi-articulations, with one relatively complete adult dog [4578], located within a shallow ditch [4579] group 555. Most of the horse bones in this phase were recovered from strata within Area C2 (see Table 6), with a large proportion of these taken from layer [6976], a levelling deposit associated with the clay and timber building group 920 (48 out of 87 bones). These represent the fragmented remains of two skulls. In addition there were a few bones from a rather small individual, possibly a small pony or a donkey from pit [6769] group 929. It is unusual to find so many horse bones associated with domestic levels, which tend to be concentrated otherwise at the periphery of the city and the Southwark suburb (see Barber and Bowsher 2000, 80).

Following the establishment of the temple precinct in Phase 6 there is a marked decrease in bone waste, with a notable drop in the number of food species recovered. It is generally agreed that the number of species identified in any given assemblage is directly linked to the number of bones. However, this cannot explain the dramatic reduction in deer bones. Also of interest is the relatively poor representation of chicken, at least in comparison to Phase 5. It could be supposed that chicken may have played an important part in the ritual use of this area, as suggested by the general abundance of pig and chicken amongst Roman gravegoods (Sidell and Rielly 1998, 99) and also at other ritual sites in London, as the Walbrook mithraeum (Macready and Sidell 1998) and the supposed 'temple' at 20-30 Gresham Street (Rielly in prep a) both dated to the 3rd/4th centuries. However, the areas with a high pig content (Areas E1 and F1) in Phase 6, fail to show a similar abundance of chicken.

#### Late Roman (Phases 7 and 8)

The dating evidence for these two phases suggests a degree of overlap but essentially Phase 7 dates to the 3rd century while Phase 8 dates to the 4th century. A high proportion of the third century material is dated to after AD 270 and might therefore spill over into the 4th century, in many cases the pottery dating cannot be more precise. Both phases incorporate a series of cut features and dump layers, all apparently contemporary with the continued use of the temple precinct, as suggested by the recovery of the late 4th century inscribed marble tablet. Structural remains were limited to the two temples, though the southern temple probably went out of use by Phase 8; the foundation trench of an odd square structure, each side 4 metres in length in Area G3 in the north-eastern part of the site; and a substantial winged building situated in the centre of the site within Areas B1 and B2. Evidence related to the G3 building dated it to Phase 7, while a possible construction horizon for the 'winged building' was dated to Phase 8. Most of the bones taken from deposits related to this structure were actually found in Phase 9 levels, these probably signifying squatting activity or dumps associated with the robber trenches (see below). Each of these structures appears to be associated with features linked with the temple precinct. The winged building with the east-west aligned precinct wall that separated the two temples, and the G3 building with the northeastern extremity of the "temenos ditch". This evidence would suggest each building had some role to play in the religious activities practised in this area.

Both phases feature a widespread distribution of animal bone collections, although the later phase is somewhat more limited spatially. Thus while the Phase 7 bones include concentrations within Areas B1, G1 and G3, the Phase 8 assemblages were mainly consigned to the western central areas i.e. Areas C1, C2, A and B2 (see Table 3). In the earlier phase, the G3 bones were mainly taken from deposits associated with the aforementioned square structure, gravel surface group 74, while those from Areas B1 and G1 are the remains of various dump deposits. The bones from one of the better-represented areas, B2, in Phase 8, were largely contributed by a possible construction horizon for the 'winged building', group 966. Otherwise, most of the central area bones dated to this late phase were provided by a series of ditch fills, especially groups 193 (Area C1), 886 (Area C2) and 285 and 534 (Area A). These features possibly represent the remains of a late Roman field system. The continuation of ritual activities, or at least the culmination of a feature interpreted as ritual, is attested by Phase 7 and 8 fills within the "temenos ditch". These include group 21 in area F2/G2 and, in the later phase, group 787 in Area D. The G3 bones, following the above arguments, may also have a ritual derivation.

Phase 7	E1	C1	C2	B1	B2	G1	F2/G2	G3
Cattle	26.7	38.9	37.1	52.5	63.9	58.0	28.3	41.1
Sheep/Goat	17.8	8.3	36.0	20.3	13.9	13.8	16.7	10.7
Pig	55.6	50.0	24.7	20.8	22.2	22.9	46.7	23.2
Horse	0.0	2.8	2.2	6.4	0.0	5.3	8.3	25.0
N	45	36	89	236	36	188	60	56

Table 7: Percentage representation of major domesticates in Phase 7 sorted by area, where N is the combined total number of fragments for each area.

Phase 8	E2	C1	C2	A	B1	B2	F1
Cattle	68.0	44.9	53.9	56.6	48.3	59.1	48.9
Sheep/Goat	8.6	12.3	10.8	10.0	10.0	9.7	12.8
Pig	17.2	37.0	26.3	23.3	25.0	23.7	12.8
Horse	6.3	5.8	9.0	10.0	16.7	7.5	25.5
N	128	138	167	249	60	93	94

Table 8: Percentage representation of major domesticates in Phase 8 sorted by area, where N is the combined total number of fragments for each area.

The dominant food animals within the combined late Roman collections are similar to those from the previous phases (Table 4), but with a marked increase in the proportion of cattle at the expense of both sheep and pig (Table 5). Within this general contribution, however, there is a marked variation in species abundance with some notable examples of a continued trend towards pig dominance in certain areas. This is shown specifically in Phase 7 within the area between the temples, in Areas E1 and C1, and also in the southeastern part of the site, in Areas F2/G2 (see Table 7). These follow the Phase 6 pattern regarding rubbish disposal to the west of the northern temple, while the F2/G2 bones, as described above, were mainly derived from the fills of the “*temenos* ditch”. It can be assumed, following the Phase 6 evidence, that there was a similar preference for the use/deposition of pig meat within the precinct during this later phase, perhaps signifying the continued veneration of a particular deity. The relatively minor count of pig bones from deposits associated with the G3 structure could either suggest an absence of ritual activity or that such ‘offerings’ had become mixed with collections from other sources. There would appear to be an abundance of pig bones in Phase 8 Area C1 (Table 8) but this is nowhere near the high levels shown by Areas C1 and E1 in Phase 7. The continued, and probably final, use of the “*temenos*” ditch, forming most of the Area D assemblage, was too small to warrant inclusion in this table. However, it can be mentioned that this assemblage was largely composed of cattle fragments, reflecting the general pattern for this phase.

The increased use of cattle had no appreciable effect on the age distribution of the animals exploited for their meat. Indeed the age pattern for each of the major domesticates is very similar to that described from the earlier phases. In addition, each species is also represented by a relatively wide distribution of skeletal parts, again in common with those from earlier levels. This indicates the lack of evidence for any specialist activities (industrial/craft or butchers) in or near to this site, either during the domestic, ritual or latest phase.

It was noted that there was a reduction in other food species following the abandonment of the domestic settlement. This pattern continues into these later phases, including a minor representation of poultry and a rather sparse collection of large game. Amongst the food waste, there is a single rabbit bone, this from a Phase 8 posthole fill [8995] in Area E2. This could be redeposited, in comparison to the earlier find, especially considering its height in the stratigraphic sequence. Yet there is no evidence of such from the dating information, with potsherds from other group 1012 deposits exclusively limited to late 3rd/4th century types. Dog and horse again dominate the non-food waste, the latter relatively well represented in Phase 8 (see Table 5). The horse bones were largely derived from various dumps and ditchfills in Areas A, F1 and G3. In comparison to the previous horse bone assemblages, there were no butchered bones and the majority were in a state of semi-articulation. This strongly suggests they represent the remains of disturbed (possibly by scavengers or through redeposition) carcasses. As mentioned previously, it is common to find concentrations of horse bones at the periphery of Roman London, away from domestic occupation, and it can certainly be supposed that this was the case at Tabard Square by the later 4th century.

There was one particularly important find, a bear femur, recovered from ditchfill [12019], group 16 in Area F2/G2. This is probably brown bear and almost certainly from an adult individual (shaft only). It represents one of only three bear bones recovered from Roman London, the others including another femur from a Roman deposit (no more dating information available) at Courages Brewery (Pipe 2003, 178) and a complete skull from a late 4th/early 5th ditch fill at Drapers Gardens (Rielly 2008, 318). Without further parts it is difficult to conjecture about the use or the provenance of this bear, as a single bone could represent no more than a preserved joint or even a keepsake. However, it is perhaps of interest that two out of the three bear bones so far discovered are from late Roman deposits.

#### Very Late Roman to Medieval (Phases 9 and 10)

Phase 9 represents the end of the Roman period and the gradual transition to a period where a Romanised lifestyle was no longer apparent but a distinctly medieval system of governance and economy was yet to develop. Most of the Phase 9 deposits and features can be dated to the very late Roman period on the basis of their finds. It is also notable that the species representation concerning the major domesticates and the absence of deer (and fallow deer in particular) is more similar to the late Roman

than true medieval phases (see Tables 4 and 9). Regarding the major domesticates the essential point is the larger proportion of pig than sheep bones in both the late Roman and Phase 9 collections, whereas Phase 10 features more sheep than pig (see Tables 5 and 10).

Many of the Phase 9 bones were retrieved from a selection of areas, largely situated at the western half of the site (Table 3), with a notable quantity recovered from Area B2 (518 bones), Area C1 (329 bones) and Area G1 (309 bones). These assemblages were invariably from various layers/dumps with the exception of those from the robber trenches associated with the 'winged building' complex in Areas B1 and B2. In contrast with the better represented collections, most of these were rather poorly dated and also appear to have suffered a far greater level of fragmentation, perhaps associated with redeposition. One of the larger collections, from group 954, Area B2, comprised 311 fragments, of which 235 were cattle-size long bone pieces. The relatively high proportion of pig shown for Area B2 (see Table 11) is almost entirely related to the bone content from levels adjacent to the robber trenches in group 159 which are dated to the 4th/early 5th century. These could represent the late use of the winged building or squatter activity sometime after its demise. The other area with a relatively high proportion of pig bones, G1, was also mainly retrieved from late Roman deposits.

Species	Phase				
	9	10	11	12	13
Hand collected					
Cattle	424	845	2319	610	227
Horse ( <i>Equus caballus</i> )	72	167	48	423	60
Cattle-size	783	769	2498	627	144
Sheep/Goat ( <i>Ovis aries</i> / <i>Capra hircus</i> )	107	253	1254	528	146
Sheep ( <i>Ovis aries</i> )	24	152	1442	623	206
Goat ( <i>Capra hircus</i> )		10	21		
Pig ( <i>Sus scrofa</i> )	203	304	394	224	98
Sheep-size	355	794	1596	419	186
Red Deer ( <i>Cervus elaphus</i> )	1	7	24	4	1
Fallow Deer ( <i>Dama dama</i> )		4	9	1	1
Large cervid		1	10	2	2
Roe deer ( <i>Capreolus capreolus</i> )	1	3	12	1	1
Dog ( <i>Canis familiaris</i> )	20	41	154	211	118
Fox ( <i>Vulpes vulpes</i> )		3			
Cat ( <i>Felis catus</i> )	1	3	87	94	58
Hare ( <i>Lepus europeus</i> )	2	1	2	2	3
Rabbit ( <i>Oryctolagus cuniculus</i> )		1	30	7	3
Small mammal	6	15	93	181	51
Hedgehog ( <i>Erinaceus europaeus</i> )			1		
Small rodent	1	2	1		1
Brown bear ( <i>Ursus ursus arctos</i> )					
Homo	1	10	3	1	1
Whale					1
Domestic Fowl ( <i>Gallus gallus</i> )	51	54	53	24	11
Bantam	1	1			
Goose ( <i>Anser anser</i> )	6	9	32	8	2
Duck ( <i>Anas platyrhynchos</i> )			3		
Partridge ( <i>Perdix perdix</i> )			3	1	

Pheasant ( <i>Phasianus colchicus</i> )	1	4			
Woodcock ( <i>Scolopax rusticolla</i> )	1		3		
Crow ( <i>Corvus corvus</i> )			1		
Chicken-size	3	7	9	6	
Uniden bird	2	1	3	4	3
Fish			8	2	
Amphibian				1	1
?Green turtle ( <i>Chelonia mydas</i> )				2	
Indeterminate	19	72	130	46	12
Total	2087	3533	10243	4053	1343

Table 9: Counts of hand collected animal bone in the medieval and post-medieval phases (excluding the contents of the knuckle-bone floor [101]).

Phase	C	H	S/G	P	N
<b>Medieval</b>					
9	51.0	8.9	15.7	24.4	832
10	49.1	9.7	23.5	17.7	1721
<b>Post-medieval</b>					
11	42.5	0.9	49.4	7.2	5454
12	25.3	17.6	47.8	9.3	2407
13	30.8	8.1	47.8	13.3	737

Table 10. Percentage abundance of major domesticates in the medieval and post-medieval phases where C is cattle, H is horse, S/G sheep/goat, P is pig and N is the combined total number of fragments.

Phase 9	B1	B2	C1	E2	F1	G1
Cattle	36.3	48.4	50.0	77.5	66.0	36.4
Sheep/Goat	25.0	17.6	18.4	8.5	5.2	14.0
Pig	22.5	31.9	24.7	12.7	8.2	42.0
Horse	16.3	2.2	7.0	1.4	20.6	7.7
N	80	91	158	71	97	143

Table 11. Percentage representation of major domesticates in Phase 9 sorted by area, where N is the combined total number of fragments for each area.

The Phase 10 assemblage was taken from deposits varying in date from the 10th through to the 15th centuries, although there appears to be a concentration within the mid 13th to 14th centuries. Bones dating to this phase were relatively widespread but with notable proportions in the northwest (Areas E1 and C1), southwest (Areas G1 and F1) and middle areas (Areas B1 and B2) of the site (see Table 3 and 12). These were almost entirely retrieved from ditches, several of which were quite extensive and undoubtedly relate to late medieval attempts to drain this area of Southwark. However, there were also some pitfill collections, particularly in Area G1, which may be associated with houses fronting onto Tabard Street, i.e. on the western side of the site. The upper end of this street was certainly developed by the later medieval period. There is no obvious difference between the bone assemblages taken from the ditches or the pits and the general pattern, taken as a whole or looking at particular areas, tends to show a wealth of cattle, followed by sheep and then pig or by an equal proportion of sheep and pig (see Tables 10 and 12).



Phase 10	A	B1	B2	C1	C2	E1	F1	G1
Cattle	56.7	48.8	57.4	49.1	46.8	64.5	37.5	39.3
Sheep/Goat	20.0	30.4	29.5	18.3	29.8	13.9	25.5	27.2
Pig	21.1	12.1	9.8	21.1	21.3	18.1	23.2	17.2
Horse	2.2	8.8	3.3	11.4	2.1	3.5	13.9	16.3
N	90	240	61	175	94	259	259	338

Table 12. Percentage representation of major domesticates in Phase 10 sorted by area, where N is the combined total number of fragments for each area.

The lack of deer in Phase 9 has already been mentioned, which contrasts with the relatively good representation of these large game animals in Phase 10, here including fallow deer. It is perhaps surprising that rabbit, the other Norman introduction, is rather poorly represented. This could relate to food preference in combination with the fact that such small bones are not so easily recovered by hand. The other food species closely reflect the Roman evidence, with a good proportion of poultry and various small game animals and birds. Both Phase 9 and 10 provided relatively large amounts of non-food waste and horse bones in particular. It can be supposed that the general rule regarding the deposition of horses in peripheral areas was equally true for the medieval and Roman periods.

#### Post-medieval (Phases 11 to 13)

As described in the introduction, the full excavation of the post-medieval levels was limited to Trenches 1, 2 and 3. However, the second incursion, though truncated down to the Roman levels, also features post-medieval deposits, due to the presence of several large ditches and numerous pits cut through the underlying levels. The quantities of bones recovered from the Trenches and then the various parts of this second incursion are shown in Table 13.

Excavation	Phase		
	11	12	13
Trench 1	2.3	20.3	31.3
Trench 2	1.4	19.7	16.3
Trench 3	14.7	0.7	0.2
All areas	81.6	59.3	52.2
Total number of bones	10243	4051	1343

Table 13: Percentage representation of bones in each Trench and within the second incursion using total fragment counts.

The Phase 11 assemblage, mainly dating from the late 16th to the mid 17th centuries, was almost entirely provided by cut features, the great majority from pit fills. These were particularly concentrated in the northeastern quadrant of the site, incorporating Trenches 1 and 3, as well as Areas E3, E4 and D (see Table 3). The site featured an extensive system of ditches and a number of these provided large assemblages, especially ditch [50] groups 1237 and 1238 in Trench 3, [4099] group 571 in Area B1, [1036] group 268 in Area A and [9164] group 78 in Area E4. The latter feature formed the parish boundary between St George's in the west and Bermondsey to the east. The large scale pitting would suggest extensive waste dumping, no doubt associated with the late medieval/early post-medieval development in the southern part of Borough High Street extending along Kent Street (later named as Tabard Street), as mentioned above. Notably, the majority of the bones from the southwestern Areas G1 and F1 were recovered from pits, while a large proportion of the Area A bones were taken from a 17th century barrel well group 242. This follows the Phase 10 evidence for dumping behind the presumed Tabard Street frontage.

A major difference to the previous phase assemblage is the marked increase in sheep/goat at the expense of cattle and pig (see Table 10). There is a generally wide distribution of skeletal parts for all three domesticates, which suggests this difference is related to meat preference/availability rather than

variable deposition practises, most notably through local industrial practises or by the accumulation of waste from butchers shops/markets. There are a few deposits with a high proportion of sheep mandibles, which could be indicative of a bias towards butchers' waste. However, these do not form a major part of the overall Phase 11 assemblage.

Southwark, or rather Bermondsey, is well known for its tanning industry, which was underway from at least the 16th century centred along Bermondsey Street, and expanding along Long Lane into the 17th century (Rielly in prep b). This industry appears to have been largely concerned with the light leather trade (mainly sheep skins), although at the outset the evidence suggests a mixture of light and heavy trades (the latter involving cattle skins). Both trades may have been in operation at this site during this phase, as shown by various strands of evidence within the western part of the site. Two rectangular pits, [859] group 247 in Area A and [12171] group 389 in Area G1, with early 17th century fills have been interpreted as tanning features, although it is unknown if they were lined. Their contents however are significant, both providing concentrations of cattle metapodials, all of which are unfused at the distal end. These could be interpreted as the waste from some specialist tanner dealing in the skins of young cattle. In addition, a rectangular cattle horncore-lined pit [12520] was found somewhat to the south in Area G1. This structural use of horncores is fairly common in Bermondsey, with other examples from this period, and clearly signifies the local presence of either hornworking or, more probably, tanning establishments. Two barrel-lined pits [835] group 247 and [3676] group 245, approximately 1.5 metres in diameter were found in Area A. While neither contained any obvious tanning waste, such features have been found at other tanning sites and their ability to retain liquid would have made them suitable for tanning purposes. Their size would suggest they would have been used for smaller skins, such as sheep and goat. [3676] has been placed in Phase 12 due to the dating of other elements within the sequence which it truncated, although the small pottery assemblage recovered from its fill is apparently contemporary with that found in [835]. The interpretation of this feature as a barrel-lined pit (Yeomans 2006, 157) doesn't agree with the PCA site records, which suggests it is a barrel-lined well. This might be seen as a very difficult judgement to make and these interpretations will obviously have some bearing on whether this is in fact a tanning feature. Notably, there are numerous other barrel-lined wells dating to Phases 11 through to 13, and it is conceivable that a proportion may be reinterpreted as pits rather than wells following a more thorough review of the stratigraphic evidence. Further possible tanning features, also placed in Phase 12 but which appear to be contemporary are described below. At this stage of the proceedings, however, there would appear to be sufficient evidence to suggest the presence of a small scale tanning works in this area in the early part of the 17th century perhaps dealing in both cattle and sheep/goat skins.

There is the possibility that the local tanners dealt in other species. While there is a lack of horse bones, certainly in comparison to the next phase, there is a large quantity of dog and cat bones. These may represent the remains of unwanted carcasses, however, two of the dog bones had cut marks, a radius from [2615] group 571 in Area B1 and a tibia from [1439] group 243 Area A. While not very low on the leg, it is conceivable that these cuts could be skinning marks.

The great majority of the Phase 11 sheep are adult, following the medieval evidence, showing no doubt the continued importance of the woollen industry. In sharp contrast, the cattle and pig remains show a marked reduction in adult individuals (see Table 14). Also of interest is the greater proportion of older compared to younger adults (Age Group 4) and the much larger proportion of young individuals. The great majority of the age group 1 mandibles were from individuals aged less than 6 months and most probably represent veal calves. This combination of older cattle and veal calves is fairly typical of this period in England, with a bias towards dairy production providing an excess of calves (Albarella 1997, 22).

	Age group	Age	Phase				
			9	10	11	12	13
Cattle	1	<1.25 yrs	0.0	3.3	55.9	26.3	37.5
	2	1.25-2.25 yrs	7.1	13.3	4.4	15.8	12.5

	3	>2.25 yrs	21.4	23.3	4.4	15.8	12.5
	4		71.4	60.0	35.3	42.1	37.5
	<b>N</b>		<b>14</b>	<b>30</b>	<b>68</b>	<b>19</b>	<b>8</b>
Sheep/Goat	1	<1 yr	0.0	3.2	4.8	3.6	5.9
	2	1-1.75 yrs	28.6	6.3	2.8	2.1	2.9
	3	>1.75 yrs	42.9	42.9	60.6	60.1	52.9
	4		28.6	47.6	31.8	34.2	38.2
	<b>N</b>		<b>7</b>	<b>63</b>	<b>459</b>	<b>193</b>	<b>34</b>
Pig	1	<1 year	30.8	25.0	34.1	48.0	43.8
	2	1-1.5 yrs	38.5	34.4	47.7	48.0	50.0
	3	>1.5 yrs	30.8	40.6	18.2	4.0	6.3
	<b>N</b>		<b>13</b>	<b>32</b>	<b>44</b>	<b>25</b>	<b>16</b>

Table 14: Percentage representation of medieval and post-medieval cattle, sheep/goat and pig mandibular age groups, where age groups equal:- 1. second adult molar (M2) unworn, 2. M2 worn and third adult molar (M3) unworn, 3. M3 early wear (stage 'a' to 'f' after Grant 1975) and 4. M3 advanced wear (stage 'g' and greater). N is the number of aged mandibles and age after Schmid (1972, 77).

Of interest is the relatively good representation of game species and especially of deer, these arising in particular from the large ditch [50] in Trench 3, signifying the local presence of high status households.

The Phase 12 bones are essentially divided between Trenches 1 and 2 and a selection of areas, in particular Areas C1, C2, E4 and G1 (see Tables 3 and 13), all generally dated between the late 17th and mid 18th centuries. A large proportion of the bones throughout these areas were taken from pits, although notable concentrations were also recovered from a few ditches (especially the previously mentioned boundary ditch group 79 in Area E4), from two barrel wells, groups 278 and 407 in Area G1, and from a rather unusual layer interpreted as a floor support in Trench 2. Throughout these deposits, the assemblages feature the usual dominance of major domesticates, showing a further increase in sheep/goat at the expense of cattle compared to Phase 11 (see Table 10). Sheep/goat was particularly well represented in Trench 1 and Area E4 deposits (see Table 15) and especially in the boundary ditch fills group 783 within the latter area. These concentrations reflect a heavy bias towards head parts, signifying, as seen in Phase 11, the dumping of butchers waste in these northern parts of the site. It can be assumed that a proportion of this waste material derived from buildings fronting onto or slightly back from Long Lane. A relatively large strip building, which could be domestic, was excavated in Trench 1 and it is conceivable that other buildings were present in the truncated areas to the west and east of this trench.

Phase 12	Area C1	Area C2	Area E4	Area G1	Trench 1	Trench 2
Cattle	51.1	31.3	23.2	29.6	25.2	15.1
Sheep/Goat	33.7	52.0	69.0	44.5	63.9	22.3
Pig	12.0	16.2	6.9	20.3	10.7	1.7
Horse	3.3	0.5	0.9	5.6	0.2	61.0
Total	92	198	319	301	504	651

Table 15. Percentage representation of major domesticates in Phase 12 sorted by Trench and Area, where N is the combined total number of fragments for each area.

Table

This phase witnessed a continuation of the tanning works described from the previous phase consisting of a rather large rectangular tanning pit [200] group 1222 predating a timber structure group 1212, external floors/yards (including knuckle-bone floor [101] group 1210) and further tanning pits, all in Trench 2. One of these yards, in group 1221, provided a layer of wood chips, which could represent either unused or

waste oak chips used in the tanning process. It should be mentioned that the concentration of such evidence in Trench 2 is probably related to the manner of excavation. However, there were at least two timber-lined pits in Area C1 and this same area and Area G1 have produced a number of barrel-lined wells that would benefit from reanalysis regarding a possible interpretation as tanning features. Further evidence for such activities could be proposed. It can be seen that the Trench 2 deposits provided a large quantity of horse bones (Table 15), the majority of which were recovered from the large tanning pit [200] (135 bones) and from the make-up of a floor (166 bones), although a small concentration was also found within one of the G1 barrel-wells [12167] group 387 (13 bones). The equid bones from all of these deposits were from adult individuals and as in the former collections, were composed almost entirely of complete or relatively complete limb bones. In the floor feature, these limb bones had been arranged side-by-side, perpendicular to and either side of a mortar pathway, presumably within a building, partly supporting a floor composed of timber planks.

The large quantity of horse bones in the floor support would suggest a ready availability of such 'construction' materials, probably from a local knackers yard. As this site also provided large dumps of horse bones, it follows that this yard was relatively close by and/or that horse skins were being processed in the vicinity. The large tanning pit [200] would certainly have been large enough for such skins. There is an obvious difference here regarding the organisation of the horse as against the cattle or sheep skinning trade. It would appear from this evidence that the horse tanner received whole carcasses, which he then skinned. This is in sharp contrast to the cattle or sheep tanner where just the skins were delivered, with some portion of the skull and/or the feet still attached. There is a single case of butchery from the floor support collection, a metatarsus with a few cuts around the distal end, which could be interpreted as skinning marks. Otherwise three horse bones, all upper limb parts, with cut marks were recovered from the barrel well. These clearly show that this horse (or horses) had been jointed, perhaps signifying some use of their meat. There is little doubt, from the arrangement of the bones in the floor support, that these were formed from dismembered carcasses, although it cannot be ascertained whether this was achieved using fresh or well rotted carcasses. Apart from the aforementioned skinning cut, no other cut marks were observed on the horse bones in this collection. As well as horse, this phase also provided large concentrations of dog and cat bones. Both species may have contributed to the local tanyard, although unlike the Phase 11 evidence, there were no bones with cut marks.

While the few Phase 12 tanning pits would have been suitable for the tanning of cattle hides, there is no evidence from the bone collections to suggest the presence of a tanyard specialising in the heavy leather trade (here it should be pointed out horses were traditionally included in the light leather trade). It was mentioned that these large pits might in fact have been used to tan horse skins. The bone collections do, however, point to the local processing of sheepskins, most obviously by the copious foot bones making up the knuckle-bone floor (see below). In addition, minor concentrations were recovered from the horse bone floor, where out of 61 sheep bones recovered, there were 34 metacarpals and 26 metatarsals, most of which were complete; and also from the layer immediately above this structure, group 1211, where all 14 sheep bones were metapodials (7 metacarpals and 7 metatarsals), again mainly complete.

The knuckle-bone floor, located just to the south of the horse bone pathway, consisted of a large number of vertically placed, distal end upwards, sheep metapodials, comprising 612 metacarpals and 245 metatarsals. The breakage patterns were clearly dependant on the bone used where just 48 of the metacarpals were complete compared to 160 metatarsals. 397 of the metacarpals and 19 of the metatarsals consisted of a distal end and some shaft. Comparisons can be made with the "knuckle-bone" floor at 8 Tyers Gate where there were a similar disproportionate number of metacarpals (total of 338 bones constituting an approximate 10% sample) where, in this example, the vast majority of the bones were broken (distal end pieces broken close to the proximal end comprising 99.1% of this sample). The question to be asked here is whether the bones were broken in order to make it easier to construct the floor or whether these bones were supplied in this state, the breakage carried out at the tanyards in order to facilitate removal of their fats (marrow etc). The latter conclusion is borne out by historical evidence (Divers et al 2002, 74) and also by dumps of metapodials found at nearby tanning sites, namely at Tower Bridge Road (Rielly 2007), which incidentally also provided far more metacarpals than metatarsals. However, Divers et al (2002, 73) also refers to an account of the construction of a "knuckle-bone" floor where bones were 'halved' prior to being 'embedded'. It is not clear, however, whether the floor maker in

this instance was responsible for this breakage or if the bones were procured already broken. The Tabard Square evidence suggests that such floors needn't have used broken bones, which may also point to the fact that while fatty products were removed from sheep metapodials at the tawyers/tanners, this process was not carried out religiously.

Turning to the food component of the Phase 12 collections, there is a clear continuation of the veal and dairy economy suggested from the Phase 11 evidence, as well as a fondness for adult sheep (mutton). There appears, however, to have been a major change in pig consumption, with a decline in older individuals, perhaps suggesting a greater intensity of exploitation for their meat (Table 12). Game and poultry are also still on the supplementary menu, the former maybe showing a continuation of some high status households in the vicinity. Of great importance in this respect was the recovery of at least two possible green turtle fragments (a costal bone from the carapace and a jaw, which are clearly turtle but as yet unidentified to species); these from fill [12166] in barrel well [12167] group 387 in Area G1. The date of this deposit, between the late 17th and early 18th centuries places this find amongst some of the earliest found in London, compared to the early 17th and mid to late 17th century finds from the Rose Theatre (Rielly in prep c). There is historical evidence for a trade, from about the mid 18th century, in green turtles brought alive in seawater tanks from the Caribbean, catering for a highly prestigious market, most famously served as soup for the Lord Mayor's Banquet (Armitage and McCarthy 1980, 13). These early specimens may have been the precursors of this trade, and would undoubtedly have been highly prized.

The latest phase, approximately dated between the mid 18th and 19th centuries, provided some 1,343 bones, with approximately half taken from Trenches 1 and 2 (Table 13). The former assemblage is similar to that described from the Phase 12 deposits in that it was largely provided by pit fills and there is no obvious evidence for industrial waste. This phase in Trench 2 is marked by a continuation of tanning activities, as shown by the presence of two intercutting timber-lined tanning pits group 1206. Most of the bones were found in just one of these pits [119], and 110 out of the 132 bones in this feature belonged to 2 dog skeletons, including an almost complete adult individual and a partial juvenile. The remainder of the bones from this Trench were taken from a cleaning layer [102] Group 1205 with 51 fragments, 44 of which are horse bones. The tanning features and the good representation of horse and dog clearly reflect the Phase 12 Trench 2 evidence. However, there are no corresponding concentrations of sheep tanning waste. Unlike the previous phase, there is clear evidence for tanning activities in Trench 3, most notably shown by cut [30] group 1232 containing 5 timber-lined structures. The Trench 3 assemblage of just 3 fragments (cattle-size ribs) was confined to one of these tanks [19]. Similar composite tanning structures have been found in contemporary levels at several Bermondsey sites, including 169 Tower Bridge Road (Boyer forthcoming).

The bones from the underlying areas were concentrated in the southwestern part of the site, in Areas A, G1 and F1, and within a continuation of the pitted area centred on Area D. Not surprisingly, all were found in deeply cut features, either pits (Area D), cesspits (Area F1) or wells (Areas A and G1). A further comparison to the underlying deposits was the abundance of head parts amongst the sheep collections from Area D again signifying butchers waste.

This phase shows an approximately similar representation of the major domesticates (Table 10) compared to Phase 12, although with a very small proportion of horse (largely limited to the aforementioned Trench 2 deposit). These species follow a similar exploitation pattern to their respective Phase 12 counterparts including a continuation of mainly sub adult pigs. There is no obvious difference in the degree of consumption of other species, with some deer perhaps suggesting a further mix of food waste from both high and low status households. The only unusual item was a whale vertebra recovered from the backfill [439] of a cellar group 1159 in Trench 1, which had been used as a chopping board. It is broken around the circumference and so it is difficult to identify to species. However, this fragment at about 20cm in diameter is probably from one of the larger whales. Similarly used whale vertebrae have been found at two sites in Rotherhithe, namely a blue whale/fin whale vertebra dating to the 17th/18th centuries at Rainbow Quay (Douglas 1999, 188) and one from a humpback whale, probably later post-medieval in date from Platform Wharf (data taken from LAARC). The cut marks probably occurred as a result of reducing the blubber to portions easily rendered for their oil. The Tabard example may represent an item from a whaler originally used for this purpose.

### **Conclusions and recommendations for further work**

This very large, well preserved and, in general, securely dated assemblage offers great potential for the study of domestic and ritual animal usage from the late 1st to the 4th centuries and domestic and industrial usage from the 17th through to the late 18th centuries. A major issue regarding the Roman collections is the representation of pig bones, which form a major part of the early Roman domestic assemblages, rising to a dominant part of specific collections following the establishment of the temple precinct. Such high counts could be related to high status usage following the evidence from the prestigious late 1st century site at Winchester Palace (Rielly 2005) or possibly to religious activity, with relevant and similar evidence arising from the 'temple' assemblage at 30 Gresham Street (Rielly in prep a). This evidence, alongside the juxtaposition of the pig rich deposits and the main precinct features (the temples and the '*temenos*' ditch) strongly suggest a religious interpretation for these collections. The earlier assemblages, associated with the various domestic structures, could point to high status, except that the proportion of other similar status indicators, as large game, tend to be less well represented. In addition, there would appear to be no obvious signs of affluence from other finds, as for example the buildings with painted wall plaster, also found at Winchester Palace. It can be pointed out that several Roman sites in Southwark have provided relatively large proportions of pig bones, in comparison to the city, where cattle bones are invariably the dominant feature (compare Rielly 2006 and Liddle et al in prep). While the proportion of pigs is greater at Tabard Square than these other sites, it is conceivable that the Tabard community may have been following a general food preference practised by the Southwark residents.

The decline in pig following the abandonment of the domestic settlement, apart from 'religious' usage is of some interest. It is assumed here that the bone waste from other parts of the Phase 6 and later site were dumped there from some nearby occupation area. The local populace clearly ate less pigs in comparison to those from the early Roman period, which could suggest a change in status or perhaps a change in emphasis, where pigs were now required locally for domestic as well as 'ritual' purposes.

Following a lengthy hiatus, large collections of animal waste were dumped on this site from the late medieval period onwards, with a particular peak of deposition activity in the early to mid 17th century (Phase 11). The great majority of these bones would almost certainly have derived from the expanding settlement of medieval Southwark, this extending along Kent Street (later Tabard Street) by at least the late medieval era. However, as well as the extensive collections of domestic waste, there was also evidence for industrial waste deposition, with clear indications of an on-site tan yard. This may have specialised in the skins of young cattle, although the early tanning features include both large and small pits, the latter more suitable for sheep or goatskins. The same part of the site (the southwestern area) witnessed further tanning activities in the later 17th century with the establishment of a tanning complex featuring tanning pits, yards and at least one timber structure. The animal bone evidence would suggest this was a tawyers yard (Yeomans 2006), involved with the light leather trade, specialising in sheep and possibly horse skins. Further tanning pits were found dating to the 18th century, now extending to the eastern part of the site (Trench 3) incorporating, in this area, a complex of wooden boxes within a single cut. This type of tanning feature has been found at a number of contemporary sites, as 211 Long Lane (McKinley 2006) and 169 Tower Bridge Road (Boyer 2007).

The domestic evidence from these late medieval and post-medieval phases is clearly sufficient to provide a detailed comparison of meat usage in this local area, with notable changes already observed, as the increased use of veal, from the early 17th century, and the greater intensity of pig exploitation from the later 17th century. The tanning waste is clearly indicative of the types of leather being processed in this locality, although there are questions to be asked concerning the apparent combination of both the light and heavy leather trades in Phase 11. It was clearly not permitted for anyone involved in the heavy industry to tan the skins of any animal other than cattle (quoted by Stow in his survey of London, 1598, taken from Waterer 1946, 106). In addition, while there is no faunal evidence for cattle tanning in Phase 12 and 13, the size of the tan pits suggest a heavy rather than light leather use. Such pits could have been used for the processing of horse skins, and this would comply with the extensive collections of horse bones from Phase 12. Yet there is also a notable quantity of sheep tanning waste, especially that used to construct the knucklebone floor. Can it therefore be suggested that such large pits were also used for

sheepskins? Or is it possible that sheep were not tanned at this yard and that the sheep metapodials were imported to this site for constructional purposes?

There is little doubt that the various strands of evidence concerning the Bermondsey tanning industry deserve further detailed analysis, with sufficient information now available to comment on the organisation and history of this industry (see Yeomans 2006 and Rielly in prep b). The evidence from this site can add to this corpus of information.

Other points of major interest concerning the Tabard assemblages concern the remarkable recoveries of the bear from a 4th century deposit and the turtle bones from a late 17th century well. Both deserve detailed descriptions following positive identifications to species level. There is also a notable collection of measurements from each of the major periods, although in particular regarding the sheep metapodials from the knucklebone floor. This data will provide detailed information on the size and possibly the 'type' of domesticates exploited in this part of Southwark.

Finally, it is recommended that all of these conclusions be further researched and possibly revised following the completion of the stratigraphic and dating analyses. In addition, it is of paramount importance that time is allowed for the identification of the remaining sieved collections as well as the few bones that have so far been placed in a broad category pending further analysis. Certain key food groups are currently absent or possibly underrepresented from the identified assemblage. It was mentioned that the hand collected fish bones have been set aside and it is hoped that the sieved collections will provide further evidence for their exploitation, as well as perhaps for various small game.

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## APPENDIX 18: HUMAN BONE ASSESSMENT

By Kathelen Sayer

The following report details the results from the analysis of 3 inhumation burials dated to the very late Roman and medieval periods and disarticulated human bone recovered from 59 contexts from Tabard Square.

### Methodology

The articulated remains were analysed to assess where possible the age, sex and stature of the individuals, any gross pathology present was recorded to site and morphological changes described.

Age was assessed using the stages of epiphyseal fusion, dental eruption, dental attrition (Brothwell 1981), changes within the pubic symphysis (Brooks and Suchey 1990) and the auricular surface (Lovejoy 1985). The methods used were dependent on the completeness of the skeletons, some of which were very fragmentary. Where possible an age range has been given however this was not always possible and the broad category of adult ( $\geq 18$  yrs) has been used.

The sex of the individual was ascertained where possible from sexually dimorphic traits on the pelvis and the skull. The categories used are male or female (positive identification), male? or female? (compares favourably to a sex but not conclusive) and '?' (inconclusive). The living stature of the skeletons was where possible calculated from the long bone lengths using the regression equation devised by Trotter and Gleser (1958). The dentition was recorded in the following way: -

	Right								Left							
Maxilla	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
Mandible	8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

/	lost post-mortem	X	lost ante-mortem
-	jaw missing	U	present

Dental pathology was recorded to site and severity. Brothwell (1981) devised the scoring system used for calculus and the following grading system of severity was used for caries:

- 1 Pit/fissure
- 2 <half crown destroyed
- 3 >half crown destroyed
- 4 All crown destroyed

For the disarticulated material skeletal element, gross pathology and where possible age and sex were recorded.

### Results

#### Articulated burials

**Phase 9      Very late Roman – Early Medieval**

[11381] / [11444]

Orientation      E-W with the skull to the west.

Position           Supine. Right arm flexed over the pelvis. Left arm under the pelvis. Both legs extended.

Sex                 Female? (Pelvis morphology)

Age                 20-30 yrs (Pubic symphysis, auricular surface and epiphyseal union.)

Stature            c.1.62m (Femoral length)

Condition         Moderate. A post-medieval pit has truncated the majority of the upper body with only the lower arms and fragmentary ribs surviving *in situ*. Disarticulated remains were found within the fill of a post-medieval pit [10290], which truncated the burial. It is possible that some of these remains belonged to [11381] / [11444] (see below).

Pathology         Degenerative joint disease was recorded on the left calcaneus. Erosive arthropathy was recorded within the right hand. This was present in the 1<sup>st</sup> metacarpal, trapezium and the scaphoid, which were fused and there were lytic lesions present on the distal scaphoid, trapezium and the 1<sup>st</sup> and 5<sup>th</sup> metacarpals. These changes resulted in a loss of original joint shape.

Comments         The skeleton recording sheet is numbered as [11444] however the majority of the skeleton is labelled with the fill number rather than the skeleton number. A 1<sup>st</sup> proximal phalange and 4<sup>th</sup> metatarsal were labelled as [11444].

*Phase 10 Medieval*

[10290]

This context contained a disarticulated skull, a right humerus with the proximal end missing, a thoracic vertebra, a 1<sup>st</sup> right rib and rib shaft fragments and a 1<sup>st</sup> left metatarsal. The skull is recorded as belonging to skeleton [11381] / [11444] and it is likely that the humerus, rib and vertebra also originate from this burial, however the 1<sup>st</sup> metatarsal is extraneous.

Skull

Sex                 Female?

Age                 17-25 (attrition and eruption of 3<sup>rd</sup> molar)

Condition         Good but with some post-mortem damage to the left facial area, occipital and sphenoid bones. The mandible survives in two fragments one from each side.

Dentition

U	X	X	/	/	/	/	U	/	/	/	/	/	X	X	X	X
U	U	X	/	U	U	-	-	-	-	-	-	-	-	-	-	-

Dental pathology  
Seven teeth have been lost ante-mortem.

Calculus

Tooth	Grade	Site
Right lateral maxillary incisor	2	Lingual
Right 3 <sup>rd</sup> molar	2	Mesial
Right mandibular canine	2	Lingual
Right 1 <sup>st</sup> premolar	1	Lingual
Right 2 <sup>nd</sup> molar	1	All round
Right 3 <sup>rd</sup> molar	1	All round

Caries

Tooth	Grade	Site
Right maxillary canine	3	Lingual
Right maxillary 3 <sup>rd</sup> molar	1	Mesial
Right mandibular 1 <sup>st</sup> premolar	1	Mesial
Right mandibular 2 <sup>nd</sup> molar	1	Mesial

*Phase 10 Medieval*

[11923]

Orientation E-W with the skull to the west.

Position Extended and supine with both arms extended by the side of the body, both legs extended.

Sex ?

Age Adult (Epiphyseal fusion)

Stature ?

Condition Very poor. Only fragments from the lower arms, right hand, legs, calcaneus and left talus survive. All the bone is very fragmentary and brittle. The feet have been truncated by a later ditch [12199].

Pathology All the surviving bone was very light in weight. A significant loss of horizontal trabeculae in the ends of long bones and a thinning of the cortical bone of the shafts was recorded throughout the skeletal remains. This was most apparent in the left and right ulnae and radii. This is possibly indicative of osteoporosis.

**Phase 10 Medieval**

[13201]

Orientation Roughly EW with the skull to the west.

Position Extended and supine. Both humeri lay at the side of the body with the lower arms crossed over the pelvis, right over left. Both legs extended but truncated c ½ way down tibiae and fibulae shafts.

Sex Male (Pelvis morphology)

Age Adult (23 – 57) (Pubic symphysis, auricular surface)

Stature 1.72m (Femoral length)

Condition Good but the skull, lower legs and feet are not present.

Pathology

Osteoarthritis

Element	Site	Comments
Left innominate	Entire acetabulum	Extensive osteophytes around the joint margin. Very severe pitting with complete destruction of areas of the articular surface. Resulting in joint shape change. Areas of eburnation present

Left femur	Entire femoral head	Osteophytic growth around the joint margin resulting in a mushroom shape. Severe pitting. Joint shape change. Areas of eburnation present.
1 <sup>st</sup> Left rib	Rib head	Slight porosity and osteophytes
Right radius	Radial tuberosity	Porosity and osteophytes around the joint margin.

The neck and proximal diaphysis of the left femur appear to be slightly swollen indicating osteitis, an infection of the cortex. This infection could be due to the very severe osteoarthritic lesions within the hip joint.

Vertebral osteophytosis was observed in thoracic vertebrae 8 to 11 and lumbar vertebrae 3 to 5. All of the cervical vertebrae and the 1<sup>st</sup> thoracic vertebrae were missing. The areas affected detailed below.

#### Vertebral osteophytosis

Vertebra	Site
T8	Inferior margin
T9	Inferior margin
T10	Inferior and superior margins
T11	Inferior and superior margins
L3	Superior margin
L4	Superior margin
L5	Superior margin

#### Schmorl's nodes

Vertebra	Site
T11	Inferior body
T12	Inferior body
T12	Superior body
L1	Inferior body
L2	Inferior body
L2	Superior body

Comments An extraneous unfused metatarsal was also identified within this context.

#### Disarticulated material

Excluding the disarticulated bone from pit fill [10290] mentioned above, a total of 58 contexts contained disarticulated human bone. Of these 1 context is of prehistoric date, 41 come from 6 phases of Roman deposits, 11 are medieval in date and 6 come from three post-medieval phases.

Phase	Context	Feature type	Skeletal Element	Age	Comments
2 Prehistoric	8012	Palaeosoil	Femoral shaft	Unknown	Group 158
3 Early Roman	1531	Peat	Femoral head	<15 years	Group 227
	4462	Dump / levelling layer	R. Humeral shaft	?	Very badly eroded. Group 250
	11661	Fill of pit [11662]	L ulna shaft fragment		Good. Possible gnawing at proximal end. Group 543
4 Late C1 <sup>st</sup> – Early C2 <sup>nd</sup>	2740	Dump / levelling layer	R. Humeral distal shaft	?	Group 305
	3358	Fill of pit	L. Femur shaft	Adult	Possible gnawing at the

		[3355]			proximal end Group 695
	4036	Dump / levelling layer	L. Ulna complete	Adult	Group 314
	7741	Brickearth floor	R. Humeral shaft	?	Gnawing distal end. Group 150
	7926	Dump / levelling layer	Long bone shaft	?	Group 175
	8055	Dump / levelling layer	2 fibula fragments	Adult ?	Good condition Group 175
	8226	Fill of linear [8274] Possible path	Ulna shaft		Group 1041
	9221	Charcoal deposit within pit [9929]	R + L. Parietal and occipital bone fragments.	?	Group 1028
	9389	Levelling layer	R radius		Group 1031
	10228	Fill of ditch [10229]	L femoral shaft	Adult?	Gnawed at distal end Group 758
	10228	Fill of ditch [10229]	L femoral distal lateral condyle		Cut laterally through the superior part of the condyle. Slight eburnation and porosity observed = osteoarthritis. Group 758
	10254	Dump within ditch [10445]	R ulna shaft	?	Group 1037
	10254	Dump within ditch [10445]	R radius shaft and radial tuberosity	?	Group 1037
	10606	Fill of Major 'boundary 'ditch [10445]	R femoral shaft	?	Proximal end gnawed. Proximal end slightly flattened in shape. Group 1037
	11067	Dump / levelling layer	L proximal ulna		Surface quite abraded. Group 1038
	12007	Primary fill of ditch [12008]	R parietal	Adult?	Group 549
	12028	Fill of ditch [11983] (south central periphery)	Fibula shaft	?	Group 349
5 Hadrianic & Antonine	4395	Dump / levelling	R? humerus		Group 678
	1170	Dump / levelling Layer	R radius		Group 284
	2812	Dump / levelling layer	R. Humeral shaft	?	Group 973
	3445	Ground surface layer	L. Humeral shaft	Adult	Possible gnawing at the proximal end Group 980
	5933	VOID	Juv. R innom		
	6237	Dump / levelling layer	1 <sup>st</sup> R rib		Good condition Group 925
	6752	Dump / levelling layer	Femoral head	?	Group 189
	7151	Fill of pit [7152]	2 humeral shaft fragments		Mod condition. Gnawing at distal end. Group 910
	7151	Fill of pit [7152]	Shaft of L clavicle		Quite small in size. Surface very abraded Group 910
	8378	Dump / levelling layer	Metacarpal	<18 years	Group 1118
	8378	Dump / levelling layer	Distal third of L? humeral		Group 1118

	12005	Fill of ditch [12005]	R. Femoral shaft	Adult?	Extensive gnawing at both ends of the bone with puncture marks and scratch marks down the shaft. Typical of a dog. Group 5
	12848	Fill of pit [12849]	L humeral shaft		Group 372
	12855	Fill of ditch [11794]	R. Ilium proximal	Adult	Female? Group 5
6 Late C2 <sup>nd</sup>	10155	Dump / levelling layer	R tibial shaft		Group 858
	12758	Fill of ditch [12759]	R? femoral shaft		Possible?? Gnawing proximal Group 425
7 C3 <sup>rd</sup>	9870	Dump / levelling layer	2 fragments of R innominate		Group 850
	13224	Dump / levelling layer	Shaft fragment of R tibia towards proximal end.		Mod Condition Group 110
8 C4 <sup>th</sup>	9038	Dump / levelling layer	Tibia shaft		Group 842
	11349	Levelling layer	L and R distal fem, R patella, tib and fem shafts, fib shaft		Infection Group 512
	11652	Dump layer	L. Proximal ulna and radius	Adult	Radial head missing. Slight thickening around the radial tuberosity.
	11874	Fill of ditch [11875]	Radius		Group 16
	11874	Fill of ditch [11875]	Distal humeral shaft		Group 16
	12019	Fill of ditch [12021] (south east corner of site)	Middle portion of femoral shaft.		Group 16
	13216	Dump/levelling layer	L femoral shaft		Mod. Condition. Gnawing at proximal end. Group 43
10 Medieval	4993	Fill of pit [4994]	Juv. Cervical vertebrae		Group 208
	7165	Fill of pit [7166]	Sternum		Group 486
	7195	Fill of pit [7196]	R clavicle		Group 486
	10028	Fill of ditch [10029] Southern terminus	Cervical vertebra possibly C4 or C5.		The neural arches are fused to the centrum but the centrum has a young striated appearance. The right half of the centrum and right articular facets are not present. Group 473
	11569	Fill of pit [11570]	R distal humerus		Group 486
	11694	Dump / levelling layer	Skull fragment		Group 475
	11694	Dump / levelling layer	L tibia shaft fragment		Mod. Group 475
	12596	Fill of irregular cut [12597]	Lumbar vertebrae	Adult?	Group 409
	12601	Fill of pit [12602]	Fibula shaft fragment c.1/3		Group 409
	12891	Fill of ditch [12892]	Fibula shaft fragment		Group 353
	13174	Dump / levelling layer	3 frontal bone fragments (r side) 3 R parietal		Good condition Group 101

			fragments		
	13175	Dump / levelling layer	L tibia shaft fragment		Mod Group 101
11 C16 <sup>th</sup> – late C17 <sup>th</sup>	4493	Fill of ditch [4494]	L. Tibia distal end and shaft	Adult	Group 571
	7337	Fill of ditch [7338]	L. Femur proximal end and shaft	Adult	Group 464
	8956	Fill of rubbish pit [8955]	Femoral head fragment	<15 years	Group 418
	12178	Fill of east-west ditch [12179] (south central area of site)	L Femur proximal half	Adult?	Group 393
12 Late C17th – C 19th	9201	Fill of pit [9200]	L tibia shaft		Group 69
13 Mid C18th –C19th	118	Primary fill of tanning pit [119]	L. Ilium	Juvenile <13 years	Group 1206

Based on duplication of skeletal elements the disarticulated bones represent a minimum number of individuals of 5 adults and 1 juvenile.

## Discussion

### Articulated remains

All three individuals exhibit some form of pathology. The female? [11381]/[11444] has a form of erosive arthropathy within the right hand possibly caused by a localised infection leading to complete fusion of the 1<sup>st</sup> carpometacarpal joint and partial destruction of the 1<sup>st</sup> and 5<sup>th</sup> carpometacarpal joints. This would have resulted in reduction of movement within the right hand. There were no other right metacarpals or carpals present so it is not known whether the whole hand was affected, although the extent of infection present on the bones that could be examined would suggest that the whole hand was involved. The skull that might have originally belonged to this individual [10290] has quite extensive ante-mortem tooth loss with 7 teeth lost and caries present in four of the remaining teeth. Dental health deteriorated during the Roman period, mainly reflecting diet and dental hygiene. The pattern of deterioration within this individual, with the ante-mortem loss of molars and caries progressively affecting the premolars and canines is typical of dental disease - the molars have a complex occlusal surface enabling bacteria to develop. It is possible that this individual is slightly under-aged due to the lack of molars caused by both ante and post-mortem loss.

A possible case of osteoporosis was identified within the adult individual [11923]. All the bones present were very light in weight and fragile. Although this could also be the result of bone diagenesis rather than pathology both the left and right ulnae and radii had the typical appearance of osteoporosis - a significant loss of horizontal trabeculae and thinning of cortical bone. Osteoporosis is a disease that has a number of causes including age, sex (affecting post-menopausal or pregnant women), diet along with many others. Unfortunately the cause in this case cannot be established as the remains are too fragmentary to age accurately, it was not possible to assign a sex and there are too few burials to undertake any kind of demographic study.

The male [13201] exhibited signs typically associated with age, osteoarthritis and osteophytosis. However the osteoarthritis in his left hip was quite advanced with a possible associated infection in the neck and shaft and would have restricted movement within this joint.

The two Roman burials from Tabard Square fall within an area previously recognised to contain burials, lying to the south of the junction of Stane Street and Watling Street, near to St George's Church, Borough. A large group of burials dated to the 2nd to 4th centuries have recently been excavated to the west of



Tabard Square at Lant Street, the majority of which burials date to the 4th century (Sayer & Sudds forthcoming). Previous excavations at 165 Great Dover Street (Mackinder 2000) close to Tabard Square have revealed Roman burials within a roadside cemetery and burials have been identified both on Long Lane and Tabard Street (Hall 1996). The late date of the Tabard burials would tie into the main phase of activity at Lant Street, those found at Great Dover Street were earlier in date.

### **Disarticulated remains**

Fifty-nine contexts contained disarticulated human bone, one of which was the fill of a pit that had disturbed an earlier Roman burial. The majority of these contexts were Roman in date and range from the earliest to latest phases within this period. A single prehistoric context contained a fragment of bone and a small number are medieval and post-medieval in date.

The presence of disarticulated human bone from the medieval and post-medieval features are likely to be the result of disturbed earlier contexts however the remains found within the Roman features and layers merit further discussion.

The majority of the remains from the Roman phases came from dumping/levelling layers however of most interest are thirteen disarticulated bones from ten ditch fills and six bone fragments from six pit fills. These include seven femora fragments, two ulnae, two radii fragments, one fibula and one ilium. Three humeral fragments and two skull fragments. Disarticulated human bone has been recovered from Roman ditch fills on three sites within close proximity to Tabard Square. Excavations at the Old Sorting Office, Swan Street (Beasley 2006) recovered an adult left femur from the fill of a boundary ditch, whilst earlier excavations at 1-5 Swan Street (Graham 1978) retrieved a right femur, mandible and frontal bone fragments in a ditch fill. Disarticulated human remains were also recovered in association with animal remains from a cemetery boundary ditch at Lant Street (Sayer & Sudds forthcoming).

The Old Sorting Office excavations also revealed the presence of a number of wells and shafts. A partial human skeleton was found at the bottom of one of the wells and these remains along with identified votive objects have led to an interpretation of deliberate deposition of both human and animal bone and objects within the wells and shafts as part of ritual activity. It is suggested that the ritual activity is of low intensity, i.e. day to day domestic ritual and is a continuation of Pre-Roman traditions within a Romanised area. Deposition of disarticulated remains in ditches and pits as part of a Pre-Roman tradition is well documented and there has been discussion of a two stage disposal / burial ritual that involved excarnation of the body, with particular elements removed later for burial. Nine of the disarticulated bones from Tabard Square, all from Roman phases, displayed evidence of gnawing indicating that they had been exposed at some time, the most notable is the femur from [12005], which has extensive gnawing at both ends. Perhaps the gnawing on these bones could be evidence of a two stage disposal / burial ritual being practised within the vicinity of Tabard Square.

The original interpretation of the remains from 1-5 Swan Street was that they came from disturbed burials however the presence of disarticulated human material within ditches on all four sites could indicate deliberate deposition as part of ritual activity.

It is therefore recommended that further research and discussion into the occurrence of disarticulated remains from Tabard Square and surrounding sites be undertaken for any publication text, including comparisons with sites further afield that have produced disarticulated remains such as Moor House, City of London (Butler 2006, 38-44). It is also recommended that the bones with possible evidence of gnawing are studied again in more detail to ascertain which have definitely been gnawed.

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## APPENDIX 19: PRELIMINARY ENVIRONMENTAL ARCHAEOLOGICAL INVESTIGATION

By N.P. Branch, N. Riddiford, C.P. Green and A. Vaughan Williams  
*ArchaeoScape, Department of Geography, Royal Holloway*

### INTRODUCTION

The report presents the preliminary findings of the environmental archaeological investigations at Tabard Square, London Borough of Southwark (National Grid Reference: 532500 179600; Site Code: LLS02). The investigations aimed to provide both a model of the changing landscape and environment (palaeoenvironment), and a reconstruction of the palaeoeconomy of the site. This involved producing high-resolution time-sliced topographical, pedo-sedimentary and vegetation models of the site and surrounding area (1km<sup>2</sup> area in north Southwark) for the later prehistoric periods, which permitted an assessment of the relationship between past human activity and environment change. Additionally, an assessment was made of the concentration of sub-fossil macroscopic biological remains in later prehistoric and historic period deposits to evaluate their potential for reconstructing the economy and diet.

### METHODS

*Field sampling:* Over a period of 12 months, *ArchaeoScape* obtained 55 column samples, and 196 bulk samples from a range of sedimentary deposits. *Deposit modelling:* Site reports, gazetteers, and published papers were used for data compilation and the creation of the depositional model. Only *in situ* archaeology was included, which enabled direct comparison to be made between archaeology, underlying topography and sedimentary deposits (Figures 1 to 5). Data were entered into Microsoft Excel spreadsheets and then imported into ArcView GIS for analysis. The surface heights (m OD) of the Shepperton sand and gravel, and of peat horizons, were compiled from various sources. The peat data were divided into cultural periods based on available radiocarbon dates to illustrate cumulative peat development during later prehistory (Bronze Age and Iron Age peat). *Litho and bio-stratigraphical analysis:* Four column samples, taken from section 64 (04/04/03/8 to 04/04/03/11), were selected for radiocarbon dated litho- and pollen-stratigraphical analysis (Figures 6 and 7; Table 1) (after Bronk Ramsey 1995; 2000; Moore *et al* 1991; Reille 1992; Stuiver *et al* 1998). *Bulk sample assessment:* The bulk samples were processed by flotation using 1mm and 300µm sieve sizes (to recover charcoal and charred plant remains), and by wet-sieving using a 300µm sieve sizes (to recover waterlogged plant and animal remains). The flots and residues from both techniques were scanned using a low power stereo-zoom microscope. Identifications were made using the reference collections at Royal Holloway University London, and plant nomenclature and taxonomy follows Stace (1997) (Table 2).

### DEPOSITIONAL MODEL

#### ***Topographical and pedo-sedimentary reconstructions***

The reconstructed sand and gravel surface topography of the study area (Figures 1 and 2) is highly variable, ranging in height from -3.8m OD to +1.8m OD. A linear corridor of higher ground (0.2 to 1.8m OD) runs roughly northeast to southwest through the site, splitting the two areas of lower ground. Four depressions (c. -3.8m OD) are evident in the lower ground (Figure 1). Three areas of roughly circular isolated high ground are also evident, each reaching a maximum height of 1.8m OD (Figure 1). The GIS reconstruction identifies an eyot at Tabard Square. Section 64, which was subject to litho- and pollen-stratigraphical analysis, is located in part of the surrounding channel network. It was not possible to reconstruct Neolithic peat topography due to a lack of palaeoenvironmental data for this period. Peat dated to the Bronze Age increases in lateral extent, which results in the infilling of the northeastern depression (Figure 3). Inclusion of undated peat deposits results in a 57.2% increase in peat coverage between the Bronze Age and the Iron Age (Figures 4 and 5). The sand and gravel depressions in the east remain peat free, although peat has developed surrounding these areas (Figures 4 and 5). The maximum peat height recorded in the study area is 1.6m OD. It is deepest in the southeast of the area, becoming progressively thinner towards the northwest.

#### ***Analysis of the pedo-sedimentary sequences at Tabard Square***

The pedo-sedimentary sequences at Tabard Square are complex both spatially and stratigraphically. In very broad terms, there is evidence for a sequence from disturbed bedrock London Clay at the base overlain by fluvial deposits comprising gravel, sands and silts, overlain by peat, overlain by and inter-stratified with, archaeological horizons. Sedimentation at Tabard Square took place around a gravel island in an active fluvial environment. In a few places, London Clay bedrock is present in the same height range as the alluvial deposits, suggesting the existence of an uneven (? channelled) bedrock surface beneath the alluvial deposits. The changes within the sedimentary sequences indicate variations in the energy of this fluvial system, with the coarse sand and gravel sediments representing a fast flowing water body and the fine-grained sediments deposited in a virtually stationary water body. There is evidence of a former channel extending across the site from north-west to southeast. In several sections near this alignment, gravelly sediments are present at the base of the sequence, suggesting the presence of active stream flow. Towards the southeastern end of this alignment, peat is commonly present overlying the fluvial deposits, possibly marking the site of the abandoned channel. Peat is also patchily present elsewhere across the site suggesting that either peat has been removed in some places in the course of occupation, or that the original distribution was patchy. Although the fluvial gravels, sands, silts and the peats generally have the appearance of natural sediments, charcoal is present in many of the sequences, suggesting that there was already human occupation in the area when these deposits were laid down. Evidence of pedological processes is present in most of these semi-natural floodplain deposits. In a few places, horizons rich in anthropogenic material appear to be stratified within otherwise apparently natural fluvial sequences.

The column samples chosen for detailed analysis (04/04/03/08 to 04/04/03/11) were taken from section 64, within the identified channel (Figures 1 and 6; Table 1). Similar channels have been recorded at numerous archaeological sites in Southwark and Lambeth, and are thought to represent distributaries on the southern edge of the prehistoric Thames floodplain (Sidell *et al* 1999; 2002). Radiocarbon dating suggests peat development in this channel began in the Middle Bronze Age (Table 1). Particle size analysis indicates a steady decrease in energy of the environment prior to and during peat formation. This is further supported by the fining-upwards sequence in the basal unit Tab-1 (04/04/03/08). The gradual contact between unit Tab-2 (04/04/03/08) and the highly humified peat of unit Tab-3 (04/04/03/08) suggests water flow had decreased sufficiently to encourage peat growth. However, silty gravel at the base of 04/04/03/11 indicates the continued presence of flowing water at the edge of the channel despite infilling in the centre. Peat initiation during this time is possibly linked to a regional reduction in groundwater levels due to changes in the height of relative sea level. This would have reduced the volume of water flowing through distributaries on the floodplain, thereby enabling peat development. In this respect, Tabard Square conforms to similar patterns of peat development identified elsewhere in Southwark and Lambeth. A regional trigger is the most likely cause of peat initiation as there is no evidence at Tabard Square for localised human activities on a sufficient scale during later prehistory to affect the drainage of the area. The mineral-rich sediments overlying the peat may represent a tidal surge of Late Bronze Age / Early Iron Age date (Sidell *et al* 1999). Erosional contacts are evident in 04/04/03/08 and 04/04/03/11, indicating high-energy water flowing across the peat surface. Evidence of standing or slow-flowing water, in the form of olive yellow clays follows this initial inundation by high-energy flows. These clay units may indicate prolonged inundation of the site.

## VEGETATION MODEL

### ***Vegetation history of Tabard Square during later prehistory: results and interpretation of the pollen-stratigraphical analysis of column sample 04/04/03/08 (Figure 7; Table 1)***

#### *Local Pollen Assemblage Zone TS-1 (-1.36 to -1.24m OD; c. 3600 BP to c. 3480 BP)*

The dominance of herbaceous pollen in LPAZ TS-1 indicates an open landscape during the middle Bronze Age. This probably reflects deforestation prior to or early in the Bronze Age. Cereal pollen throughout this zone suggests that agriculture was established at or near Tabard Square. The decrease in *Tilia* (lime) pollen values may be linked to the 'Tilia decline', a pronounced reduction in lime woodland noted elsewhere in the Lower Thames Valley at this time. This event was followed by a peak in bracken spores (*Pteridium aquilinum*) at the beginning of LPAZ TS-2, which is a probable response to woodland clearance by burning. Supporting this interpretation is the peak in microscopic charred particles. The rich

herbaceous assemblage of LPAZ TS-1, in addition to the presence of alder (*Alnus*), grasses (Poaceae) and sedges (Cyperaceae) indicates the presence of fen carr woodland on the peat surface.

*Local Pollen Assemblage Zone TS-2 (-1.26 to -1m OD; c. 3480 BP to c. 3220 BP)*

In LPAZ TS-2, a peak in *Salix* pollen (willow) is evident. Although this is partly due to the presence of a 'clump' of grains, indicating *in situ* growth of willow, it coincides with a peak in *Alnus* and a decline in herbs. In addition, *Betula* (a pioneer taxon) increases, whilst cereal pollen is absent between -1.08 and -1.0m OD. Woodland regeneration is therefore evident reflecting decreased human activity. This occurs immediately prior to an increase in the rate of peat growth recorded by unit Tab-3. Environmental change is therefore occurring at this time, although it is unclear whether it was triggered by localised changes in the fluvial environment or more widespread changes in climate and sea level during the late Middle Holocene. However, there is no evidence in the lithostratigraphic record for inundation of the site at this time. The reduction in human activity, or possible temporary abandonment of the site, is contemporary with that seen elsewhere in Southwark and Lambeth, as is the phase of woodland regeneration (Sidell *et al* 2002).

*Local Pollen Assemblage Zone TS-3 (-1 to -0.78m OD; c. 3220 BP to c. 3000 BP)*

Vegetation change in LPAZ TS-3 is associated with rising groundwater levels and development of a reed swamp habitat with *Sparganium* (bur-reed) and *Typha latifolia* (reedmace) on the low ground. *Typha* is a key indicator of nitrification but despite evidence of human presence in this zone, nitrification is likely to have arisen naturally in response to peat development. Human activities are indicated by the removal of woodland on the high ground and an increase in taxa indicative of open conditions, namely *Fagus* and *Fraxinus*.

*Local Pollen Assemblage Zone TS-4 (-0.78 to -0.5m OD; c. 3000 BP to c. 2670 BP)*

Waterlogging reached a critical level following the peak in *Typha* in LPAZ TS-4, and is associated with a second phase of either a reduced level of human activity or site abandonment, which is marked by the absence of cereal pollen between -0.76 and -0.6m OD (c. 2660 to 2880 BP - Early to Middle Iron Age). *Alnus* and *Salix* Carr woodland recolonise the lower ground. Open woodland and wetland heath appears to develop on the higher ground, indicated by the continued presence of *Fagus* and the appearance of *Erica* (e.g. cross leaved heath) and *Frangula alnus* (alder buckthorn).

*Local Pollen Assemblage Zone TS-5 (-0.5 to -0.36m OD; c. 2760 BP to c. 2550 BP)*

A decline in *Typha* and increase in *Filicales* (e.g. buckler fern) towards the end of LPAZ TS-4 indicates lowered groundwater levels. This coincides with the reappearance of agriculture, for which there is evidence throughout TS-5. Charcoal peaks at 40% and 60% indicate substantial biomass burning and probably human impact.

**Assessment of the concentration and preservation of sub-fossil macroscopic biological remains (Table 2)**

*Prehistoric*

Twenty-three samples were assessed, of which ten contained occasional to frequent amounts of charcoal, and fourteen contained waterlogged wood. Five samples contained waterlogged seeds, which were dominated by *Ranunculus repens* (buttercup), *Sambucus* sp (elder), *Polygonum* sp (knotweed), Apiaceae (carrot family), *Chenopodium album* (fat hen) and *Potentilla* (tormentil). The samples were taken from a variety of natural deposits, namely peat, alluvium and a palaeosol, and archaeological features. Unsurprisingly, the peat and alluvium did not contain charcoal, whilst the palaeosol contained occasional fragments. In this context, the charcoal may represent burning caused by either a natural wildfire or human activities. The charcoal recovered from the archaeological contexts indicates not only the local presence of woodland but also human utilisation of wood for fuel. The presence of waterlogged wood in both natural and anthropogenic contexts attests to the generally high water table at Tabard Square, resulting in good preservation. The presence of wood in the peat indicates the local presence of wetland woodland, probably forming alder or willow Carr, whilst its presence in archaeological contexts suggests human exploitation of local woodland probably as building material. The waterlogged seed assemblages indicate the presence of shrubland and vegetation commonly found in rough grassland and damp ground,

probably on the margins of wooded areas, such as glades, the ecozonal boundary between dryland and wetland, and in clearings created by human groups.

#### *Roman*

One hundred and thirty two samples were assessed, from a variety of features and contexts, including floor layers, wells, pits, ovens, hearths, ditches and cremations. Nearly all of these contexts contained occasional to abundant charcoal, reflecting the importance of fuel wood utilisation. Forty-two samples contained waterlogged wood, again attesting to the high water table in this location. Only thirteen samples contained seeds, of which four had charred cereal grain of either wheat or barley. These indicate the utilisation of these crops either for human or animal (fodder) consumption, or both. The remaining seeds were preserved by waterlogging, and indicate the continued presence of plants frequently found in damp places and rough grassland. The presence of alder and elder indicates the continued presence of woodland and shrubland at the site.

#### *Medieval*

Only six medieval samples were examined, of which only two contained charcoal (ditch fills), and one contained waterlogged wood (ditch fill). No waterlogged or charred seeds were recovered.

#### *Post-medieval*

Twenty-four samples were post-medieval in age, of which fourteen contained occasional to frequent charcoal, and ten contained waterlogged wood. The presence of charcoal and waterlogged wood attests to the continued use of fuel wood, wood for construction (e.g. pond), industrial use (e.g. tan pit), domestic use (e.g. cesspit), and the high water table (e.g. garden soil). Seven samples contained either waterlogged or charred seeds, indicating the consumption and/or general use (e.g. fodder) of cereal grain (e.g. cesspit), and the presence of waste and disturbed ground (e.g. palaeosol). Of particular interest is the presence of fig seeds in the cesspit, providing unequivocal evidence for their consumption.

### **CONCLUSIONS**

The palaeoenvironmental record from Tabard Square indicates almost continuous human presence at this site from the Middle Bronze Age to the Middle Iron Age, which is surprising considering the evidence for peat formation and fluvial inundation of the site. Thus despite general indications that this location was perhaps not suitable for agriculture, the pedo-sedimentary, pollen-stratigraphical and archaeological records for soil formation, ploughing and cereal cultivation clearly suggest the presence of suitable land. This was focussed on the areas of high, drier ground on the wetland margins, as suggested by the palaeotopographical reconstructions for the prehistoric periods. The pollen-stratigraphical record indicates the presence of open, mixed deciduous woodland on both the wetland and dryland during later prehistory. Open alder Carr woodland dominated the former, whilst the latter included oak, ash, lime and elm. However, the low overall pollen percentages for arboreal and shrubland taxa clearly indicate that much of the native wildwood had already declined by the Early Bronze Age, probably due to localised, intensive human activities. The palaeoeconomic records indicate woodland utilisation throughout later prehistory and into the historic periods, probably for a variety of functions, including fuel wood, construction materials and industrial purposes. There is unequivocal evidence for the utilisation of cereals, in particular wheat and barley, during later prehistory and throughout the historic periods. However, it is uncertain whether cereals continued to be cultivated at the site from the Roman period onwards due to the absence of supporting evidence, such as the by-products of cereal processing, notably chaff.

### **RECOMMENDATIONS**

It is recommended that a full analysis of selected samples of charred and waterlogged seeds, charcoal, waterlogged wood and mollusca be undertaken (see Table 3). An analysis publication report will be undertaken of the results of this analysis.

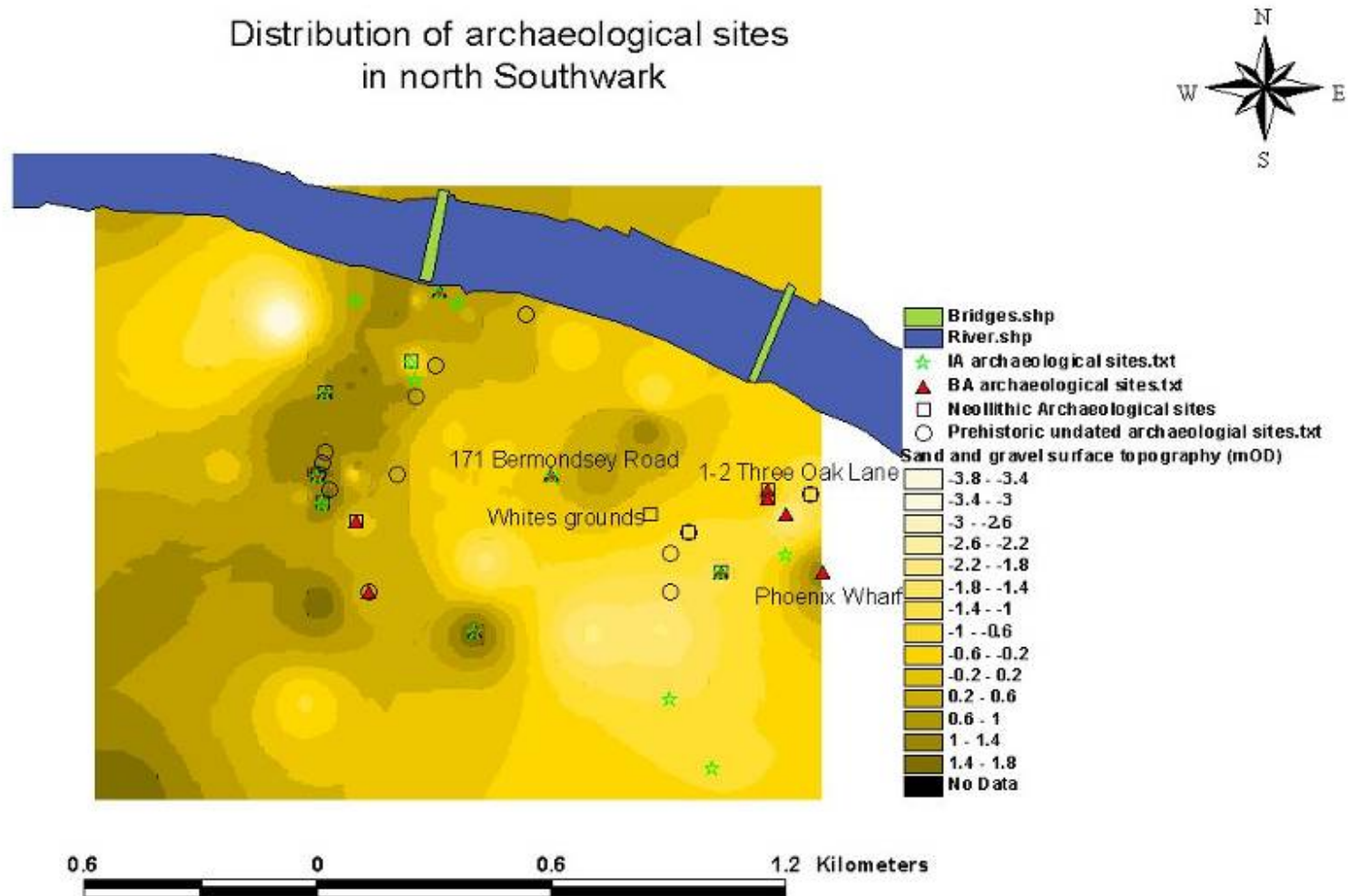


Figure 1: Location of archaeological sites (Neolithic, Bronze Age (BA), Iron Age (IA) and Undated) used in the study



# Sand and gravel surface topography

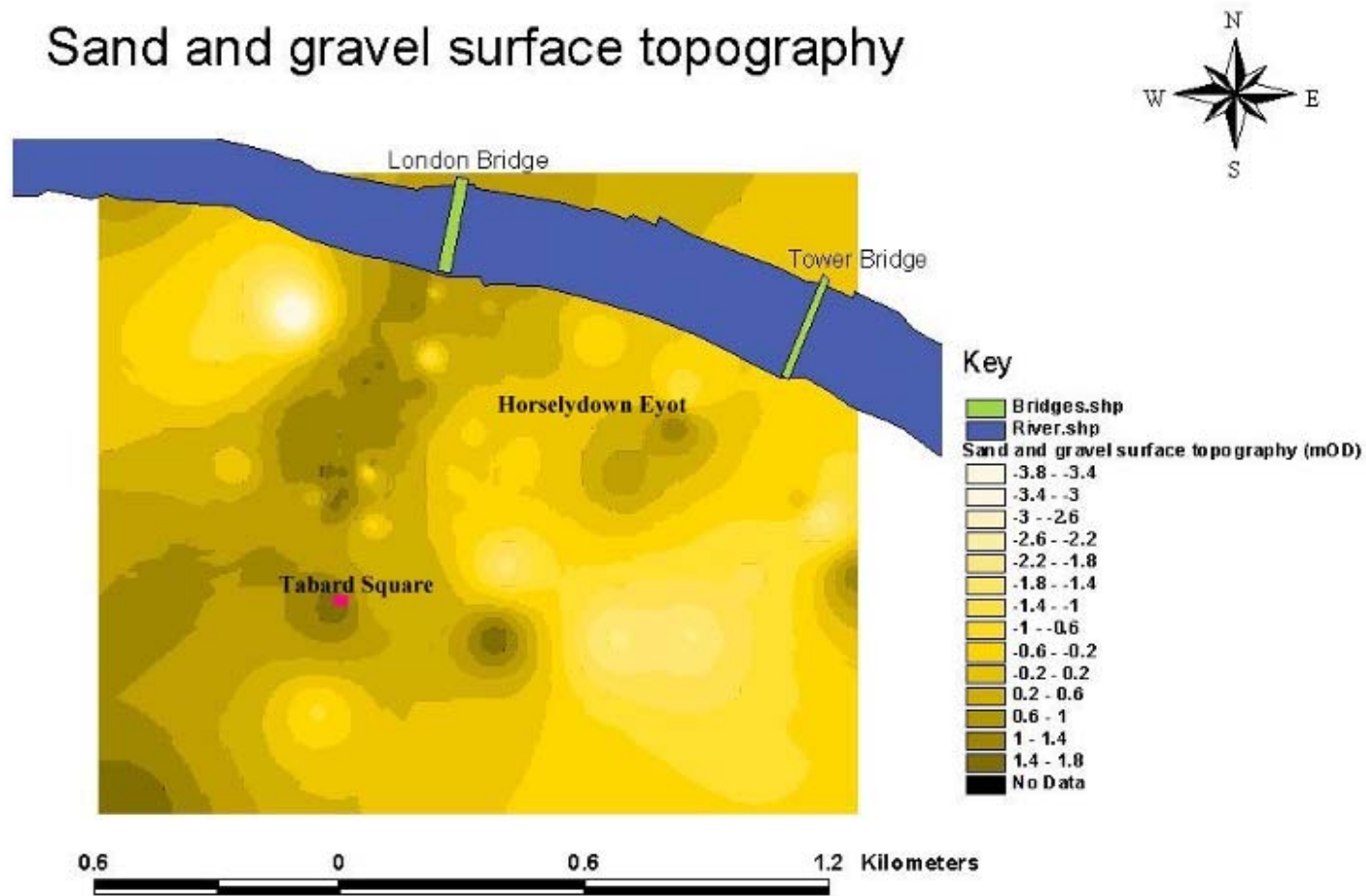


Figure 2: Topography of the Shepperton sand and gravel

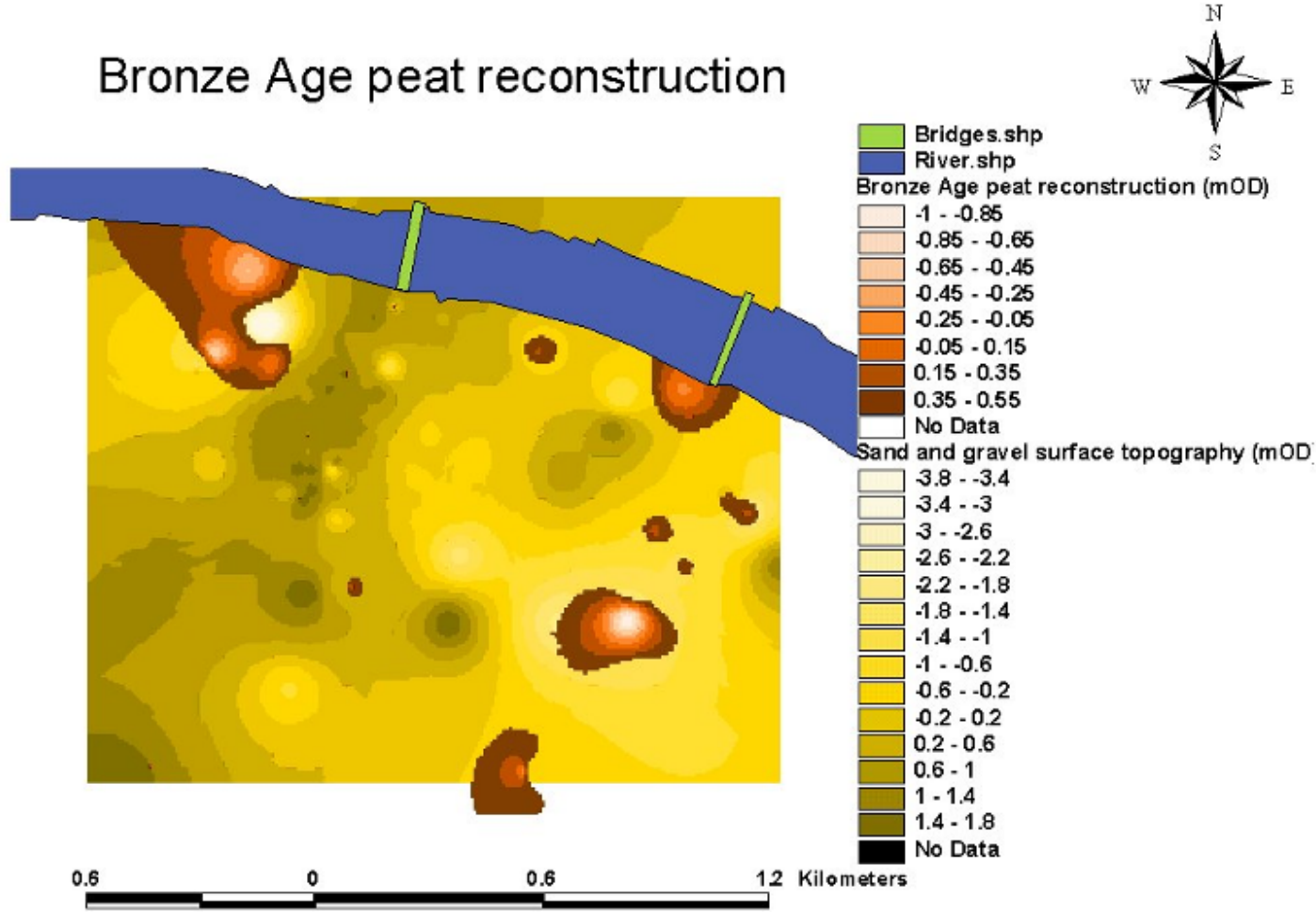


Figure 3: Bronze Age peat reconstruction

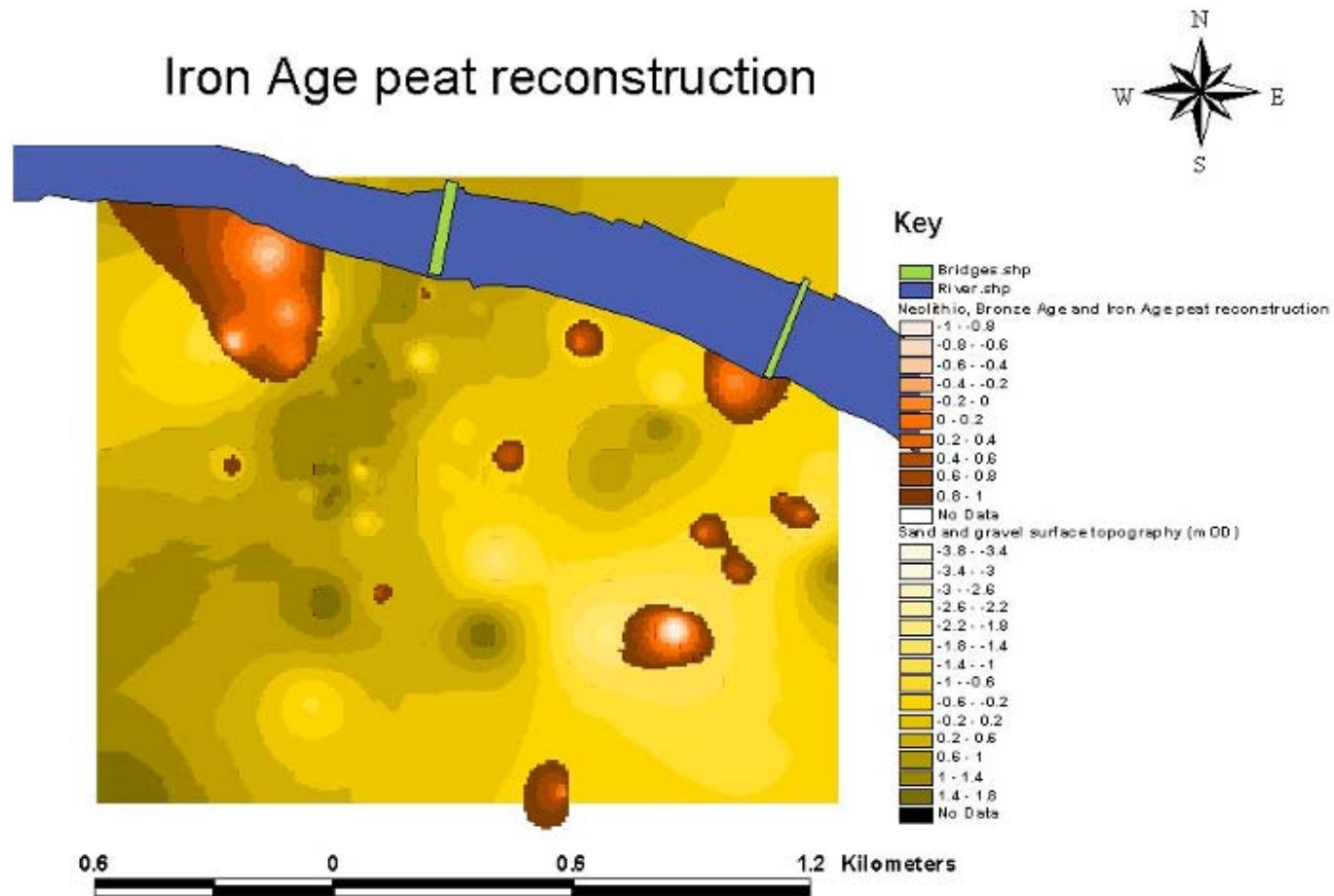


Figure 4: Iron Age peat reconstruction

# Iron Age and undated peat reconstruction

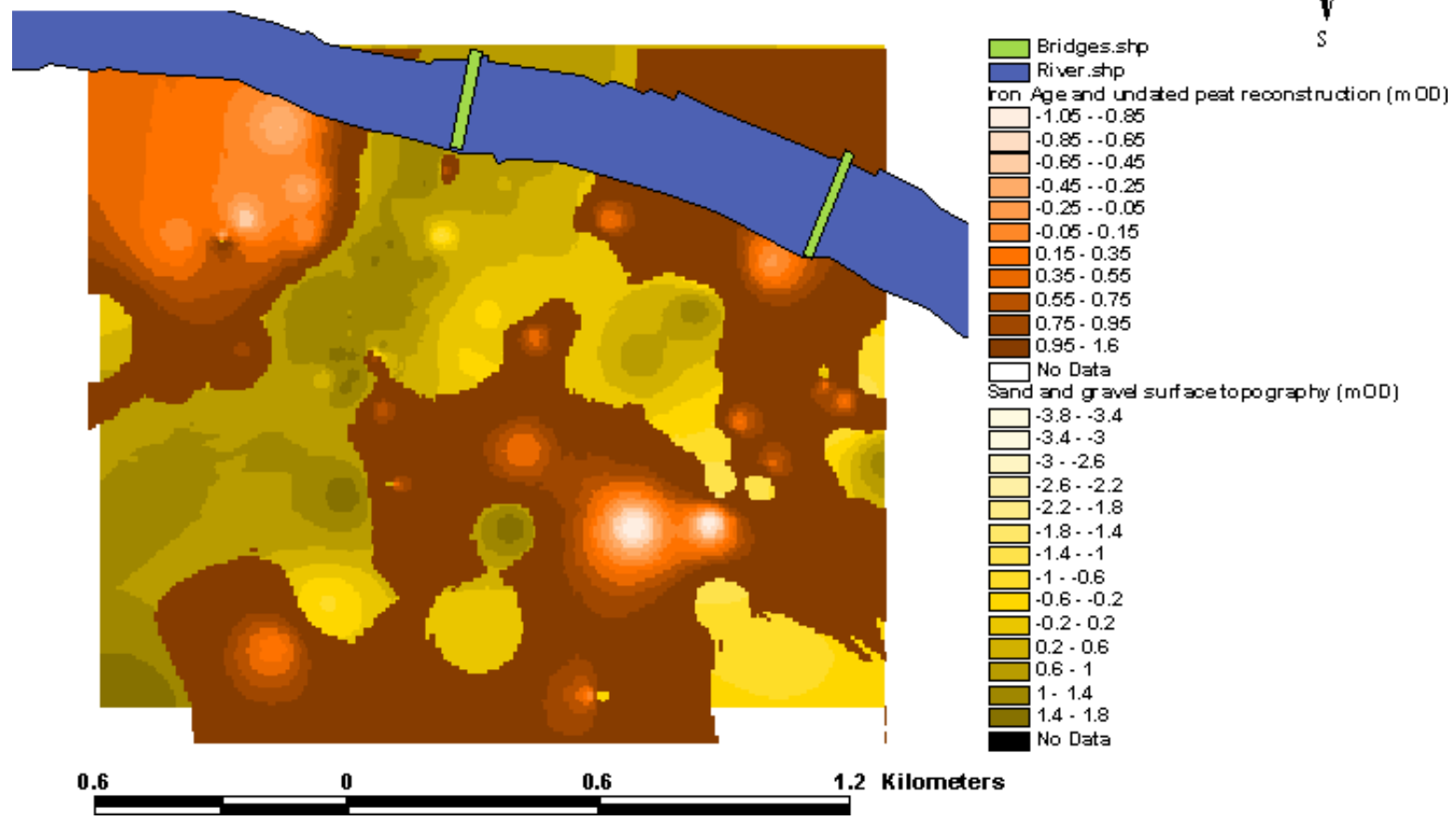
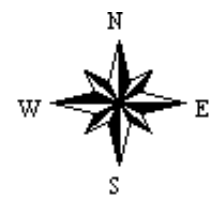


Figure 5: Iron Age and undated peat reconstruction

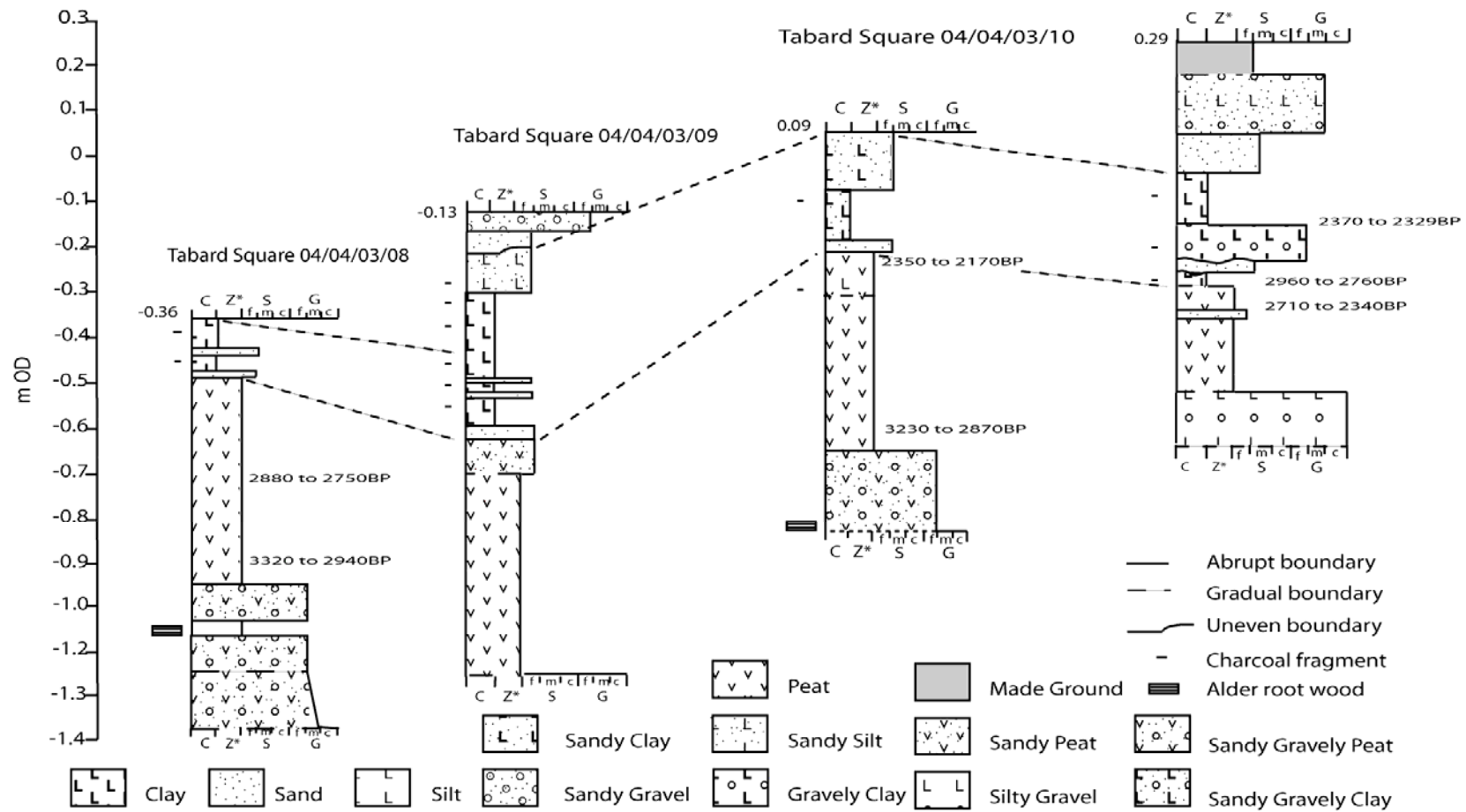


Figure 6: Lithostratigraphy of four column samples from Tabard Square

Tabard Square percentage pollen diagram - 04/04/03/08

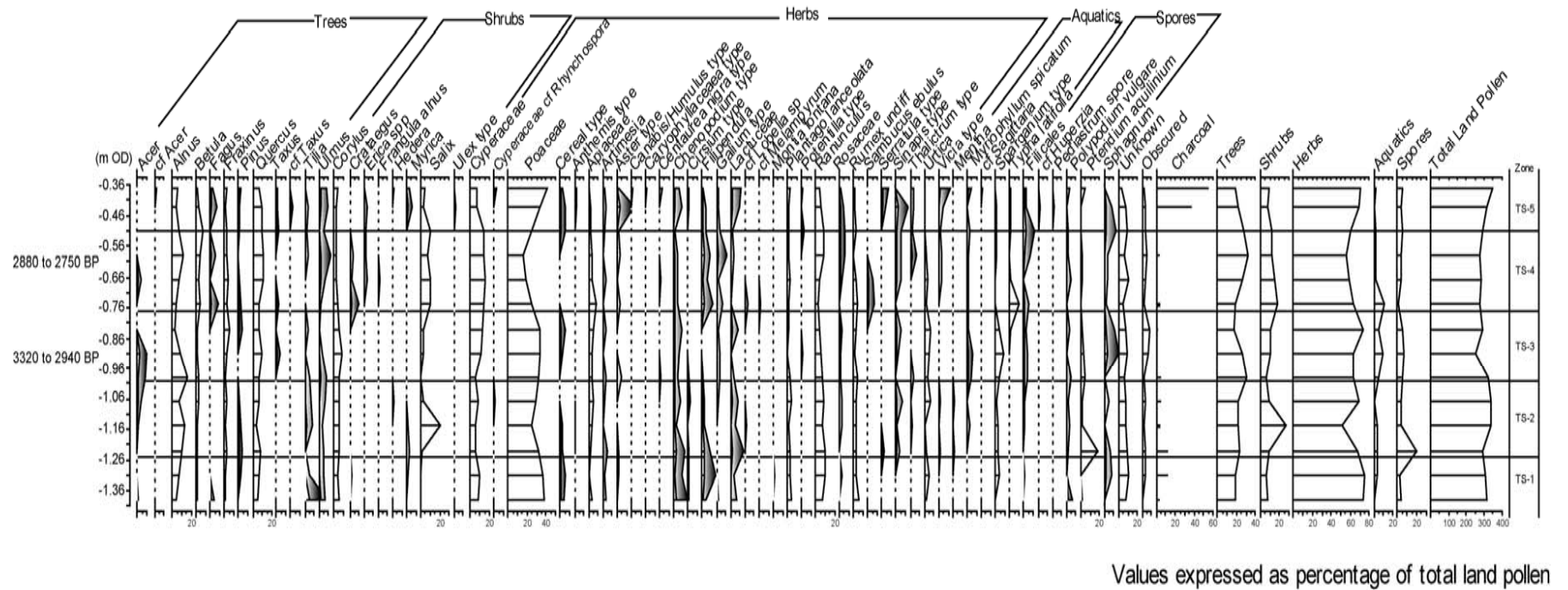


Figure 7: Pollen diagram for column sample 04/04/03/08

**Table 1: Radiocarbon dates obtained from Tabard Square**

Laboratory code / Method	Material and Column sample number	Depth (m OD)	Uncalibrated radiocarbon years before present (yr BP)	Calibrated age BC (BP) (2-sigma, 95.4% probability)	$\delta^{13}\text{C}$ (‰)
Beta: 193591 Radiometric- Standard Delivery	Peat 04/04/03/08	-0.7 to -0.72m OD	2700+/-50	Cal BC 930 to 800 (Cal BP 2880 to 2750)	-28.8‰
Beta: 193592 Radiometric Standard Delivery	Peat 04/04/03/08	-0.9 to -0.92m OD	2950+/-60	AI BC 1380 to 990 (Cal BP 3320 2940)	-29.2‰
Beta: 193594 AMS Standard Delivery	Peat 04/04/03/10	-0.19 to -0.21m OD	2290+/-40	Cal BC 400 to 350 (Cal BP 2350 to 2300) AND Cal BC 300 to 220 (Cal BP 2250 to 2170)	-28.9‰
Beta: 193595 Radiometric Standard Delivery	Peat 04/04/03/10	-0.63 to -0.65m OD	2900+/-60	Cal BC 1280 to 920 (Cal BP 3230 to 2870)	-27.2‰
Beta: 193597 AMS Standard Delivery	Peat 04/04/03/11	-0.15 to -0.17m OD	2330+/-40	Cal BC 420 to 370 (Cal BP 2370 to 2320)	-27.9‰
Beta: 193590 Radiometric Standard Delivery	Peat 04/04/03/11	-0.22 to -0.24m OD	2400+/-50	Cal BC 760 to 620 (Cal BP 2710 to 2560) AND Cal BC 590 to 390 (Cal BP 2540 to 2340)	-28.3‰
Beta: 193593 Radiometric Standard Delivery	Peat 04/04/03/11	-0.3 to -0.32m OD	2760+/-50	Cal BC 1010 to 820 (Cal BP 2960 to 2760)	-29.7‰
Beta: 193596 AMS Standard Delivery	Peat 04/04/03/11	-0.42 to -0.44m OD	2350+/-40	Cal BC 420 to 370 (Cal BP 2370 to 2320)	-25.7‰

**Table 2: Assessment of the concentration of sub-fossil macroscopic biological remains (O=occasional; F=frequent; A=abundant)**

Sample number	Context number	Description	Phase	Area	Charcoal	Waterlogged wood	Waterlogged seeds (main taxa) (unless otherwise indicated)
448	12925	Alluvium	Prehistoric	F2		O	<i>Ranunculus repens</i> (buttercup), <i>Sambucus</i> sp (elder), <i>Polygonum</i> sp (knotweed), Apiaceae (carrot family)
226	2854	Cut	Prehistoric	A	O	O	Apiaceae (carrot family)
74	2163	Hearth	Prehistoric	B1	O		
211	1531	Layer	Prehistoric	A		A	
78	2227	Layer	Prehistoric	B1	O		
168	2606	Layer	Prehistoric	B1			
397	11013	Layer	Prehistoric	E3	F	O	
190	2227	Layer	Prehistoric	B1	O		
398	11144	Natural	Prehistoric	E3		O	
170	2619	Palaeochannel	Prehistoric	A		A	
227	2856	Palaeochannel	Prehistoric	A		O	
228	2886	Palaeochannel	Prehistoric	A		A	<i>Ranunculus repens</i> (buttercup), <i>Potentilla</i> (tormentil), <i>Carex</i> sp. (sedge)
228	2886	Palaeochannel	Prehistoric	A		O	<i>Ranunculus repens</i> (buttercup), <i>Potentilla</i> (tormentil), <i>Carex</i> sp. (sedge)
250	3506	Palaeosol	Prehistoric	A	O		
54	1592	Peat layer	Prehistoric	A		O	
72	2158	Peat layer	Prehistoric	A		O	
66	1531	Peat layer	Prehistoric	A		O	<i>Chenopodium album</i> (fat hen) Apiaceae (carrot family), <i>Potentilla</i> (tormentil), <i>Atriplex</i> sp (mountain spinach), <i>Rubus</i> sp (blackberry)
169	2617	Pit	Prehistoric	A	O		
173	2624	Pit	Prehistoric	B1			
179	2626	Pit	Prehistoric	A	O	O	
179	2626	Pit	Prehistoric	A			
395	10854	Pit	Prehistoric	E3	O		
399	11163	Posthole	Prehistoric	E2	O	O	
338	7741	B/E floor	Roman	C1	A		



337	7743	B/E floor	Roman	C1	A		
340	7590	B/E floor	Roman	C1	O		
375	9898	B/E floor	Roman	E1	A		
432	12799	B/E floor	Roman	G1	A		
339	7738	B/E floor	Roman	C1	A		
343	7586	B/E floor	Roman	C1	A		
342	7588	B/E floor	Roman	C1	A		
344	7589	B/E floor	Roman	C1	F		
341	7591	B/E floor	Roman	C1	A		
410	11965	Barrel	Roman	F1	O	O	
411	12035	Barrel	Roman	F1		F	
405	11966	Barrel	Roman	F1	O	O	
407	11967	Box	Roman	F1	O	A	
403	11545	Cellar	Roman	F1	O	F	
403	11545	Cellar	Roman	F1		O	Charred wheat grain ( <i>Triticum</i> ), <i>Sambucus</i> sp (elder), <i>Urtica</i> (nettle), <i>Polygonum</i> sp (knotweed), <i>Chenopodium album</i> (fat hen), <i>Rumex</i> sp (docks and sorrels)
283	5934	Cremation	Roman	C2	A		
379	10034	Cremation	Roman	E2	A		
278	5104	Cremation	Roman	C2	A		
29	1285	Cremation	Roman	A	F		
235	4063	Cremation	Roman	A	F		
345	7774	Cremation	Roman	C2	A		
454	12955	Cremation	Roman	G1	O		
229	2917	Cremation	Roman	B2	O		
232	4032	Cremation	Roman	A	A		
253	3772	Cremation	Roman	A	A		
455	12895	D/Layer	Roman	G1	A		
238	4498	Ditch	Roman	B1	O		
412	12064	Ditch	Roman	F1	O	O	
212	958	Ditch	Roman	A	O	O	

212	958	Ditch	Roman	A		O	
34	1454	Ditch	Roman	A		A	
404	11776	Ditch	Roman	F1	A		
40	1521	Ditch	Roman	B1		O	<i>Ranunculus</i> (buttercup), <i>Urtica dioica</i> (nettle) Caryophyllaceae (campion family)
457	12855	Ditch	Roman	G2		O	<i>Prunus</i> sp (blackthorn), <i>Alnus</i> (alder)
394	10254	Ditch	Roman	E2	A		
227	1856	Ditch	Roman			A	
207	988	?	Roman	A	O		
52	2008	Fill	Roman	B2			
36	1483	Fill	Roman	B1			
185	2686	Fill	Roman	B2	O		
305	6467	fire debris (layer)	Roman	C2			
389	10497	Floor	Roman	E1	A		
84	2282	Gully	Roman	B1			
259	3941	Hearth	Roman	A	A		
313	6749	Hearth	Roman	C2	A		
309	6750	Hearth	Roman	C2	A		
315	6865	Hearth	Roman	C2	A		
242	3262	Hearth	Roman	B1	O	O	
374	9900	Hearth	Roman	E3	O		
287	5992	Layer	Roman	C2	A		
390	10191	Layer	Roman	F1	A		
220	1017	Layer	Roman	A	F		
208	1165	Layer	Roman	A	O		
209	1287	Layer	Roman	A	O		
210	1462	Layer	Roman	A	O		
58	2037	Layer	Roman	A	F	O	
192	2669	Layer	Roman	B2	O		
217	2728	Layer	Roman	B2	O		
233	4042	Layer	Roman	B2	F		

302	6291	Layer	Roman	C1	A		
298	6306	Layer	Roman	C2	O		
301	6307	Layer	Roman	C1	A		
299	6314	Layer	Roman	C1	A		
305	6467	Layer	Roman	C2	O		
316	6933	Layer	Roman	C1	A		
382	8378	Layer	Roman	E1	A		
393	10589	Layer	Roman	E3	A		
425	12145	Layer	Roman	F2/G2	A		
428	12772	Layer	Roman	G1	A		
30	1172	Layer	Roman	A	O	O	
32	1386	Layer	Roman	A	F	O	
56	2037	Layer	Roman	A	F		
62	1844	Layer	Roman	B1		O	<i>Sambucus</i> sp (elder), <i>Urtica</i> (nettle)
209	1287	Layer	Roman	A	O		
291	6154	Layer	Roman	C1	A		
402	13286	Layer	Roman	G1	O		
32	1386	Layer	Roman	A	F		
347	7779	Layer	Roman	C2	A		
30	1172	Layer	Roman	A	A		
55	2037	Layer	Roman	A	A	A	
56	2037	Layer	Roman	A	F	F	
342	7588	Layer	Roman	C1	F		Charred cereal grain
57	2037	Layer	Roman	A	F	O	
300	6136	Layer	Roman	C1	O	O	
52	2008	Linear	Roman	B2	O		
186	2705	Linear	Roman	B2			
46	1775	N-S channel	Roman	A		O	<i>Ranunculus</i> (buttercup), <i>Atriplex</i> (mountain spinach), <i>Urtica dioica</i> (nettle), <i>Sambucus</i> sp (elder)
239	3144	Oven	Roman	B1	F	O	
241	3197	Oven	Roman	B1	F		

241	3197	Oven	Roman	B1	O		
69	2167	Oven	Roman	B2	F		
60	2106	Peat	Roman	A		O	Lamiaceae, <i>Rubus</i> (e.g. blackberry), <i>Sambucus</i> (elder)
35	1377	Peat layer	Roman	B1		O	
282	5906	Pit	Roman	C2	A		
350	8175	Pit	Roman	E1	A	A	
39	1550	Pit	Roman	A			
85	2184	Pit	Roman	B1	O		
176	2632	Pit	Roman	B2	O		
246	3418	Pit	Roman	A	A	O	
321	7230	Pit	Roman	C1	A		
336	7699	Pit	Roman	C1	A		
366	9338	Pit	Roman	E4	A		
388	10459	Pit	Roman	F1			
406	11974	Pit	Roman	F1?	A		
426	12573	Pit	Roman	G1	A		
234	4034	Pit	Roman	A	F		
458	13164	Pit	Roman	G1	O		
42	1565	Pit	Roman	A	F		<i>Rumex</i> (docks and sorrels), <i>Polygonum cf persicaria</i> , <i>Chenopodium album</i> (fat hen), <i>Alnus</i> (alder), <i>Atriplex</i> (mountain spinach)
44	1566	Pit	Roman	A	O	A	<i>Ranunculus repens</i> (buttercup), <i>Carex</i> (sedge), <i>Sambucus</i> (elder), <i>Rumex</i> (docks and sorrels)
43	1612	Pit	Roman	A	F	O	
153	2479	Pit	Roman	A		A	<i>Rumex</i> (docks and sorrels), <i>Polygonum cf persicaria</i> , <i>Chenopodium album</i> (fat hen), <i>Alnus</i> (alder), <i>Atriplex</i> (mountain spinach)
381	10146	Pit	Roman	E1			
42	1565	Pit	Roman	A		O	
44	1566	Pit	Roman	A	O	O	<i>Rumex</i> (docks and sorrels), <i>Polygonum cf persicaria</i> , <i>Chenopodium album</i> (fat hen), <i>Alnus</i> (alder), <i>Atriplex</i> (mountain spinach)
26	1023	Pit	Roman	B1	O		

244	3363	Posthole	Roman	A		A	
50	1162	Robber cut	Roman	B2	O	O	Charred grain
51	1772	Robber cut	Roman	B2	O		
53	2074	Robber cut	Roman	B2	O		
68	2136	Robber cut	Roman	B2	O	O	
50	1162	Robber cut	Roman	B2			Charred grain
68	2136	Robber cut	Roman	B2	O		
383	10164	Robber cut	Roman	E1		A	
218	2074	Robber trench	Roman	B2	O	O	
25	972	Robber trench	Roman	A	F	A	
242	3262	Sand on oven	Roman	B1	F		
45	1669	Well	Roman	A	O		
392	10540	Well	Roman	E2	O	F	
24	898	Well	Roman	A	O		
391	10539	Well	Roman	E2		A	
396	10958	Well	Roman	E3		A	
38	1458	Ditch	Medieval	B2			
384	10238	Ditch	Medieval	F1	O	O	
402	11435	Ditch	Medieval	F2/G2	A		
64	2117	Hearth	Medieval	B2			
216	1306	Layer	Medieval	B2			
429	12729	Pit	Medieval	G1			
206	750	Cess	Post medieval	A	O	O	<i>Sambucus</i> sp (elder), <i>Euphorbia</i> , Charred grain emmer Wheat ( <i>Triticum</i> ) and Barley ( <i>Hordeum</i> )
289	6104	Cess	Post medieval	D		O	Apiaceae (carrot family), <i>Ficus</i> (fig)
251	3550	Cut	Post medieval	A	O		
27	1062	Ditch	Post medieval	A	O	O	
21	812	Ditch	Post medieval	A	O	O	Apiaceae sp. (carrot family), <i>Atriplex</i> sp. (mountain spinach), <i>Polygonum</i> sp. (knotgrass), <i>Urtica dioica</i> (nettle), <i>Potentilla</i> sp. (tormentil)
27	1062	Ditch	Post	A	F		

			medieval				
219	2294	Garden soil	Post medieval	A	F	O	
219	2294	Garden soil	Post medieval	A	F		
203	2291	Layer	Post medieval	A			
204	2292	Layer	Post medieval	A			
252	3542	Palaeosol	Post medieval	A	F		
368	9556	Pit	Post medieval	E3			
386	10285	Pit	Post medieval	E4		A	
400	11363	Pit	Post medieval	F1?		F	
387	10290	Pit	Post medieval	F1	O		
24	898	Pit / well	Post medieval	A	O	O	Charred grain of wheat and barley ( <i>Triticum</i> and <i>Hordeum</i> ); <i>Rubus</i> sp (blackberry), <i>Ficus</i> (fig), <i>Sambucus</i> sp (elder)
206	750	Plough layer	Post medieval	A	O		<i>Sambucus</i> sp (elder), <i>Euphorbia</i> , charred grain of emmer wheat and barley ( <i>Triticum</i> and <i>Hordeum</i> )
215	1117	Plough layer	Post medieval	B2	F		
203	2291	Plough soil	Post medieval	A			
204	2292	Plough soil	Post medieval	A	O		Apiaceae (carrot family), <i>Sambucus</i> (elder), <i>Ficus</i> (fig), <i>Rubus</i> sp (bramble)
434	12898	Pond	Post medieval	F2		O	<i>Atriplex</i> sp (mountain spinach), <i>Urtica dioica</i> (nettle), <i>Ranunculus repens</i> (buttercup), <i>Sambucus</i> sp (elder)
367	9526	Posthole	Post medieval	E3	O		
22	858	Tan pit	Post medieval	A		A	
380	10046	Well	Post	E2-3			

			medieval				
2	68		Undated		O	F	
6	118		Undated				
424	12116		Undated			O	
31	1221		Undated			O	<i>Sambucus nigra</i> (elder), <i>Stachys</i> sp., <i>Urtica dioica</i> (nettle)
1	13		Undated			A	
17	194		Undated		A		
18	374		Undated				
264	4787		Undated		A		
286	4911		Undated		O		
281	5815		Undated		A		
348	7828		Undated		F		

**Table 1: Recommended samples for the analysis phase of Tabard Square (LLS02)**

Context number	Sample number	Provisional phase	Description	Area	Waterlogged seeds	Waterlogged wood	Charred seeds /grain	Charcoal	Mollusca	Waterlogged or charred seeds or both
2886	228	Prehistoric	Fill of Palaeochannel [2887]	A						
12925	448	Prehistoric	Alluvium (Fill of natural channel)	F2/G2						
1531	66	Prehistoric	Peat horizon	A						
11013	397	Prehistoric	Prehistoric ground horizon containing burnt flint	E3						
3506	250	Prehistoric	Charcoal spread, within [3409] palaeosol	A						
2163	74	Prehistoric	Spread of burnt flint; possible Mesolithic hearth?	B1						
2854	226	Prehistoric	Silt fill of Prehistoric feature cut through palaeosoil layer	A						
10854	395	Prehistoric	Fill of fire pit	E3						
7743	337	Roman	Brickearth Floor	C1						
9898	375	Roman	Brickearth Floor	E1						
12799	432	Roman	Brickearth Floor	G1						
11545	403	Roman	Cellar	F1						
898	24	Roman	Well	A						
10958	396	Roman	Well	E3						
10939	391	Roman	Well	E2						
1565	42	Roman	Upper fill of Roman pit [1567]	A						
1566	44	Roman	Primary fill of Roman pit [1567]	A						
2479	153	Roman	Pit fill. Contained a large quantity of charcoal	A						
11965	410	Roman	Fill of barrel within Roman barrel well. No finds record	F1						
11966	405	Roman	Fill of timber box within Roman barrel well	F1						
5934	283	Roman	Cremation? fill of [5971]	C2						
7774	345	Roman	Cremation? Fill of [7775]	C2						
3772	253	Roman	Cremation Fill of [3771]	A						



10034	379	Roman	Cremation? Fill of [10035]	E2						
2106	60	Roman	Dark brown to black organic rich peat fill of [2103]	A						
958	212	Roman	Fill of Ditch [959]	A						
1454	34	Roman	Fill of Ditch [1455]	A						
1483	36	Roman	Fill of [1482] remains of cooking?	B1						
1521	40	Roman	Fill of Ditch [1594]	B1						
11776	404	Roman	Fill of Ditch [11777]	F1						
12855	457	Roman	Fill of Ditch [11794]	G2						
9338	366	Roman	Fill of Pit [9339]	E4						
3941	259	Roman	Hearth	A						
6750	309	Roman	Hearth	C2						
9900	374	Roman	Hearth	E3						
3144	239	Roman	Fill of a Roman oven [3173]	B1						
2167	69	Roman	Fill of Roman oven [2168]	B2						
3197	241	Roman	Fill of Roman oven [3221]	B1						
2686	185	Roman	Fill of cut [2687]	B2						
2037	58	Roman	Roman layer containing 4 whole ceramic vessels and contents	A						
1775	46	Roman	Primary fill of North-South channel [1776]	A						
1458	38	Medieval	Secondary fill of Ditch [1459]	B2						
10238	384	Medieval	Fill of Ditch [10240]	F1						
11435	402	Medieval	Fill of Ditch [11436]	F2/G2						
12729	429	Medieval	Fill of Pit [12730]	G1						
10285	368	Post Medieval	Primary fill of Pit [9557]	E4						
11363	400	Post Medieval	Fill of Pit [11364]	F2/G2						
858	22	Post Medieval	Fill of possible tanning pit [859]	A						
12898	434	Post Medieval	Fill of Pond [12902]	F2/G2						
812	21	Post Medieval	Fill of organic rich ditch [813]	A						

1062	27	Post Medieval	Fill of Ditch [1068]	A						
6104	289	Post Medieval	Fill of Cess Pit [6105]	D						
2291	203	Post Medieval	Ploughsoil	A						
2292	204	Post Medieval	Ploughsoil- fill of [2293]	A						
2294	219	Post Medieval	Fill of [2293] - garden soil	A						
750	206	Post Medieval	Ploughsoil	A						
1062	27	Post Medieval	Fill of Ditch [1068]	A						
3550	251	Post Medieval	Fill of Cut [3551]	A						
898	24	Post Medieval	Fill of possible well [899]	A						
<b>TOTAL</b>					<b>32</b>	<b>19</b>	<b>7</b>	<b>38</b>	<b>7</b>	<b>37</b>

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## APPENDIX 20: OASIS FORM

**OASIS ID: preconst1-52476**

### Project details

Project name            Tabard Square

Short description of the project    The site was situated on the edge of the gravel terrace with a channel to the north. The natural gravel which sloped down to the north and east, was covered with clay and then peat. The earliest Roman activity (c. AD 43-70) was concentrated in the western part of the site where a concentration of postholes was revealed which appeared to radiate out in lines and were suggestive of structural remains. Elsewhere water management in the form of ditches was present. During the period AD 70-120 a network of ditches divided the central part of the site into strips of land. One of the ditches was backfilled with gravel to form a road. To the west clay and timber buildings were established which mainly went out of use between AD 120-160 however, there was some evidence of structural activity in the southwest corner of the site. In the late 2nd century the clay and timber buildings were removed and a religious complex was constructed consisting of two Romano-Celtic temples and a series of masonry bases for plinths or altars. To the east the complex was defined by a large northeast-southwest ditch. During the 3rd century the complex was modified with various resurfacings and a series of three plinths and a column base were erected together with a large building. During the 4th century the southern temple was demolished and a further large building was constructed to the southeast of the remaining temple. The precinct was reduced in size and defined by at least two boundary walls. Outside the precinct the area was enclosed by a series of ditches. There was some evidence of late Roman activity into the 5th century with the large building being used as a shelter. During the medieval period the site was divided into parcels of land by means of large ditches. Post-medieval activity consisted of buildings associated wells and industrial or craft activity consisting of tanning, animal processing, cloth production and clay tobacco pipe manufacture.

Project dates            Start: 17-07-2002 End: 25-07-2003

Previous/future work    Yes / No

Any associated project reference codes    LLS 02 - Sitecode

Type of project            Recording project

Site status                Area of Archaeological Importance (AAI)

Current Land use	Industry and Commerce 4 - Storage and warehousing
Monument type	TEMPLES Roman
Monument type	CLAY AND TIMBER BUILDINGS Roman
Monument type	DITCHES Roman
Monument type	ROAD Roman
Monument type	PITS Roman
Monument type	DITCHES Medieval
Monument type	PITS Medieval
Monument type	DITCHES Post Medieval
Monument type	BUILDINGS Post Medieval
Monument type	WELLS Post Medieval
Monument type	WELLS Roman
Monument type	PITS Post Medieval
Significant Finds	POTTERY Late Iron Age
Significant Finds	LITHICS Early Prehistoric
Significant Finds	POTTERY Roman
Significant Finds	ANIMAL BONE Roman
Significant Finds	COINS Roman
Significant Finds	INSCRIPTION Roman

Significant Finds	STATUE PARTS Roman
Significant Finds	SMALL FINDS Roman
Significant Finds	POTTERY Medieval
Significant Finds	ANIMAL BONE Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	TIN CONTAINERS Roman
Significant Finds	ANIMAL BONE Post Medieval
Significant Finds	COINS Post Medieval
Significant Finds	SMALL FINDS Post Medieval
Significant Finds	TIMBER Roman
Significant Finds	HUMAN BONE Roman
Investigation type	'Full excavation'
Prompt	Direction from Local Planning Authority - PPG16

### Project location

Country	England
Site location	GREATER LONDON SOUTHWARK SOUTHWARK Tabard Square, 34-7- Long Lane and 31-47 Tabard Street
Postcode	SE1
Study area	1.25 Hectares
Site coordinates	TQ 3263 7966 51.4997972126 -0.08900008888080 51 29 59 N 000 05 20 W

Point

Height OD / Depth Min: -0.50m Max: 1.22m

### Project creators

Name of Organisation	Pre-Construct Archaeology Ltd
Project brief originator	Southwark Council
Project design originator	Gary Brown and Peter Moore
Project director/manager	Gary Brown and Peter Moore
Project supervisor	Douglas Killock
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Berkeley Homes(City & East London) Ltd

### Project archives

Physical Archive recipient	LAARC
Physical Contents	'Animal Bones','Ceramics','Environmental','Glass','Human Bones','Leather','Metal','Wood','Worked bone','Worked stone/lithics','other'
Digital Archive recipient	LAARC
Digital Contents	'Animal Bones','Ceramics','Environmental','Glass','Human Bones','Leather','Metal','Stratigraphic','Survey','Wood','Worked bone','Worked stone/lithics','other'

Digital Media available	'Database','Spreadsheets','Survey','Text'
Paper Archive recipient	LAARC
Paper Contents	'Animal Bones','Ceramics','Environmental','Glass','Human Bones','Leather','Metal','Stratigraphic','Survey','Wood','Worked bone','Worked stone/lithics','other'
Paper Media available	'Context sheet','Correspondence','Diary','Drawing','Manuscript','Map','Matrices','Notebook - Excavation',' Research',' General Notes','Photograph','Plan','Report','Section','Survey ','Unpublished Text'

### Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	An Assessment of an Archaeological Excavation at Tabard Square, 34-70 Long Lane and 31-47 Tabard Street, London SE1, London Borough of Southwark
Author(s)/Editor(s)	Killock, D.
Date	2008
Issuer or publisher	Pre-Construct Archaeology Ltd
Description	A4 Bound Report

Entered by	Jon Butler (jbutler@pre-construct.com)
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# P C A

PRE - CONSTRUCT ARCHAEOLOGY LIMITED

UNIT 54

BROCKLEY CROSS BUSINESS CENTRE

96 ENDWELL ROAD

BROCKLEY

LONDON SE4 2PD

TEL: 0207 732 3925 0207 639 9091

FAX: 0207 639 9588

EMAIL: [info@pre-construct.com](mailto:info@pre-construct.com)

PRE-CONSTRUCT ARCHAEOLOGY LIMITED (NORTHERN OFFICE)

UNIT 19A

TURSDALE BUSINESS PARK

DURHAM DH6 5PG

TEL: 0191 377 1111

FAX: 0191 377 0101

EMAIL: [info.north@pre-construct.com](mailto:info.north@pre-construct.com)

