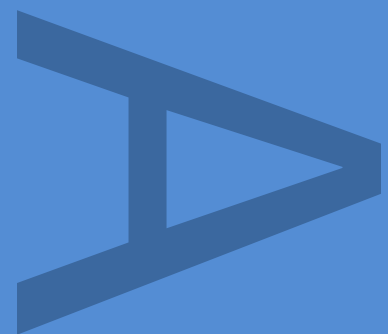


A Summary Assessment  
of an Archaeological  
Excavation at 127-143  
Borough High Street,  
London Borough of  
Southwark,  
London SE1 1NP

BOH 13

PCA Report No: R12582

August 2016



**PRE-CONSTRUCT ARCHAEOLOGY**

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1NP

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## **Summary Assessment of An Archaeological Excavation at 127-143 Borough High Street, London Borough of Southwark, London SE1 1NP**

**Site Code: BOH 13**

**Central National Grid Reference: TQ 3261 8002**

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August 2016**

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## 1 Non-Technical Summary

- 1.1 This report presents a summary of the results of an archaeological excavation conducted by Pre-Construct Archaeology Ltd at 127-143 Borough High Street, London Borough of Southwark, London SE1 1NP. The site lies on the east side of Borough High Street and is bounded by 125 Borough High Street to the north, The Wolfson Centre for Age-Related Diseases to the east, 145 Borough High Street along with other properties fronting on Newcomen Street to the south and Borough High Street itself to the west. The main area of the excavation was roughly rectangular in shape. The excavation was undertaken between March and September 2015.
- 1.2 The archaeological potential of the site had been first demonstrated by the excavations undertaken prior to the construction of the Wolfson Centre for Age-Related Diseases which lies adjacent to the site to the east<sup>1</sup>. This excavation recorded extensive evidence of Roman, medieval and post-medieval occupation and clearly demonstrated that deposits relating to these periods extended into site. The archaeological potential of the site was clearly dependant on the extent to which modern basements had impacted the archaeological remains which had once been present. Trial work was conducted prior to the demolition of the standing buildings which occupied the site. These exploratory excavations revealed that deposits and features dating from the Roman period onward were still present on the site despite the presence of modern basements<sup>2</sup>. The alleyway known as Nag's Head Yard had particularly high potential for all periods as it had never been subject to deep excavation.
- 1.3 Given the clear archaeological potential of the site and the proposed plan for a large basement below the new building Dr Christopher Constable, the Senior Archaeology Officer for the London Borough of Southwark, determined that an archaeological excavation should be undertaken prior to the start of any construction.
- 1.4 Full analysis of the excavation results has yet to be undertaken. However, it was clear from observations made during the course of the excavation and initial analysis that the site had been intensely occupied from the late 1st century AD until the present day with the exception of the immediate post-Roman period when Southwark, along with the rest of the Roman city of *Londinium*, was abandoned. Roman buildings built from clay and timber, some retaining painted wall plaster, would once have extended over most of the excavated area in the late 1st and early 2nd centuries. The status of the site in the late Roman period is harder to define as building remains were not apparent but the presence of late Roman deep cut features such as timber

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<sup>1</sup> Pickard, C. 2002. An Assessment Report of Archaeological Excavations at the New Wolfson Wing, King's College London, London Borough of Southwark, SE1. Pre-Construct Archaeology Limited, unpublished report.

<sup>2</sup> Taylor, J and Beasley, M 2013 An Updated Archaeological Evaluation at 127-143 Borough High Street, London Borough of Southwark, SE1 1NP Pre-Construct Archaeology Limited, unpublished report

- lined wells and the recovery of a large assemblage of late Roman coins demonstrated that the site continued to be used into the late 4th or early 5th centuries.
- 1.5 Following the period of post-Roman abandonment the site was re-occupied, possibly by the middle of the 11th century though further analysis of the finds assemblage and stratigraphic record is required to define at what point this took place. Though large amounts of the site remained open ground in the medieval period the density of rubbish pits and the rich finds assemblages contained within them demonstrate the intensity of urban renewal in and around the site. Unfortunately the area of the street frontage, which was probably the first to be redeveloped in this period, had been severely impacted by later basements and very little evidence of medieval occupation was found here. However, a remarkable array of later medieval chalk and stone foundations, probably constructed in the 14th and 15th centuries, extended across large areas of the site particularly in the southern and eastern sides of the excavation. One feature of the late Medieval landscape which was of particular note was that of the alleyway later known as Nag's Head Yard which did not cross the entire area of excavation as it did in more modern times.
  - 1.6 The most imposing of the medieval stone buildings probably remained in use after some of the smaller structures had been demolished. The cesspits associated with these smaller buildings contained pottery dated to the late 15th and 16th centuries which indicates the period in which the buildings went out of use and were replaced by new structures built principally of brick. New brick basements were constructed including at least one which occupied an area that had previously been open ground. The excavation of basements and building over former open areas suggests that space was at a premium and that the street pattern became denser at this time.
  - 1.7 At present the precise construction dates of the brick buildings is not known but at least one of them was partially backfilled when a new floor surface was laid in the mid 17th century, demonstrating that the basement might have been built in the 16th century. The medieval buildings evident on the eastern part of the site were demolished and Nag's Head Yard extended further to the east.
  - 1.8 The site continued to be densely occupied in the later post-medieval period. A concentration of superimposed walls on the south side of the alleyway in particular demonstrated frequent rebuilding and remodelling of the existing ground plans throughout the 17th and 18th centuries before more comprehensive redevelopment in the late 18th or 19th centuries.

## 2 Introduction

- 2.1 An archaeological excavation was undertaken by Pre-Construct Archaeology Ltd at 127-143 Borough High Street, London Borough of Southwark, London SE1 1NP between March and September 2015. Initial site preparation consisted of the demolition of the standing buildings, the installation of interlocking steel shoring around the main area of excavation, the installation of a steel framework within 127 Borough High Street and the diversion of drainage to facilitate the development. All of these actions were monitored in an extended watching brief which was undertaken from January to March 2015. A shaft excavated to locate the course of the WWII air raid defence tunnel was excavated in October and November 2014 prior to the commencement of demolition.
- 2.2 The site lies on the east side of Borough High Street and is bounded by 125 Borough High Street to the north, The Wolfson Centre for Age-Related Diseases to the east, 145 Borough High Street along with other properties fronting on Newcomen Street to the south and Borough High Street itself to the west. The proposed development covered a footprint of approximately 1670m<sup>2</sup> and the basement covers an area of approximately 1,050m<sup>2</sup>.
- 2.3 The central National Grid Reference for the area evaluated is TQ 3261 8002.
- 2.4 The site was given the unique Museum of London site code BOH 13.
- 2.5 The site had previously been the subject of two archaeological Desk Based Assessments<sup>3</sup> and a field evaluation<sup>4</sup>. Both of the Desk Based studies and the field evaluation demonstrated the archaeological potential of the redevelopment area.
- 2.6 The project was monitored by Dr Christopher Constable, the Senior Archaeology Officer for the London Borough of Southwark; Peter Moore was project manager for Pre-Construct Archaeology Limited and the post-excavation project was managed by Frank Meddens. The excavation was supervised by the author.

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<sup>3</sup> Divers, D 2000 An Archaeological Desk Top Assessment of 127-143 Borough High Street, London Borough of Southwark, SE1 Unpublished Pre-Construct Archaeology Report

Barrowman, S 2013 Archaeological Desk-Based Assessment of 127-143 Borough High Street, London Borough of Southwark, SE1 Unpublished Pre-Construct Archaeology Report

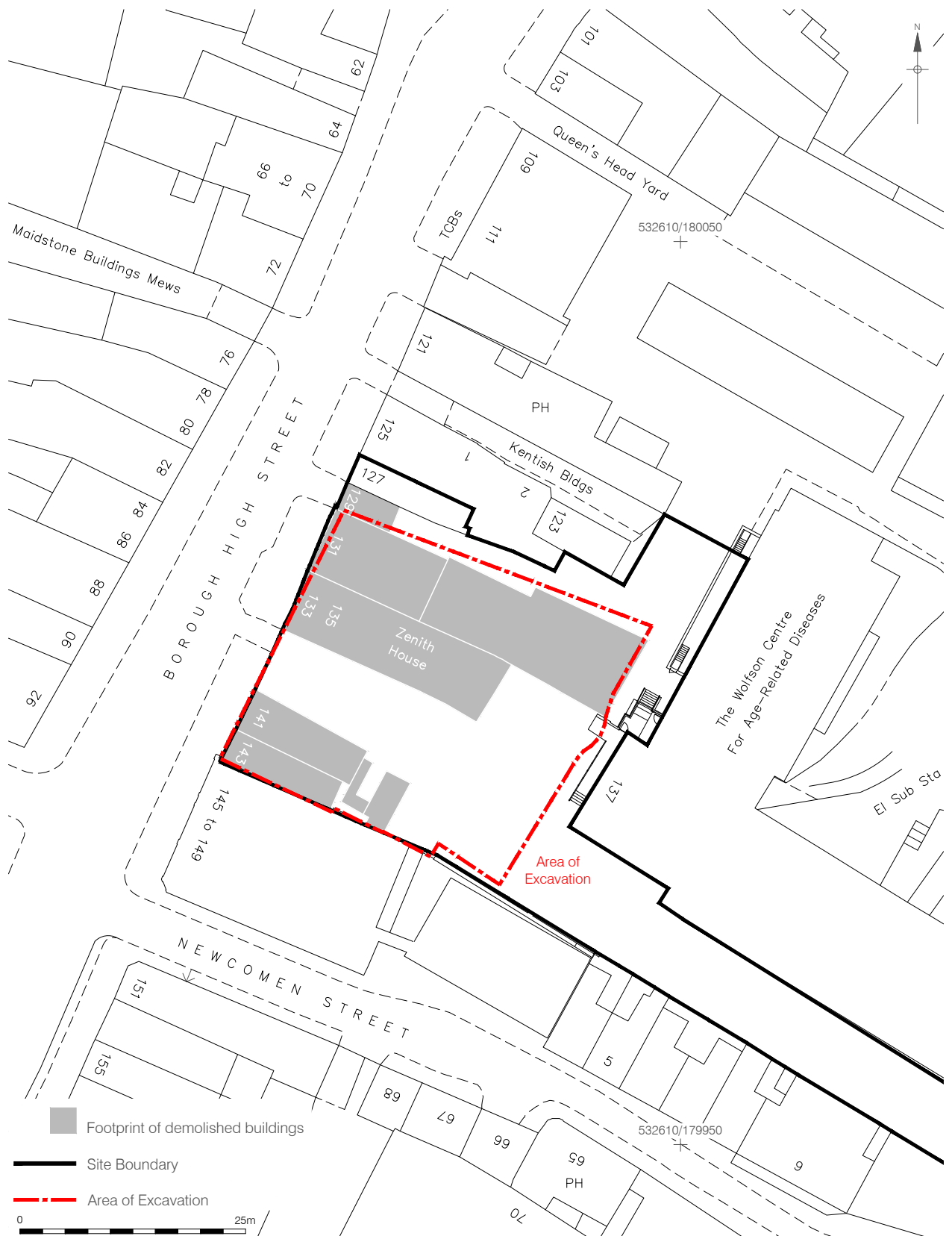
<sup>4</sup> Taylor, J and Beasley, M 2013 An Updated Archaeological Evaluation at 127-143 Borough High Street, London Borough of Southwark, SE1 1NP Pre-Construct Archaeology Limited, unpublished report



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 28/07/16 HB

Figure 1  
 Site Location  
 1:12,500 at A4





Ordnance Survey Data supplied by GLS Architects  
 © Pre-Construct Archaeology Ltd 2016  
 28/07/16 HB

Figure 2  
 Detailed Site Location  
 1:625 at A4

### 3 Planning Background

#### 3.1 National Guidance

3.1.1 The Departments of Communities and Local Government (DCLG) issued a series of planning guidelines, the National Planning Policy Framework, in March 2012. This document superseded the previous guidance contained in Planning Policy Statement 5. The policies regarding archaeology set out in the NPPF are contained in **Section 12 Conserving and enhancing the historic environment**. These state:

126. Local planning authorities should set out in their Local Plan a positive strategy for the conservation and enjoyment of the historic environment<sup>5</sup>, including heritage assets most at risk through neglect, decay or other threats. In doing so, they should recognise that heritage assets are an irreplaceable resource and conserve them in a manner appropriate to their significance. In developing this strategy, local planning authorities should take into account:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the wider social, cultural, economic and environmental benefits that conservation of the historic environment can bring;
- the desirability of new development making a positive contribution to local character and distinctiveness; and
- opportunities to draw on the contribution made by the historic environment to the character of a place.

127. When considering the designation of conservation areas, local planning authorities should ensure that an area justifies such status because of its special architectural or historic interest, and that the concept of conservation is not devalued through the designation of areas that lack special interest.

128. In determining applications, local planning authorities should require an applicant to describe the significance of any heritage assets affected, including any contribution made by their setting. The level of detail should be proportionate to the assets' importance and no more than is sufficient to understand the potential impact of the proposal on their significance. As a minimum the relevant historic environment record should have been consulted and the heritage assets assessed using appropriate expertise where necessary. Where a site on which development is proposed includes or has the potential to include heritage assets with archaeological interest, local planning authorities should require developers to submit an appropriate desk-based assessment and, where necessary, a field evaluation.

129. Local planning authorities should identify and assess the particular significance of any heritage asset that may be affected by a proposal (including by development affecting the setting of a heritage asset) taking account of the available evidence and any necessary expertise. They should take this assessment into account when considering the impact of a proposal on a heritage asset, to avoid or minimise conflict between the heritage asset's conservation and any aspect of the proposal.

130. Where there is evidence of deliberate neglect of or damage to a heritage asset the deteriorated state of the heritage asset should not be taken into account in any decision.

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<sup>5</sup> The principles and policies set out in this section apply to the heritage-related consent regimes for which local planning authorities are responsible under the Planning (Listed Buildings and Conservation Areas) Act 1990, as well as to plan-making and decision-taking.

131. In determining planning applications, local planning authorities should take account of:

- the desirability of sustaining and enhancing the significance of heritage assets and putting them to viable uses consistent with their conservation;
- the positive contribution that conservation of heritage assets can make to sustainable communities including their economic vitality; and
- the desirability of new development making a positive contribution to local character and distinctiveness.

132. When considering the impact of a proposed development on the significance of a designated heritage asset, great weight should be given to the asset's conservation. The more important the asset, the greater the weight should be. Significance can be harmed or lost through alteration or destruction of the heritage asset or development within its setting. As heritage assets are irreplaceable, any harm or loss should require clear and convincing justification. Substantial harm to or loss of a grade II listed building, park or garden should be exceptional. Substantial harm to or loss of designated heritage assets of the highest significance, notably scheduled monuments, protected wreck sites, battlefields, grade I and II\* listed buildings, grade I and II\* registered parks and gardens, and World Heritage Sites, should be wholly exceptional.

133. Where a proposed development will lead to substantial harm to or total loss of significance of a designated heritage asset, local planning authorities should refuse consent, unless it can be demonstrated that the substantial harm or loss is necessary to achieve substantial public benefits that outweigh that harm or loss, or all of the following apply:

- the nature of the heritage asset prevents all reasonable uses of the site; and
- no viable use of the heritage asset itself can be found in the medium term through appropriate marketing that will enable its conservation; and
- conservation by grant-funding or some form of charitable or public ownership is demonstrably not possible; and
- the harm or loss is outweighed by the benefit of bringing the site back into use.

134. Where a development proposal will lead to less than substantial harm to the significance of a designated heritage asset, this harm should be weighed against the public benefits of the proposal, including securing its optimum viable use.

135. The effect of an application on the significance of a non-designated heritage asset should be taken into account in determining the application. In weighing applications that affect directly or indirectly non-designated heritage assets, a balanced judgement will be required having regard to the scale of any harm or loss and the significance of the heritage asset.

136. Local planning authorities should not permit loss of the whole or part of a heritage asset without taking all reasonable steps to ensure the new development will proceed after the loss has occurred.

137. Local planning authorities should look for opportunities for new development within Conservation Areas and World Heritage Sites and within the setting of heritage assets to enhance or better reveal their significance. Proposals that preserve those elements of the setting that make a positive contribution to or better reveal the significance of the asset should be treated favourably.

138. Not all elements of a World Heritage Site or Conservation Area will necessarily contribute to its significance. Loss of a building (or other element) which makes a positive contribution to the significance of the Conservation Area or World Heritage Site should be treated either as substantial harm under paragraph 133 or less than substantial harm under paragraph 134, as appropriate, taking into account the relative significance of the element affected and its contribution to the significance of the Conservation Area or World Heritage Site as a whole.

139. Non-designated heritage assets of archaeological interest that are demonstrably of equivalent significance to scheduled monuments, should be considered subject to the policies for designated heritage assets.

140. Local planning authorities should assess whether the benefits of a proposal for enabling development, which would otherwise conflict with planning policies but which would secure the future conservation of a heritage asset, outweigh the disbenefits of departing from those policies.

141. Local planning authorities should make information about the significance of the historic environment gathered as part of plan-making or development management publicly accessible. They should also require developers to record and advance understanding of the significance of any heritage assets to be lost (wholly or in part) in a manner proportionate to their importance and the impact, and to make this evidence (and any archive generated) publicly accessible<sup>6</sup>. However, the ability to record evidence of our past should not be a factor in deciding whether such loss should be permitted.

3.1.2 The provisions set out in the new guidelines superseded the policy framework set out in previous government guidance namely Planning Policy Statement 5 (PPS 5) 'Planning for the Historic Environment'. Planning Policy Statement 5 had itself replaced Planning Policy Guidance Note 16, PPG 16, which was issued in November 1990 by the Department of the Environment.

3.1.3 Although PPG 16 has been superseded the Unitary Development Plans of most local authorities, or Local Development Frameworks where these have been adopted, still contain sections dealing with archaeology that are based on the provisions set out in PPG 16. The key points in PPG16 can be summarised as follows:

3.1.4 Archaeological remains should be seen as a finite and non-renewable resource, and in many cases highly fragile and vulnerable to damage and destruction. Appropriate management is therefore essential to ensure that they survive in good condition. In particular, care must be taken to ensure that archaeological remains are not needlessly and thoughtlessly destroyed. They can contain irreplaceable information about our past and the potential for an increase in future knowledge. They are part of our sense of national identity and are valuable both for their own sake and for their role in education, leisure and tourism.

3.1.5 Where nationally important archaeological remains, whether scheduled or not, and their settings, are affected by a proposed development there should be a presumption in their physical preservation.

3.1.6 If physical preservation *in situ* is not feasible, an archaeological excavation for the purposes of 'preservation by record' may be an acceptable alternative. From an archaeological point of view, this should be as a second best option. Agreements should also provide for subsequent publication of the results of any excavation programme.

3.1.7 The key to informed and reasonable planning decisions is for consideration to be given early, before formal planning applications are made, to the question of whether archaeological remains

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<sup>6</sup> Copies of evidence should be deposited with the relevant Historic Environment Record, and any archives with a local museum or other public depository

are known to exist on a site where development is planned and the implications for the development proposal.

- 3.1.8 Planning authorities, when they propose to allow development which is damaging to archaeological remains, must ensure that the developer has satisfactorily provided for excavation and recording, either through voluntary agreement with archaeologists or, in the absence of agreement, by imposing an appropriate condition on the planning permission.

### **3.2 Regional Guidance: The London Plan**

- 3.2.1 The over-arching strategies and policies for the whole of the Greater London area are contained within the Greater London Authority's London Plan (July 2011) which includes the following statement relating to archaeology:

#### **Policy 7.8**

##### **Heritage assets and archaeology**

##### **Strategic**

A. London's heritage assets and historic environment, including listed buildings, registered historic parks and gardens and other natural and historic landscapes, conservation areas, World Heritage Sites, registered battlefields, scheduled monuments, archaeological remains and memorials should be identified, so that the desirability of sustaining and enhancing their significance and of utilising their positive role in place shaping can be taken into account.

B. Development should incorporate measures that identify, record, interpret, protect and, where appropriate, present the site's archaeology.

##### **Planning decisions**

C. Development should identify, value, conserve, restore, re-use and incorporate heritage assets, where appropriate.

D. Development affecting heritage assets and their settings should conserve their significance, by being sympathetic to their form, scale, materials and architectural detail.

E. New development should make provision for the protection of archaeological resources, landscapes and significant memorials. The physical assets should, where possible, be made available to the public on-site. Where the archaeological asset or memorial cannot be preserved

or managed on-site, provision must be made for the investigation, understanding, recording, dissemination and archiving of that asset.

### **LDF preparation**

F. Boroughs should, in LDF policies, seek to maintain and enhance the contribution of built, landscaped and buried heritage to London's environmental quality, cultural identity and economy as part of managing London's ability to accommodate change and regeneration.

G. Boroughs, in consultation with English Heritage, Natural England and other relevant statutory organisations, should include appropriate policies in their LDFs for identifying, protecting, enhancing and improving access to the historic environment and heritage assets and their settings where appropriate, and to archaeological assets, memorials and historic and natural landscape character within their area.

## **3.3 Local Guidance: Archaeology in the Borough of Southwark**

3.3.1 This study aims to satisfy the objectives of the London Borough of Southwark, which fully recognises the importance of the buried heritage for which they are the custodians. Relevant policy statements for the protection of the buried archaeological resource within the borough are contained within the Core Strategy (April 2011):

### **Strategic Policy 12 – Design and conservation**

#### **How we will achieve our vision to improve our places**

*SO 2F: Conserve and protect historic and natural places*

#### **Our approach is**

Development will achieve the highest possible standards of design for buildings and public spaces to help create attractive and distinctive places which are safe, easy to get around and a pleasure to be in.

#### **We will do this by**

1. Expecting development to conserve or enhance the significance of Southwark's heritage assets, their settings and wider historic environment, including conservation areas, archaeological priority zones and sites, listed and locally listed buildings, registered parks and gardens, world heritage sites and scheduled monuments.

3.3.2 Also:

5.109 Throughout the borough there are many attractive and historic buildings, monuments and sites that reflect Southwark's rich history and add to the unique character and identity of places. We currently have 40 conservation areas covering 686ha (23% of the borough) and around 2,500 listed buildings and monuments. The Tower of London, a World Heritage Site, is located across the River from London Bridge. There are also archaeological remains that cannot be seen that provide important evidence of our past. We have identified 9 Archaeological Priority Zones (APZs) covering 679ha (23% of the borough).

3.3.3 The Southwark Plan, adopted in July 2007, contains policy statements in respect of protecting the buried archaeological resource. These statements are outlined below:

### **Policy 3.19 Archaeology**

Planning applications affecting sites within Archaeological Priority Zones (APZs), as identified in Appendix 8, shall be accompanied by an archaeological assessment and evaluation of the site, including the impact of the proposed development. There is a presumption in favour of preservation in situ, to protect and safeguard archaeological remains of national importance, including scheduled monuments and their settings. The in situ preservation of archaeological remains of local importance will also be sought, unless the importance of the development outweighs the local value of the remains. If planning permission is granted to develop any site where there are archaeological remains or there is good reason to believe that such remains exist, conditions will be attached to secure the excavation and recording or preservation in whole or in part, if justified, before development begins.

### **Reasons**

Southwark has an immensely important archaeological resource. Increasing evidence of those peoples living in Southwark before the Roman and medieval period is being found in the north of the borough and along the Old Kent Road. The suburb of the Roman provincial capital (Londinium) was located around the southern bridgehead of the only river crossing over the Thames at the time and remains of Roman buildings, industry, roads and cemeteries have been discovered over the last 30 years. The importance of the area during the medieval period is equally well attested both archaeologically and historically. Elsewhere in Southwark, the routes of Roman roads (along the Old Kent Road and Kennington Road) and the historic village cores of Peckham, Camberwell, Walworth and Dulwich also have the potential for the survival of archaeological remains.

PPG16 requires the council to include policies for the protection, enhancement and preservation of sites of archaeological interest and of their settings.

### **3.4 Site Specific Background**

3.4.1 The study site falls within an Archaeological Priority Zone, as defined by the Southwark Unitary Development Plan:

#### **5.1.2 Borough/Bermondsey/Riverside**

This large zone incorporates the Roman and medieval settlement and the historic settlement areas of Bankside, Bermondsey and Rotherhithe. The archaeological potential of the Southwark riverside accounts for the inclusion of the strip of land parallel to the river outside of these known historical settlement areas.

3.4.2 The site also falls within Borough High Street Conservation Area as defined by the London Borough of Southwark Proposals Map.

3.4.3 127 Borough High Street is a Grade II Listed Building.

3.4.4 The site was placed under the following specific pre-commencement planning conditions:

- Planning Permission Ref. 13/AP/1714; Condition 5  
Written Scheme of Investigation  
Excavation (excluding watching brief of ground reduction before excavation)  
Completion of archive
- Listed Building Consent Ref. 13/AP/1716; Condition 2  
Written Scheme of Investigation, removal of render, recording & dating wall, re-rendering
- Listed Building Consent Ref. 13/AP/1716; Condition 5  
Written Scheme of Investigation, building recording & report
- Conservation Area Consent Ref. 13/AP/1718 Condition 2  
Written Scheme of Investigation, watching brief on demolition & report (excluding watching brief)

3.4.5 The site was placed under the following specific post-fieldwork planning conditions:

- Planning Permission Ref. 13/AP/1714; Condition 17  
Assessment Report  
Analysis & Publication  
Deposition of Archive
- Conservation Area Consent Ref. 13/AP/1718; Condition 4  
Assessment & Publication of HBR

3.4.6 Extensive recording of the standing structures, including 127 Borough High Street, was carried out before most of the buildings were demolished and construction work began. These are reported on elsewhere and not the subject this document.

3.4.7 The results of the excavations are summarised in this report.



## 4 Geology and Topography

### 4.1 Geology

- 4.1 The drift geology of the north Southwark area consists of natural sands and gravels deposited by the Thames and its forerunners. The modern river is considerably smaller than its predecessors, particularly those that were fed by vast quantities of glacial melt water draining from ice-sheets located to the north of the Thames valley. The gravel terrace in north Southwark was eroded in prehistory leaving a series of islands within the river that were surrounded by tidal channels. Ground level on the islands would generally have been found at c. 1.0m to 1.5m OD during the early Roman period<sup>7</sup>.
- 4.2 Two large islands located to the north of what is today Borough Underground station played a central role in the development of Roman London<sup>8</sup>. The northern island offered the possibility of constructing a bridge to the north bank over the shortest possible distance of any site found on this stretch of the river. Sites further to the west such as Westminster may have offered similar opportunities but these areas lacked the deep water necessary for handling sea-going vessels.
- 4.3 The site is located on Borough High Street in a position that is quite close to the northern limit of the southern island and close to the line of the main Roman road which extended northward toward the bridgehead<sup>9</sup>. The line of the main thoroughfare has shifted over time and the former Roman road in the vicinity of the site is believed to be below the buildings that now occupy the western side of Borough High Street<sup>10</sup>.

### 4.2 Topography

- 4.2.1 The present day south bank of the River Thames lies approximately 600m to the north of the site but during the majority of the later prehistoric and early Roman periods an estuarine channel, commonly referred to as the Southwark Street Channel, would have lain a little to the north of site. This waterway, linked to the main branch of the Thames, separated the northern and southern islands which formed the core of Roman Southwark. Reconstructions of the early Roman

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<sup>7</sup> The exact height of water levels in the early Roman period is the subject of some debate. Some of the models suggested for early Roman sea levels, principally based on assessment from evidence gathered on the north bank of the river, do not fit well with the findings from the south bank. See;

Milne, G. Battarbee, R. W. Stalker, V. & Yule, B. 1983 *The river Thames in London in the mid 1st Century AD* Trans London Middlesex Arch Soc 34 p19-30

Killock, D. 2005 *Roman River bank use and changing water levels at 51-53 Southwark Street, Southwark* London Transactions of the London and Middlesex Archaeological Society Vol 56 27-44

<sup>8</sup> Graham, A. H. 1978 *The Geology of North Southwark and its Topographical Development in the Post-Pleistocene Period* in Bird et al (1978), 501-516

<sup>9</sup> Cowan, C, Seely, F, Wardle A, Westman, A and Wheeler, L 2009 *Roman Southwark Settlement and Economy* MoLA Monograph 42 Figure 2

<sup>10</sup> Pers Comm Dr. Christopher Constable

topography also show that the area to the east of the site was very low-lying and became the subject of continual land reclamation projects throughout the Roman period<sup>11</sup>.

4.2.2 The level of the tides is crucial when determining the area available at the margins of the various waterfront spaces around Southwark. Mean high water levels have been estimated to have been between -0.50m OD at low tide and +1.25/1.50m in AD 50, which led to the formation of extensive mudflats in the intertidal zone<sup>12</sup>. It is generally accepted that a period of marine regression, that is falling sea levels, began in the first century AD and continued throughout the later Roman period. Water levels fell consistently from the mid 1st century and by the mid 3rd century they are estimated to have been between 0.00m OD at high tide and -2.00m OD<sup>13</sup>. However, water levels began to rise again in the early medieval period and by c.AD 1000 the height of the tide in London would have reached the same level as the peak suggested for the mid 1st century AD; tidal levels continued to rise and are still doing so today<sup>14</sup>.

4.2.3 The effects of these climatic changes were of course bound to impact on marginal areas such as Southwark and the medieval chronicles are replete with entries relating to flooding. Catastrophic flooding was recorded for the year 1014 in the Anglo-Saxon Chronicle and the same source notes severe damage to London Bridge in 1097, much of the bridge being swept away<sup>15</sup>. The construction of an effective river wall was essential to the development of the land to the south of the Thames, but even when this had been achieved the timber waterfronts would have needed constant renewal and the height of the ground surfaces behind them was raised as tidal levels increased. Although the general trend was one of marine transgression there does seem to have been a time in the later medieval period when tidal levels were relatively static. A mean high water level of c 1.2m OD has been suggested for the later medieval period, higher spring tides would have reached c 1.70m OD.

4.2.4 Rising river levels and the effects of embankment on the north side of the river contributed to massive erosion along the north Southwark waterfront in the 11th century and the effects of riverine erosion continued on the south bank into the thirteenth century<sup>16</sup>. There is little doubt that the threat of flooding was a perennial problem, failures of the river wall were frequent. Even after

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<sup>11</sup> Cowan, C, Seely, F, Wardle A, Westman, A and Wheeler, L 2009 *Roman Southwark Settlement and Economy* MoLA Monograph 42 Figures 5-11

<sup>12</sup> Brigham, T 2001 *The Thames and Southwark waterfront in the Roman period* in Watson et al 2001 pp12-27

<sup>13</sup> Brigham, T, Goodburn, D, and Tyres, I with Dillon, J 1996 *A Roman timber building on the Southwark waterfront*, *London Archaeological Journal* 152, pp1-72

<sup>14</sup> Brigham 2001 in Watson et al 2001, Fig 14

<sup>15</sup> Watson, B, Brigham, T and Dyson, T 2001 *London Bridge, 2000 years of a river crossing* MoLAS Monograph Series 8, London

<sup>16</sup> Watson et al 2001 pp71-72

the embankments had been built and strengthened the land in this area still required extensive work to establish and maintain drainage<sup>17</sup>.

- 4.2.5 Prior to the redevelopment the site stood on relatively flat ground which has an elevation of c. 4.50m OD.

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<sup>17</sup> Carlin, M 1996 *Medieval Southwark* p36

## 5 Archaeological and Historical Background

### 5.1 Introduction

5.1.1 Much of the archaeological and historical background reproduced below was originally written for the Archaeological Desk Based Assessment<sup>18</sup>. Additional material has been added by the author.

### 5.2 Prehistoric

5.2.1 Pottery and worked flints found in north Southwark indicate that the locale was frequented and later settled from the Mesolithic period onwards. What is now an intertidal zone would have varied in character depending on the periodic rising and falling of sea level due to climatic fluctuations. During periods with higher water levels the region would have presented many opportunities for the exploitation of natural resources such as fish, eels and game for food and reeds, which would have served as building materials. In drier periods the light sandy soils would have proved attractive to early farmers.

5.2.2 Whilst the GLHER search identified no evidence of material dating from the Palaeolithic period within the search area, other prehistoric eras are represented by artefactual material recovered during a number of investigations in the vicinity of the study site.

5.2.3 At 84-86 Borough High Street<sup>19</sup>, c. 40m to the west, eight struck flints were recorded in the top of the natural sand. Struck flints were also recovered c. 80m to the south-west, at 175-177 Borough High Street<sup>20</sup> and c. 30m to the north, at 107-115 Borough High Street<sup>21</sup>. In all three instances the flints were considered to be of Mesolithic to Bronze Age date. Possible Neolithic flints were also found in sand deposits on Borough High Street<sup>22</sup>.

5.2.4 Limited occupational evidence has been observed in the form of a late Neolithic to early Bronze Age hearth at 124-126 Borough High Street<sup>23</sup>.

5.2.5 Prehistoric features of an unassigned date have been seen at 120-124 Borough High Street<sup>24</sup>, c. 125m to the south-west, the evidence including post-pits and a substantial east-west orientated ditch.

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<sup>18</sup> Barrowman, S 2013 *Archaeological Desk-Based Assessment of 127-143 Borough High Street, London Borough of Southwark, SE1* Unpublished Pre-Construct Archaeology Report

<sup>19</sup> GLHER 090392

<sup>20</sup> GLHER 090721

<sup>21</sup> GLHER MLO8806

<sup>22</sup> GLHER 090916

<sup>23</sup> GLHER 090846

<sup>24</sup> GLHER 091277

- A further pit of unassigned date, along with flint flakes, an arrowhead, and a pottery sherd, was recorded at 179-191 Borough High Street<sup>25</sup>.
- 5.2.6 The evidence that has been discovered to date is broadly suggestive of casual exploitation of the higher ground, with limited permanent occupation.
- 5.2.7 It is probable that permanent settlements were established in north Southwark during the late Neolithic and Bronze Age as indicated by ard-marks recorded in the surface of the sands and gravels indicate the use of wooden ploughs to till the land. Numerous examples of this type of land-use have been found across north Southwark and Bermondsey at sites such as Hopton Street<sup>26</sup>, Three Oak Lane (where a very rare ard was discovered)<sup>27</sup>, and Woolsey Street<sup>28</sup>.
- 5.2.8 There is no direct evidence for palaeoagricultural activity of Bronze Age date in the vicinity of the study site. However, c. 90m to the south-west, at 106–114 Borough High Street<sup>29</sup>, abraded pottery and flints of Bronze Age date were recovered, which broadly indicates activity of this period in the area. An occupation site of Bronze Age date probably remains to be located in the Borough High Street area and it would not be unreasonable to expect features or artefacts of this period to be encountered at the study site.
- 5.2.9 Evidence from the later prehistoric period is a little sparse. Isolated Iron Age burials are known from the vicinity but settlement sites have proved elusive though the quantity of Iron Age pottery found in residual contexts on the Bermondsey eyot clearly demonstrates that a farmstead or small settlement must once have existed there. This may reflect the marginal nature of the area as sea levels rose throughout the later Iron Age and then peaked in the early Roman period<sup>30</sup>.
- 5.2.1 Excavations conducted by SLAEC in the 1980s at 15-23 Southwark Street revealed features indicative of activity from the Beaker period (2400-1800 BC) onward. The use of the locale was also shown in the later prehistoric period by a number of Iron Age or early Roman gullies<sup>31</sup>. Overall the evidence for this period indicates small-scale farmstead settlements with the activity concentrated on Bermondsey eyot much further to the southeast of the study site, and to a lesser extent on the two main north Southwark islands<sup>32</sup>.

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<sup>25</sup> GLHER 091243

<sup>26</sup> Ridgeway, V 1999 *Prehistoric Finds at Hopton Street* London Archaeologist Vol 9 No 3 72-76

<sup>27</sup> Proctor, J and Bishop, B 2002 *Prehistoric and environmental development on Horsleydown; excavations at 1-2 Three Oak Lane* Surrey Archaeological Collections Vol 89 1-26

<sup>28</sup> Drummond-Murray, J Saxby, D & Watson, B 1994 *Recent archaeological work in the Bermondsey district of Southwark* London Archaeologist Vol 7 No 10 251-257

<sup>29</sup> GLHER 090841

<sup>30</sup> Milne, G et al 1983

<sup>31</sup> GLHER ELO7863

<sup>32</sup> Cowen, C et al 2009

### 5.3 Roman

- 5.3.1 The Roman city of *Londinium* was located in what is today the City of London. The Roman city was connected to the south bank by a bridge that spanned the Thames from the north bank around Fish Street Hill to the more northerly of the two large islands that projected into the river at this point. The main road from the bridge, commonly referred to as Road 1, proceeded south roughly along the line of Borough High Street before splitting in two around the area of St. Georges Church. To the west Stane Street extended south toward Chichester whilst to the east Watling Street proceeded south and east following the same alignment as Tabard Street (formerly Kent Street) and Great Dover Street before joining the line of the Old Kent Road and linking London to Canterbury and the Kent coast.
- 5.3.2 Road 1 is not anticipated to extend onto the study site as it was recorded in detail, c. 60m to the west, at 84-86 Borough High Street<sup>33</sup>. Other controlled excavations in the vicinity, which have encountered the road, were undertaken at 106-114 Borough High Street<sup>34</sup>, 64-70 Borough High Street<sup>35</sup>, 120-124 Borough High Street<sup>36</sup>, and 124-126 Borough High Street<sup>37</sup>.
- 5.3.3 Southwark developed into a major Roman waterfront town during the 1st century AD. A foundation date of AD 50-55 has been suggested for the suburb on the basis of pottery and coins recovered<sup>38</sup>. At its peak Roman Southwark extended over an area up to 45 acres in size, approximately 15% of the size of the City<sup>39</sup>. The rapid growth of Roman Southwark in the AD 50s supports the proposed early date of the bridge<sup>40</sup>.
- 5.3.4 The excavations by Pre-Construct Archaeology at the adjacent Wolfson Wing site revealed the extensive survival of Roman deposits and features here. These include clay and timber buildings, internal floors, external surfaces, wells, pits and other features and deposits associated with Roman occupation of the site. A human burial was also found. Indications as to the nature of the Roman topography has also been revealed by a revetted watercourse and observations of a general incline up to the west where the Roman road roughly mirrors the coarse of Borough High Street. It is likely that a similar sequence of archaeological deposits associated with Roman occupation will be encountered on the study site, and may be more intensive for being closer to the main Roman road. These occupation deposits are approximately 0.7m thick with an upper level of c.1.2m OD although this level may be higher towards the west on the study site due to a similar trend in the underlying deposits.

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<sup>33</sup> GLHER 090396/01

<sup>34</sup> GLHER 090334/03

<sup>35</sup> Graham, A 1988

<sup>36</sup> GLHER 091278

<sup>37</sup> GLHER 090848/03

<sup>38</sup> Sheldon, H 1978 *The 1972-74 excavations: their contributions to Southwark's history in Bird et al*

<sup>39</sup> Reilly, L 1998 *Southwark: An Illustrated History*

<sup>40</sup> Cowen, C *et al* 2009

- 5.3.5 The Roman occupation deposits were overlain by a c. 1.0m thick layer of 'dark earth'. Similar deposits are commonly found overlying Roman occupation deposits in London although their true nature is not fully understood. These deposits are often associated with the abandonment of Roman urban activities although it can produce purely Roman finds suggesting that it was initially deposited during the later Roman period although it is not clear if it continued to accumulate during subsequent periods. The 'dark earth' is generally disturbed towards the top, containing pottery from later periods which may be a result of agricultural or horticultural activities. The nature of this material is further confused by deep cut features such as pits which have been cut into it during post-Roman periods. Medieval occupation surfaces tend to directly overlie these deposits. The top of these deposits were found during the excavations at the Wolfson Wing at levels between 1.9 and 2.3m OD, the higher of these levels being recorded in one of the evaluation trenches on the study site.
- 5.3.6 An archaeological watching brief undertaken upon part of the site, at 143 Borough High Street<sup>41</sup>, in 1992 revealed Roman topographical evidence, features, and finds, including evidence of a road(s), timber revetments, and a channel.
- 5.3.7 The study site lies close to the eastern margin of Road 1, and it is clear that significant remains are located in the vicinity. Little will be gained by working through all of the excavations, observations and isolated finds of Roman material recorded in the vicinity of the site. A selection of these are discussed in more detail below, in order to provide an insight into the type of Roman remains that could be encountered.
- 5.3.8 Given the location of the site there is clearly some potential for roadside ribbon development. Numerous investigations in the vicinity have yielded evidence for roadside domestic/light industrial buildings. Buildings of this type are generally regarded as the characteristic artisan type structure in Roman Britain. In such structures the day-to-day production and/or distribution of everyday goods, such as leatherwork, pottery, textiles and metalwork, was carried out. The front portion of the building is usually interpreted as a selling area, with goods displayed there for pedestrians passing along the street or road edge. The rear these buildings were probably sub-divided into various workshop, storage and dwelling areas.
- 5.3.9 Selected sites adjacent to Road 1 are described in detail below, in order to gain insight into the nature of archaeological stratigraphy which can be expected in the immediate vicinity of Roman Southwark's main road. At 106–114 Borough High Street<sup>42</sup>, which lies c. 100m to the south-west of the site, three phases of building were recorded. Following land consolidation two buildings were laid out; Building 1 to the east and Building 2 to the west of Road 1, respectively. Areas of scorched clay floor represented Building 1, although part of a south wall also survived. Building 2 was represented

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<sup>41</sup> GLHER 092121 & 09212 Greenwood & Maloney 1993, p 105

<sup>42</sup> GLHER 090334

- by at least two rooms with a yard to the east. These buildings were constructed with timber and clay, the later structure evidently dating to c. AD 80.
- 5.3.10 After Building 2 went out of use it was covered with a dump of sandy gravel. In the mid 2nd century a new building, Building 3, was erected but on a slightly different alignment. This too was built in a vernacular style. As well as the buildings a number of other occupation features were also present, especially refuse pits, a well and drainage ditches. Where later Roman stratigraphy survived, the buildings were overlain by 'black earth' containing 4th century pottery. Similar deposits, generally known as 'dark earth', are commonly found in north Southwark, and their appearance has been generally interpreted as being indicative of a contraction of the settlement area.
- 5.3.11 At 107-115 Borough High Street<sup>43</sup>, which lies c. 60m to the north-west of the site, a complex stratigraphic sequence covering the whole Roman period was recorded<sup>44</sup>. A ditch, aligned at right angles to Road 1, represented the earliest Roman activity. This feature evidently drained into a natural channel which was orientated NE-SW. Cutting into the fills of the ditch were over seventy stake holes, thought to be of Roman date and probably relating to timber buildings fronting onto the road. The heavily truncated remains of clay and timber buildings, including clay floor surfaces of 2nd century date, were recorded. Late Roman activity included a timber-lined well, which contained a vast quantity of building material and was dated to the late 3rd century.
- 5.3.12 Investigations at a number of sites to the east of Road 1 have established that locations not directly adjacent to the road can also produce relatively deeply stratified occupation deposits of Roman date. Most notable in this respect have been sites at Newcomen Street<sup>45</sup>, c. 90m to the south-west of the site, and at 4-26 St. Thomas Street<sup>46</sup>, c. 110m to the north-east. At the latter site, archaeological investigations were carried out in 1982-83 prior to the redevelopment of Guy's Hospital Area 7. A timber structure at the eastern end of the site represented the earliest building of the Roman period to be encountered. To the west was a clay and timber building, of probable 1st century date, which was enlarged in the 2nd century. The north end of the cellar of a large ragstone building on pile foundations was also discovered and this contained a pillar base and possibly a flight of steps.
- 5.3.13 An observation at Talbot Yard<sup>47</sup>, c. 100m to the north-east of the study site, and at a comparable distance from the edge of Road 1, is also worthy of note, given the findings at 4-26 St. Thomas Street. At Talbot Yard, a pavement of Kentish ragstone was recorded, at c. +1.20m OD, and this was overlain by a gravel spread, possibly representing resurfacing of a yard. An assortment of Roman artefacts are also recorded as having been found in the late 19th and early 20th century.

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<sup>43</sup> GLHER 090532

<sup>44</sup> Yule, B 1982

<sup>45</sup> GLHER 090311, Kenyon 1959

<sup>46</sup> GLHER 092274

<sup>47</sup> GLHER 090358, 090570, 090797



- 5.3.14 At the aforementioned Newcomen Street site, investigations during the 1940s revealed natural sand at c. +1.25m OD, cut by numerous ditches of 1st to 3rd century date. A large wooden structure, interpreted by the excavator as a possible storage tank for oysters, was also encountered. A thick layer of 'black earth' of 4th century date was the final element of the Roman stratigraphy.
- 5.3.15 An archaeological investigation on part of the Thameslink project in 2011, undertaken jointly by Pre-Construct Archaeology and Oxford Archaeology, at 11-15 Borough High Street has also revealed evidence that varied from the typical domestic or light industrial activity, with the remains of a substantial masonry building being uncovered<sup>48</sup>.
- 5.3.16 Further to the east of the broad 'corridor' in which the sites described above lie, timber revetments and other structures of Roman date associated with the edges of the ancient marshland channels have been discovered by Pre-Construct Archaeology at sites in the Guy's Hospital complex<sup>49</sup>. Such sites, within the low-lying margins of the main eyots, have great potential for producing important palaeoenvironmental evidence due to the anaerobic conditions, ensured by later submergence by alluvial clays, and the survival of structural timbers, artefacts such as leather, and plant macrofossils. Similar remains have been located within deeply cut features of Roman date in the vicinity of the study site, due to their survival in waterlogged deposits.
- 5.3.17 The precise status of Roman Southwark remains uncertain; we do not even know whether it was named separately from *Londinium* though the inscription found at Tabard Square suggests that Southwark was recognised as part of the main city<sup>50</sup>. However, as the 'suburb' lay beyond the walls of *Londinium*, parts of it inevitably became utilised as a burial ground. No concentration of burials has, as yet, been encountered to the east of Road 1 in the Borough High Street area to mirror the cemetery activity recorded to the west at 15-23 Southwark Street<sup>51</sup>. The group of inhumation burials recorded at the latter site was evidently of late Roman date, probably 4th century. However, in addition to the burial upon the Wolfson Wing site, c. 40m to the south-west of the study site, an inhumation burial was discovered, in association with other Roman remains, on Newcomen Street in the 19th century<sup>52</sup>. An enigmatic discovery was also recorded c. 20m to the south-west of the latter location, when sewer construction on Borough High Street in 1818 located, 'bones, utensils...cinerary and other urns...'<sup>53</sup>. Given these discoveries there is some possibility of Roman burials being encountered at the study site, particularly as it lies in a relatively unexplored part of a broad 'corridor' to the east of Road 1, which is known to have been intensively occupied throughout the Roman period.

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<sup>48</sup> Comm Joanna Taylor, Pre-Construct Archaeology

<sup>49</sup> Taylor-Wilson 2002, Taylor-Wilson 1990 & Taylor-Wilson 1998

<sup>50</sup> Killock *et al* 2015

<sup>51</sup> Cowan 1992

<sup>52</sup> GLHER 090258

<sup>53</sup> GLHER 090589

5.3.18 The overall picture within the area of the site, and indeed the surrounding area of north Southwark, is one of high density Roman occupation and activity dated from AD 50 until the end of the Roman period.

## 5.4 Saxon

5.4.1 Following the collapse of the Western Empire the walled Roman city fell in to ruins and by the mid to late seventh century the focus of Saxon occupation had shifted westwards to the Strand and Covent Garden<sup>54</sup>. A new system of beach markets was adopted where trading was conducted directly from boats pulled up on the foreshore rather than goods being landed at a quay or wharf. Even when these markets relocated eastward in to the old Roman city trading was still initially carried out from the beach itself, rather than from the quayside<sup>55</sup>. Essentially Southwark had been a suburb of the main Roman city located north of the river and without the city, the bridge or traffic on the road network that approached it Southwark lacked the stimuli to support urban life. The area appears to have returned to being the marshy backwater that existed before the establishment of the Roman city. Very small quantities of early Saxon pottery have been recovered from Lant Street, Trinity Street and further east at Bermondsey Abbey. A Saxon minster that pre-dated the Cluniac Priory was founded there in AD 708-15<sup>56</sup>. Recent excavations have recovered middle Saxon pottery but the extent of the activity related to this period is hard to judge and it may have had no impact on the area to the west.

5.4.2 The settlement around the Strand was almost certainly abandoned by the middle of the ninth century as the pressure of Viking raids increased. Direct attacks upon London were recorded for AD 842, 851 and 872. It is also probable that the trading networks which had helped Lundenwic flourish were themselves declining by the middle of the ninth century, partially at least as a result of the disruption to sea borne trade caused by piracy<sup>57</sup>. From the late ninth century onwards Saxon settlement shifted to the old walled Roman city. A small ecclesiastical community had probably existed there following the establishment of St. Pauls in AD 604 and documentary evidence points to the existence of a Mercian palace within the City. The wholesale relocation of the Saxon settlement could have formed part of the planned Alfredian re-occupation and reorganisation of the old Roman city. The first market and harbour to be developed here was at Queenhithe, as mentioned in charters of AD 889 and 899. A large paved open area, possibly a market, was already developed at No 1 Poultry by the end of the ninth century and continued in

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<sup>54</sup> Cowie, R and Whytehead, R 1989 *Lundenwic: The archaeological evidence for Middle Saxon London* Antiquity 63 pp706-18

<sup>55</sup> Milne, G and Goodburn, D 1990 *The Early Medieval Port of London AS 700-1200* Antiquity 64 pp629-630

<sup>56</sup> Cowie 2002, p195

<sup>57</sup> Hodges, R and Whitehouse, D 1983, Mohammed, Charlemagne and the origins of Europe p163

use throughout the late Saxon and early Norman period<sup>58</sup>. Thus within the space of half a century *Lundenwic* had become *Lundenburgh*.

- 5.4.3 The re-occupation of London and Southwark has led some to conclude that a bridge must have been built after Alfred assumed control, or even earlier in the ninth century<sup>59</sup>. Dual forts found on either bank of a river linked by a bridge proved to be powerful defensive positions against Viking attacks in both England and France and the reasoning behind the case for a bridge is compelling, but there is no archaeological evidence to demonstrate that a ninth century bridge was constructed<sup>60</sup>. However, there is also no trace of a bridge dating to the tenth century and the suggested date for its reconstruction, some time between AD 994, when the Vikings attempted to burn London, and AD 1009 when the city repeatedly repulsed attacks, is based purely on documentary sources<sup>61</sup>. Whatever occurred in this period there is little doubt that the incorporation of London into Alfred's kingdom changed the fortunes of the city and probably that of Southwark. The suburb is referred to in the Burghal Hidage as *Suthringa Geweorche*, usually translated as the defensive work of the men of Surrey. There seems little doubt that a fortified area was set up on the south bank in the second half of the ninth century, although it has left virtually no trace in the archaeological record.
- 5.4.4 The history of Southwark in the tenth century also remains obscure although a mint of some importance was probably established in the period AD 991-997<sup>62</sup>. Fourteen moneys are known from the turn of the eleventh century, this number increased to twenty-two for the period AD 1017-1042<sup>63</sup>. Apart from often colourful tales of attacks on the bridge or the settlements on either bank very little is known of developments in the tenth and eleventh centuries. The distribution of features containing Saxo-Norman pottery suggests that the settled area extended along the waterfront from Winchester Palace in the west to Battle Bridge Lane in the east and as far south as St. Georges church<sup>64</sup>.
- 5.4.5 Few finds of late Saxon date have been recovered from Southwark, and the only recorded evidence from within the study area is a substantial amount of late Saxon pottery that was recovered during the excavation at 120-124 Borough High Street<sup>65</sup>.

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<sup>58</sup> Treveil, P and Burch, M 1999, *Number 1 Poultry and the development of medieval Cheapside* Trans of the London and Middlesex Archaeological Society 50 pp55-56

<sup>59</sup> Haslam, J 2010 *King Alfred and the development of London* in London Archaeologist Vol 12 No 8 pp210-211  
Carlin, M 1996 pp10-12

<sup>60</sup> Watson et al 2001 p52

<sup>61</sup> Watson, B 2001 p53

<sup>62</sup> Watson, B 2009, *Saxo-Norman Southwark :a review of the archaeological and historical evidence in London* Archaeologist Vol 12 No 6 p150

<sup>63</sup> Carlin, M 1996 pp13-15

<sup>64</sup> Watson, B 2009, Fig 1

<sup>65</sup> GLHER 091281

## 5.5 Medieval

- 5.5.1 The Domesday Survey of AD 1086, which can be considered pertinent to the earlier 11th century, lists Southwark as a port settlement that lacks a manor and therefore does not come under the direct auspices of any particular 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<sup>66</sup>.
- 5.5.2 Although the river regime had altered considerably since the abandonment of the Roman settlement it was still a determining factor in the development of the medieval suburb. Even when the river was not directly responsible for flooding the low-lying nature of many areas that would naturally have been marshland adjacent to the river meant that they were of limited value before a river wall could be established and an effective system of drainage works developed to channel water into the Thames. The consolidation of the river frontage was hampered by rising river levels in the medieval period and the effects of quayside developments on the north bank which appear to have deflected the currents towards the Southwark foreshore, leading to widespread erosion<sup>67</sup>. The bridge itself was almost destroyed by a flood in AD 1097<sup>68</sup>. Excavations have demonstrated that scouring was a serious problem immediately upstream of the bridge even in the late eleventh century<sup>69</sup>. The problem was probably amplified in the succeeding centuries as water levels rose and the river walls in the city advanced further southward. The river frontage was consolidated in Southwark during the thirteenth and early fourteenth centuries, but unlike the city the line of the river wall became static once this had been achieved<sup>70</sup>.
- 5.5.3 During the medieval period, and in much the same way as witnessed during the Roman period, the development of Southwark was defined by both topographical limitations and the existence of important trade routes into London from the south and south-east<sup>71</sup>. The population developed an eclectic demographic with residents from all over Europe listed in medieval records<sup>72</sup>. Numerous occupational groups are enumerated within medieval Southwark including bakers, millers, cooks, traders, barbers, timber mongers, metalworkers, tailors, carpenters and sawyers amongst many other trades. Southwark was particularly famed, or more accurately notorious, for its inns, prisons and brothels many of which were alluded to by the authors of the day including Chaucer in the *Canterbury Tales*<sup>73</sup>.

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<sup>66</sup> Watson et al 2001

<sup>67</sup> Watson et al 2001 pp71-72

<sup>68</sup> Watson et al 2001 p61

<sup>69</sup> Watson et al 2001 pp62-71

<sup>70</sup> Carlin, M 1996 p19

<sup>71</sup> Carlin, M 1996

<sup>72</sup> Carlin, M 1996

<sup>73</sup> MoLAS 2000; Carlin, M 1996 & Knight, H 2002 *Aspects of medieval and later Southwark: archaeological excavations (1991-8) for the London Underground Limited Jubilee Line Extension Project* MoLAS Monograph 13

- 5.5.4 One subject which is most certainly within the interest of this report is inns. The earliest reference to an inn in Southwark dates from AD 1338. The 1381 Southwark poll tax records 12 innkeepers on the High Street as well as 13/14 sellers of ale and wine. By the 16th century the numbers had grown further still. The reason for this number of establishments in Southwark was due in large part to its geography. It was located close to London but on the other side of the bridge, which was locked at night. Travellers would rest overnight at an inn before travelling into London the next morning or would cross to Southwark in the evening from the north in order to make an early start to their travels the following morning. As well as offering food and sleeping accommodation for humans the majority also contained stables for horses and security for transport. It was from these provisions that the major profits of the innkeepers were made.
- 5.5.5 As outlined above, Borough High Street has been famous for its inns since the medieval period. Perhaps the most noteworthy of those not still in existence was The Tabard, demolished around 1875 and made famous by Chaucer's 'The Canterbury Tales'. It lay c. 70m to the north of the site and parts of the Post-Medieval building were located during an excavation at 85-87 Borough High Street in 1990<sup>74</sup>. A crude map of Southwark, c. 1542, reproduced in many texts concerning the Borough's history, identifies three inns adjacent to the High Street in the vicinity of the study site: The Horse Head, The Spur and The Christopher<sup>75</sup>. A slightly later plan, c. 1550, reproduced by Carlin, also shows these three inns<sup>76</sup>. The origin of these establishments may well have been in the Medieval period.
- 5.5.6 The excavations at the Wolfson Wing site found two Medieval chalk walls, signs of probable kitchens, and ground surfaces at c. 1.9m OD. One of these walls was recorded during the evaluation in a trench located on the study site; its highest recorded level was 2.39m OD and was cut into probable 'dark earth' deposits at 2.31m OD, thus indicating Medieval ground level in that part of the site. Elsewhere in the excavations, medieval surfaces and cut features such as pits have been found. These were suggested to have been antecedents to the latter post-medieval inns and stables upon the site<sup>77</sup>.
- 5.5.7 Medieval remains have been recorded at a number of the archaeological excavations in the vicinity of the study site, highlighting the potential for remains of this period being present. For example, pits have been recorded along Borough High Street at numbers 106-114<sup>78</sup>, 107-115<sup>79</sup>, 116-126<sup>80</sup>, 134-138<sup>81</sup>, 175-177<sup>82</sup>, and 179-191<sup>83</sup>.

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<sup>74</sup> GLHER 090447

<sup>75</sup> For example in Bowers 1905

<sup>76</sup> *ibid.*, 34

<sup>77</sup> Pickard, C 2002, p 96

<sup>78</sup> GLHER 090842

<sup>79</sup> GLHER 090860

<sup>80</sup> GLHER MLO77369

<sup>81</sup> GLHER 090844

- 5.5.8 Building remains are also known to have survived later truncations, having been encountered at 175-177 Borough High Street<sup>84</sup>, at 120-124 Borough High Street<sup>85</sup>, and at 85–87 Borough High Street<sup>86</sup>, the site of The Tabard, as mentioned above.
- 5.5.9 Additionally two medieval prisons, the Marshalsea<sup>87</sup> and the original site of the King's Bench prison<sup>88</sup>, are known to have existed on Borough High Street.
- 5.5.10 By the 12th and 13th centuries the settlement was one of growth and prosperity, a prosperity which was not unnoticed by the City of London and during the following centuries, through to the 1800s, there was a series of struggles to assert and retain control over the south bank settlement.

## 5.6 Post-Medieval

- 5.6.1 The post-medieval period saw some periods of rapid population expansion in Southwark. In 1547 the population numbered c. 10,000, which had tripled by 1678, an increase that has been attributed to immigration<sup>89</sup>.
- 5.6.2 In much the same way as the medieval period, post-medieval Southwark had something of a reputation both regarding the diversity of its population and also the colourful nature 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”. 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”<sup>90</sup>.
- 5.6.3 Assessment of structural and artefactual evidence from Southwark indicates numerous industrial activities, including brush making, tenter-frame production, clay pipe, stoneware and delftware manufacture, metalworking, glassmaking and tanning<sup>91</sup>. In many ways the location of industries,

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<sup>82</sup> GLHER 090346

<sup>83</sup> GLHER 091245

<sup>84</sup> GLHER 090394

<sup>85</sup> GLHER 091282

<sup>86</sup> GLHER 091367

<sup>87</sup> GLHER 090275

<sup>88</sup> GLHER 090277

<sup>89</sup> Reilly, L 1998

<sup>90</sup> Knight, H 2002

<sup>91</sup> MoLAS 2000

- particularly during the 17th and 18th centuries was influenced by the large amount of available space with easy expansion facilitated by the proximity of open marshland and fields<sup>92</sup>.
- 5.6.4 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<sup>93</sup>.
- 5.6.5 Even after the river embankments to the north had been built and strengthened the land in this area still required extensive work to establish and maintain drainage<sup>94</sup>. Large areas could be flooded simply as the result of heavy rain and the area to the west of the site, known as Paris Garden, was largely uninhabited and occupied by a dense willow thicket up until the late 16th century<sup>95</sup>.
- 5.6.6 Newcourt's illustration of 1658 illustrates the setting for the site as being adjacent to the main road. The entire site appears to be built upon. This map also shows the nature of the development of Southwark, with settlement activity being very dense to the north along the line of the Thames, but to the south of the study site settlement activity is restricted to the properties that line the major roads, with ornamental gardens to the rear of the properties and field systems beyond these.
- 5.6.7 On Rocque's map of 1745 the plots of land and dividing alleyways straddled by the site are well defined, with Spur Inn [Alley], Nag's Head Alley (the Horse Head on the 16th century maps), and Christophers Alley being clearly shown. No details of the buildings occupying these plots is provided but it is probable that the buildings lining the back alleys were of a lower status than those on the frontage. Rendle and Norman's rather anecdotal account of Southwark's inns mentions that The Spur was seemingly the site at which a fire started in 1667, possibly one reported upon by Pepys<sup>96</sup> and possibly identified archaeologically in the Wolfson Wing excavations at 2.22m OD. In the hinterland of the site the expansion of the development in the area is also clearly shown with the open space that formerly lay behind the site now having been built upon.
- 5.6.8 Horwood's map of 1799 shows rather more detail of the area, particularly sub-divisions within the street frontage properties. Both The Spur Inn and The Nag's Head Inn remain and the actual outlines of the establishments appear to be shown. The map shows that access to The Spur Inn was now solely from a yard off the High Street rather than from a through alley, due to development further east. A narrow access is depicted leading from the eastern end of Nag's Head Alley onto King Street, the former name of Newcomen Street.

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<sup>92</sup> MoLAS 2000

<sup>93</sup> Knight, H 2002

<sup>94</sup> Carlin, M 1996 p36

<sup>95</sup> Carlin, M 1996, p32

<sup>96</sup> Rendle and Norman 1888, 219

5.6.9 Tallis's London Street Views from 1838-1840 depicts the Borough High Street Frontage of the site at this time, though albeit with property numbers, 95-104, that are notably different from those used today. The associated street directory provides an account of the property occupiers:

95: G. Pole, silk Mercer and Shawl Dealer

98: Ambrose, General Booking Office

99: McGillivray, Shirt Marker and Outfitter

100: Davis, Saddler

101: Pickthall, Tailor

102: Woollacott, J. C. and Co. Boot and Shoe Makers

103: Haddock, Stationer

104: Biggs, Chemist

5.6.10 The 1872 Ordnance Survey (OS) map, 1st edition, shows the study area in detail. The Nags Head, which lies within the study area, is clearly visible on the 1872 Ordnance Survey map, marked PH; it is in the footprint of this building plot that Trenches 2 and 3 of the Wolfson Wing evaluation were located. Although Spur Inn Yard remains, the inn itself has evidently gone. Rendle and Norman's account states that it ceased to be an inn by 1848<sup>97</sup>.

5.6.11 The Ordnance Survey of 1894-96 shows only minor divisional changes upon the study site, with the footprints of the existing buildings remaining the same. To the south of the site King Street has now been renamed Newcomen Street.

5.6.12 The 1907 OS map shows that the Spur Inn Yard is still in place, as is Nag's Head Inn Yard along with the alley and yard of the Kentish Buildings. However the Inn itself has gone, along with many of the other buildings that previously occupied the site. Most of the land which previously fell within their footprint remains open and not yet re-developed.

5.6.13 The 1938-46 Ordnance Survey shows that number 133-135 had now been built upon, and the entrance from Borough High Street into Nag's Head Yard had been covered.

5.6.14 By the time of the 1950 Ordnance Survey the open land in the north of the site that had previously been part of Spur Inn Yard contained a building, with a number of the other structures that had previously been seen in the yard removed. Structures in the very northeast corner of the site had also been removed, with the plots remaining as open land. The 1951 revision of the Goad Fire Insurance Plan of 1929 shows that the new building is in use as a gymnasium. This plan also

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<sup>97</sup> *ibid.*, 220

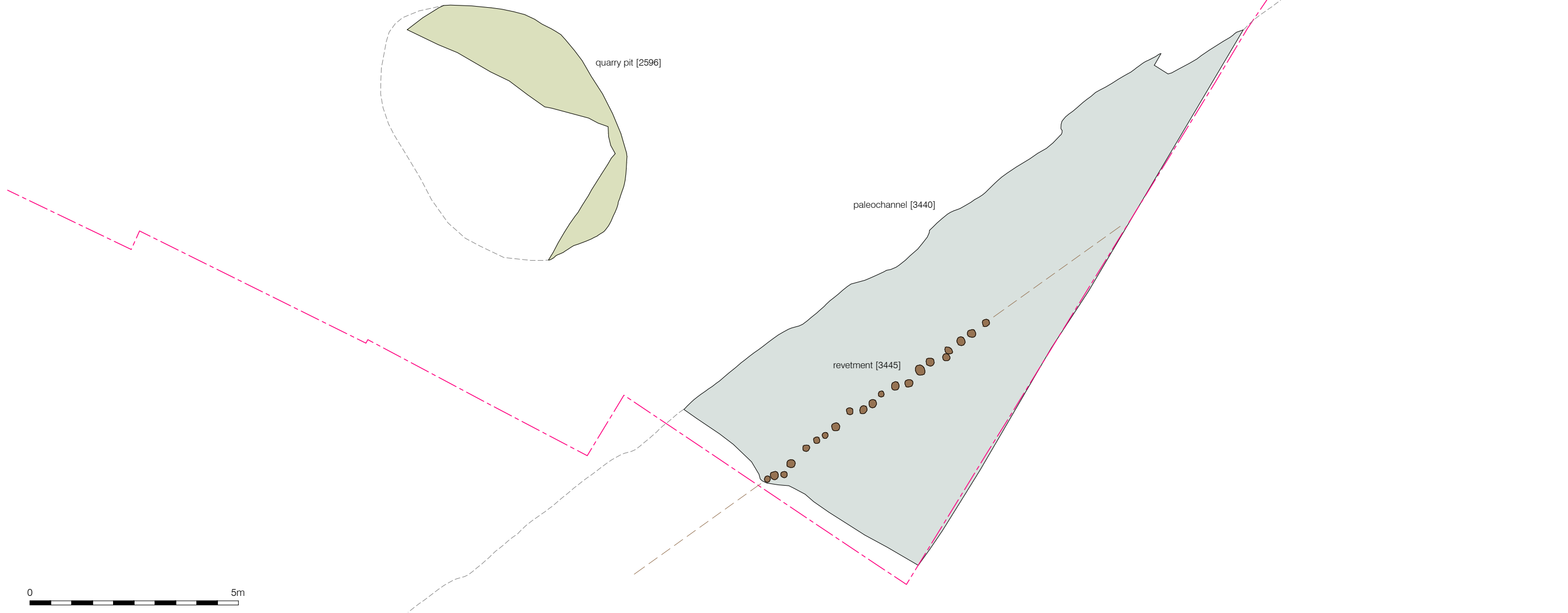
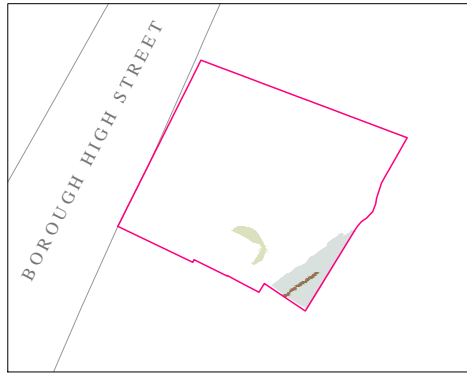


indicates that the building occupying 133-135 is an umbrella factory stockroom. Other buildings on the site are in use as offices or were vacant at the time of the production of the plan.

5.6.15 The property lay out upon the site appears to have remained unchanged upon the Ordnance Survey Maps of 1961-62 and 1968-72.

5.6.16 The 2003-2004 Ordnance Survey shows a number of changes had occurred since the early 1970s. Number 133-135 is now occupied by the notably smaller building of Zenith House, the structure that formerly occupied 139 has been removed, and a series of small structures are indicated to the rear of 141 and 143.

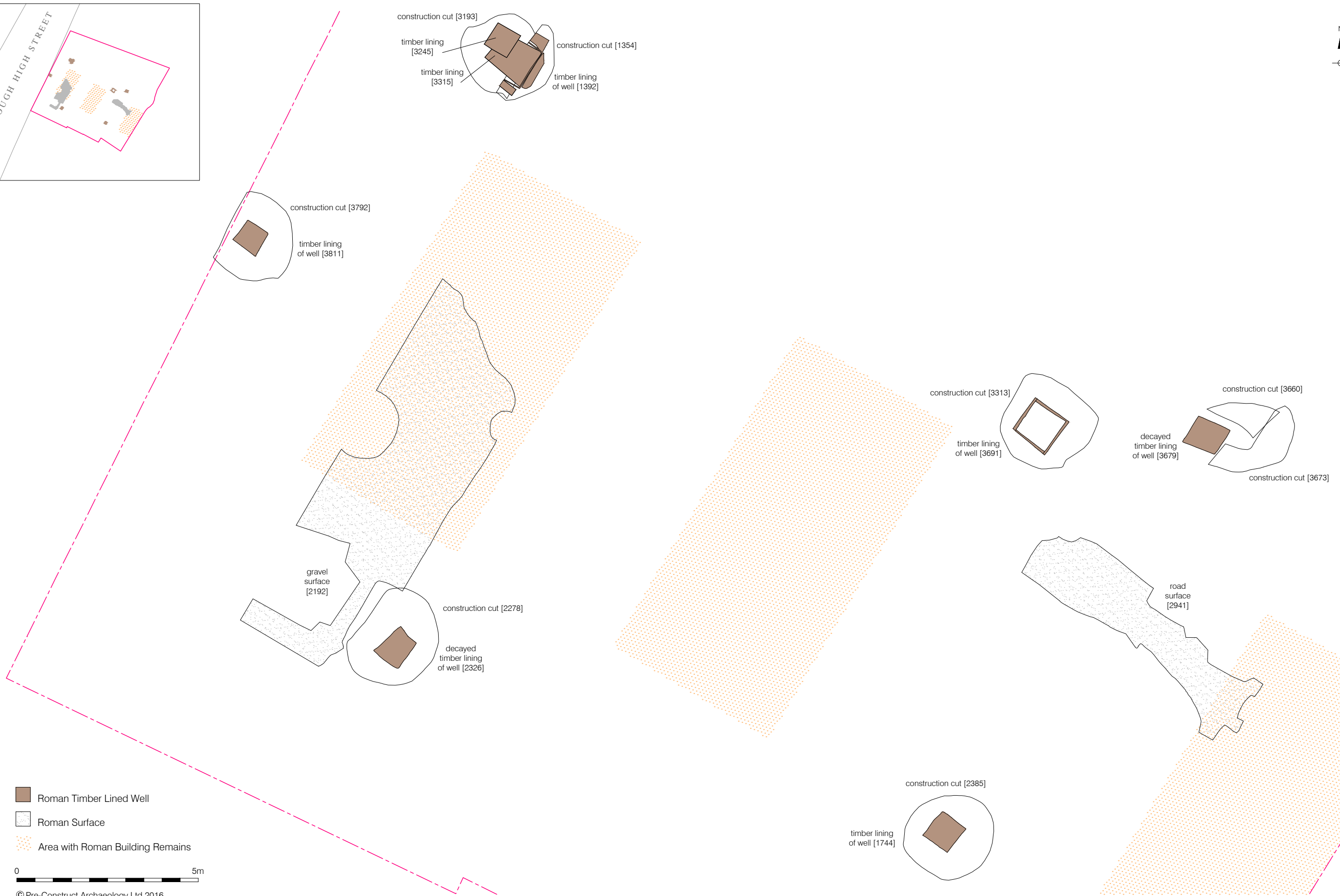
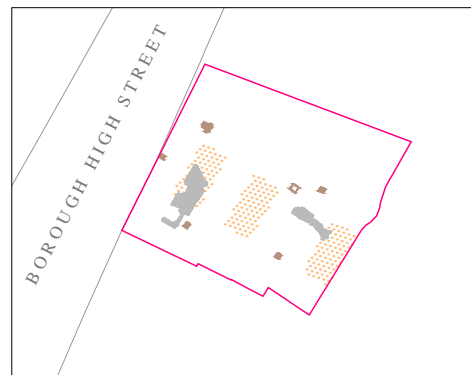
5.6.17 The adjacent excavations at the Wolfson Wing site revealed Post-Medieval walls, floors, surfaces, large pits and other features from throughout this period. A layer of fire debris at 2.22m OD may relate to the extensive fire of 1676.



0 5m

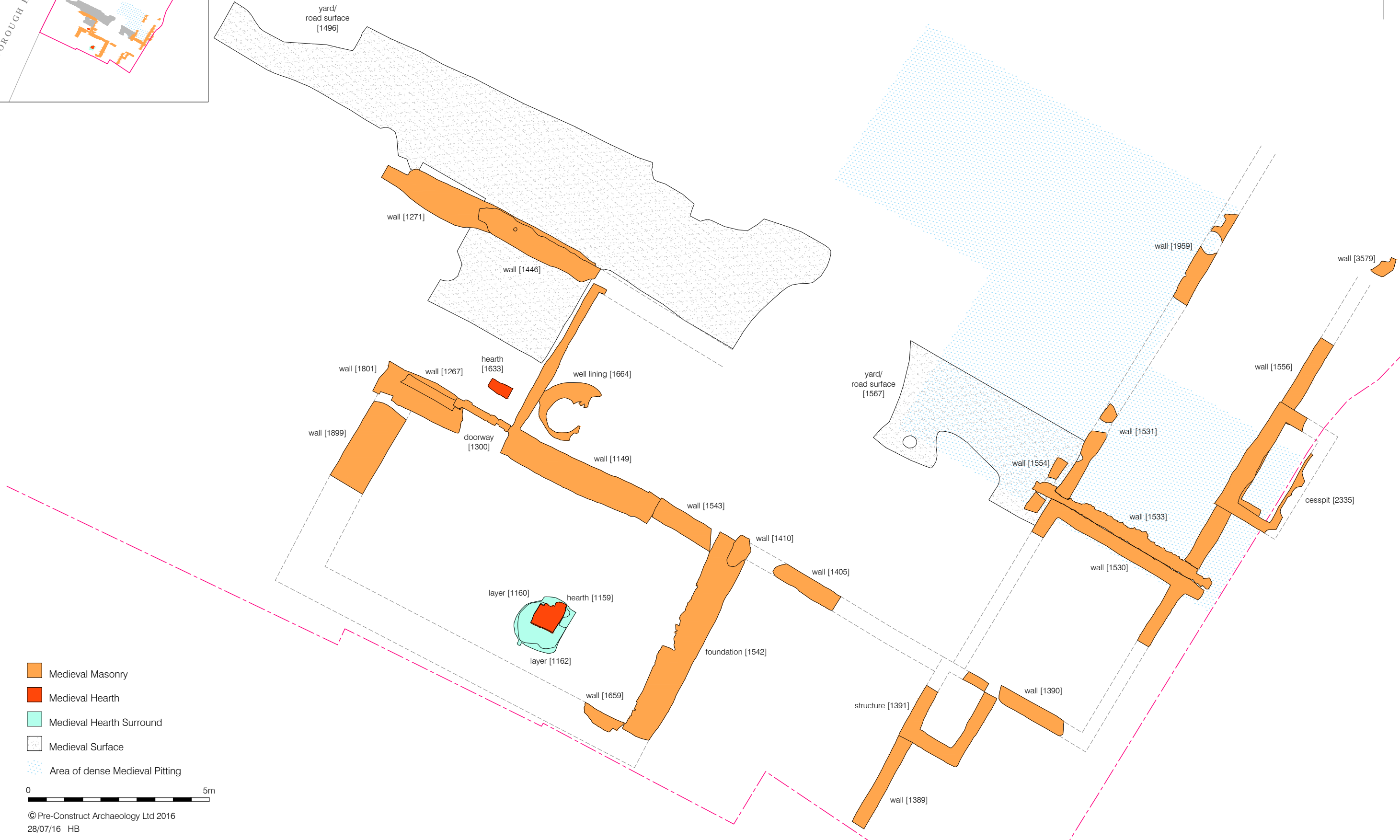
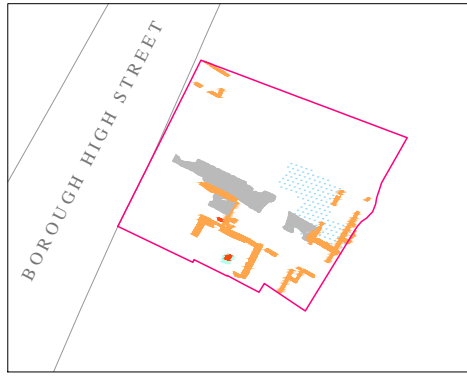
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Figure 3  
Very Early Roman  
1:100 at A3



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Figure 4  
 Roman  
 1:100 at A3

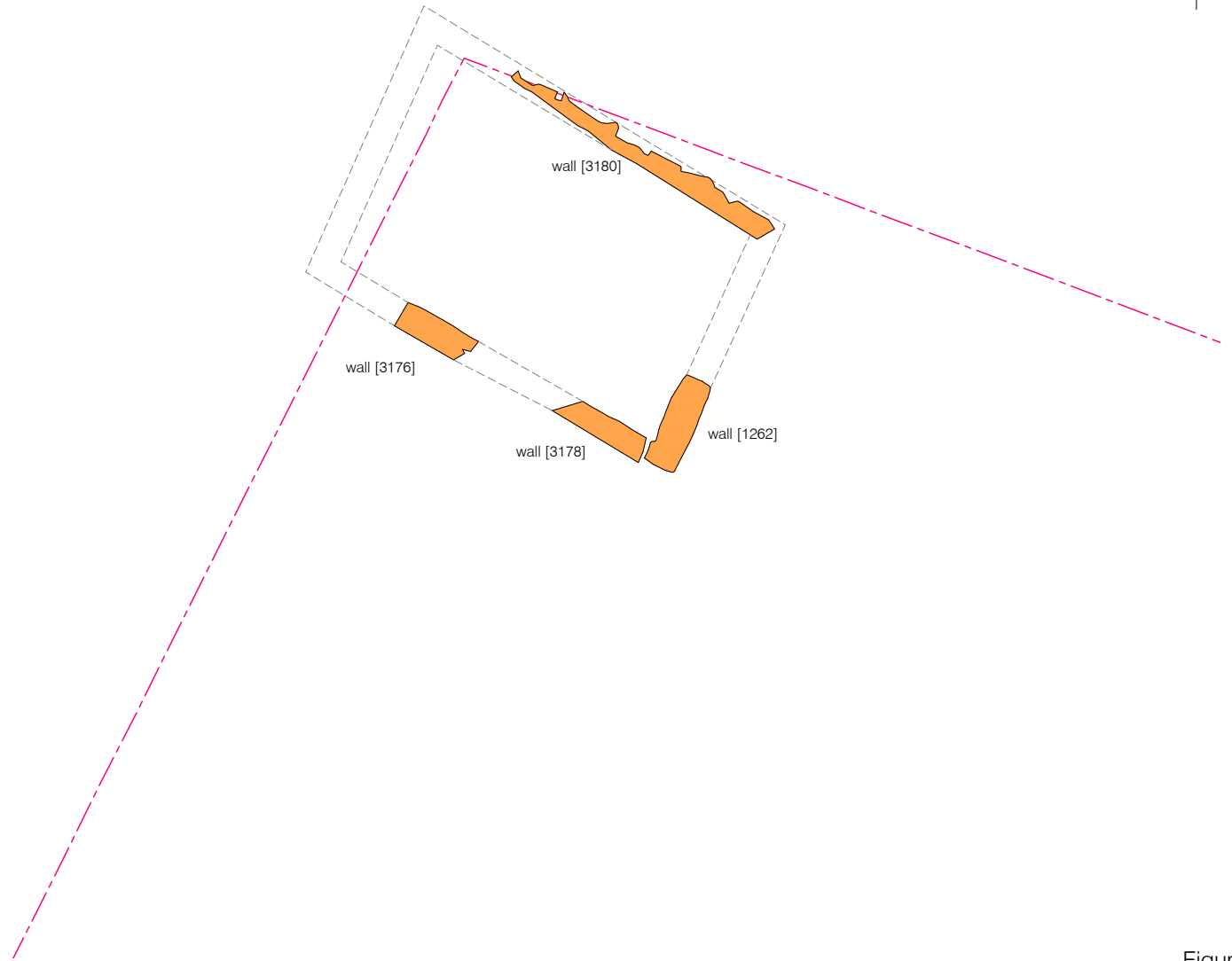
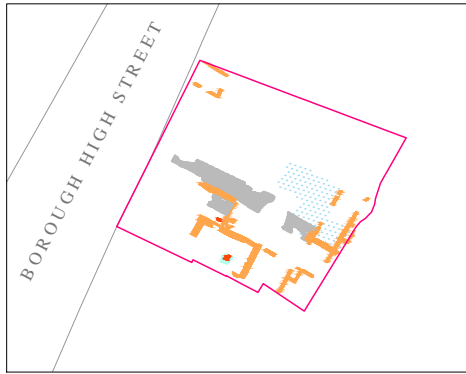


- Medieval Masonry
- Medieval Hearth
- Medieval Hearth Surround
- Medieval Surface
- Area of dense Medieval Pitting

0 5m

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Figure 5a  
Medieval  
1:100 at A3



Medieval Masonry

0 5m

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Figure 5b  
Medieval  
1:100 at A4

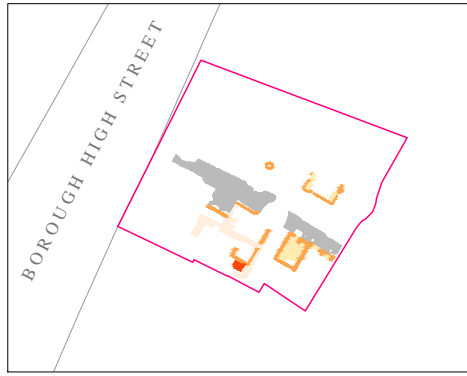
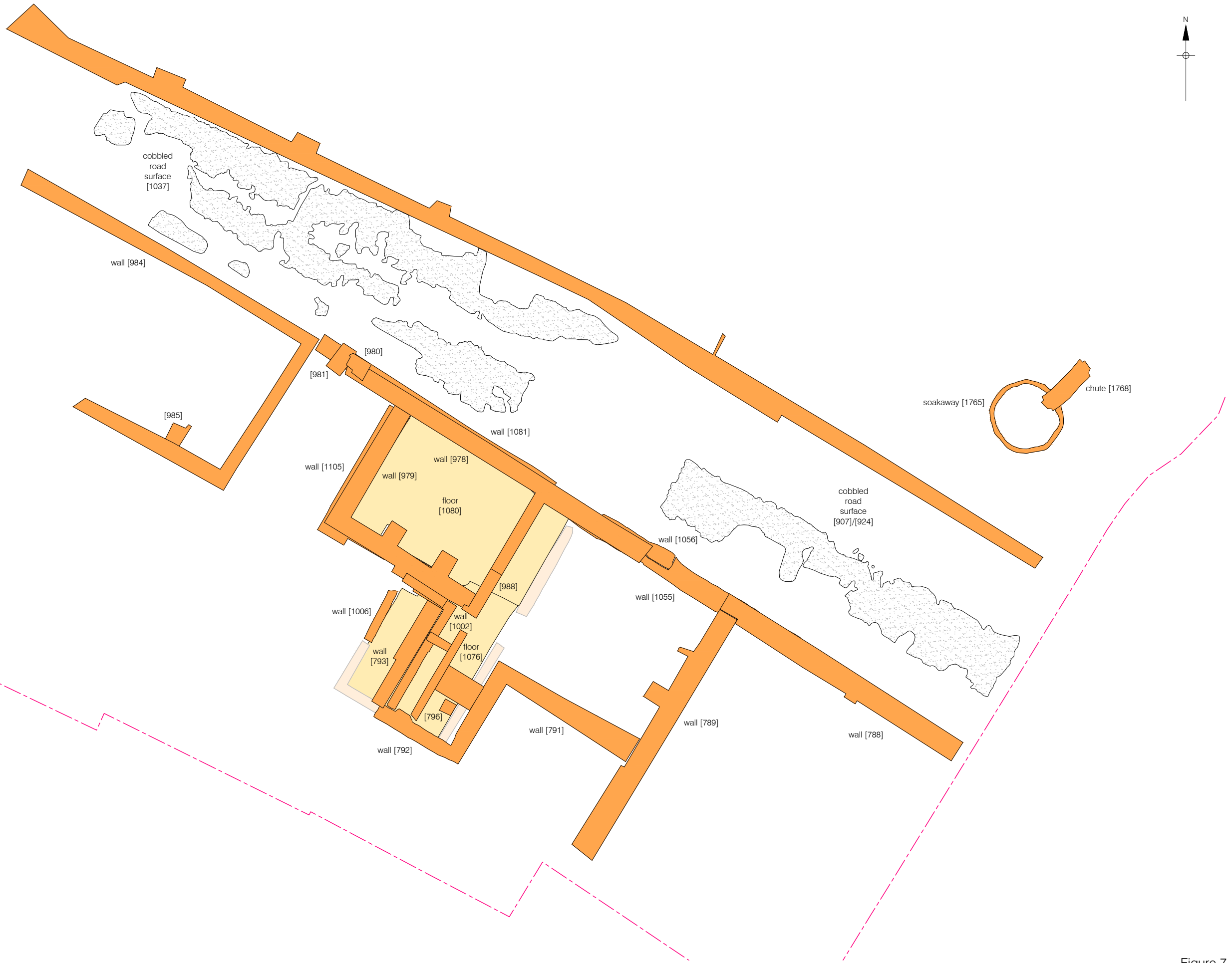
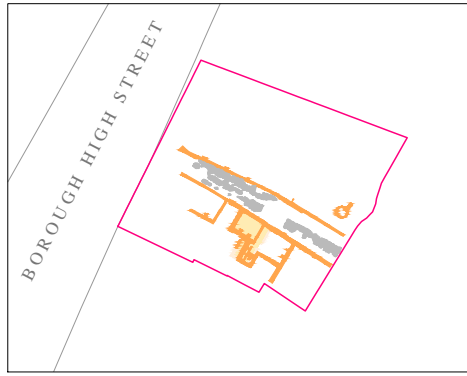


Figure 6  
Early Post-Medieval  
1:100 at A3



- Later Post-Medieval Masonry
- Retained Masonry
- Later Post-Medieval Internal Surface
- Later Post-Medieval External Surface

0  5m

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Figure 7  
Later Post-Medieval  
1:100 at A3





Figure 8  
Later Post-Medieval Features  
overlain onto First Edition OS, 1872  
1:500 at A4



## 6 Archaeological Methodology

- 6.1 As far as was practicable the excavation was carried out in accordance with the Written Scheme of Investigation submitted to and approved by the London Borough of Southwark before works commenced<sup>98</sup>. Essentially the scheme focused on the excavation of the proposed basement area which occupied the majority of the site with the exception of Spur Inn Yard and a narrow walkway adjacent to the Wolfson building, the rear stairs of which were demolished to facilitate the development. The main excavation was conducted between March and September 2015.
- 6.2 A shaft designed to locate the course of a WWII air raid defence tunnel was excavated in October and November 2014 prior to the demolition of the standing buildings. Initial site preparation consisted of the demolition of the standing buildings, the installation of interlocking steel shoring around the main area of excavation, the installation of a steel framework within 127 Borough High Street and the diversion of drainage to facilitate the development. All of these actions were monitored by an extended watching brief which was undertaken from January to March 2015.
- 6.3 The results of all of the interventions carried out on site will be fully assessed and published at a later date. The summary presented in this document deals only with the principal findings from the main area of excavation which comprised the vast majority of the excavation work undertaken.
- 6.4 The main basement dig was essentially a single excavation though logistical constraints such as spoil removal and the installation of temporary support works for the steel perimeter shoring prevented the basement area from being treated as a single trench. In some cases work on individual areas was accelerated and the full archaeological sequence excavated and recorded to allow the installation of support works founded on large concrete thrust blocks. Other areas were excavated out of sequence to facilitate the partial demolition of the WWII air raid defence tunnel and underpinning of the foundations of the adjoining building 145 Borough High Street.
- 6.5 All variations to the original scheme were approved in advance by Dr Christopher Constable, the Senior Archaeology Officer for the London Borough of Southwark.
- 6.6 The excavated areas were reduced to the appropriate level using a 360° mechanical excavator working under archaeological supervision.
- 6.7 Once significant archaeological deposits of features began to appear machine clearance was stopped and subsequent investigation was carried out by hand.
- 6.8 A substantial 'dark earth' horizon covered large areas of the site capping the Roman horizons and forming the later medieval ground surface. These types of deposits are notoriously difficult to deal

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<sup>98</sup> Moore, P 2014 *Land At 127-143 Borough High Street, London, SE1 1NP London Borough Of Southwark Written Scheme Of Investigation For Archaeological Mitigation Works* Unpublished Pre-Construct Archaeology Document

with as it is almost impossible to identify cut features such as pits and ditches which had been cut in to them. This has often led to the machine stripping of these horizons and the loss of valuable archaeological data, particularly concerning the latest period of Roman rule in Britain. The dark earth horizon was stripped by hand in spits in an attempt to produce a broad chronological sequence and systematically metal detected. Large numbers of late Roman coins were recovered using this method as was a Papal Bulla.

- 6.9 The fieldwork and reporting was carried out according to the relevant methodologies, as follows:
- Southwark Archaeology Policy and Supplementary Planning Guidance (Southwark Council undated, [http://www.southwark.gov.uk/Uploads/FILE\\_4634.pdf](http://www.southwark.gov.uk/Uploads/FILE_4634.pdf));
  - Archaeological Guidance Paper 3: Standards and Practices in Archaeological Fieldwork In London (GLAAS 1998);
  - Archaeological Guidance Paper 4: Archaeological Reports (GLAAS 1998);
  - Management of Archaeological Projects (English Heritage, 1990)
  - Fieldwork In London and 5: Evaluations (GLAAS 2009)
  - The Institute for Archaeologists Code of Conduct (1999)
  - The Institute for Archaeologists Code of Approved Practice for the Regulation of Contractual Arrangements in Field Archaeology (1999).
  - The Institute for Archaeologists Standard and Guidance for Archaeological Watching Brief (1994, Revised 2001).
  - The Institute for Archaeologists Standard and Guidance for Archaeological Evaluation (1994, revised 2001)
  - The Institute for Archaeologists Standard and Guidance for Archaeological Excavation (1995, Revised 2001)
  - The Treasure Act (1996)
  - The Burial Act (1857)
- 6.10 Pre-Construct Archaeology Limited is a Registered Archaeological Organisation (Number 23) with the Chartered Institute of Field Archaeologists and operates within the Institute's 'Code of Practice'.
- 6.11 All recording systems adopted during the investigations were fully compatible with those most widely used elsewhere in London; that is those developed out of the Department of Urban Archaeology Site Manual, now published by Museum of London Archaeology (MoLAS 1994). Individual descriptions of all archaeological and geological strata and features excavated and exposed were entered onto pro-forma recording sheets. All plans and sections of archaeological deposits were recorded on polyester based drawing film, the plans being at scale of 1:20 and the

sections at 1:10. The OD heights of all principle strata were calculated and indicated on the appropriate plans and sections.

- 6.12 A photographic record of the investigations was made using digital format only.
- 6.13 Levels were calculated from a series of Temporary Bench Mark established with the aid of the principal contractor's surveyor.
- 6.14 The archaeological works were visited and monitored weekly by Dr Christopher Constable, the Senior Archaeology Officer for the London Borough of Southwark.
- 6.15 The complete site archive including site records, photographs and finds will be deposited at the London Archaeological Archive Research Centre, (LAARC) under the site code BOH 13.

## **7 Summary Excavation Results**

### **7.1 Report Constraints**

- 7.1.1 Prior to describing the broad sequence of developments recorded during the course of the excavation it should be pointed out that this report does not presents a full analysis of the stratigraphy or finds assemblages present at 127-143 Borough High Street. This interim report summarises the results of the excavations based on observations made during the conduct of the excavation, post-excavation analysis of the stratigraphic records, targeted dating of key contexts and, in the case of the environmental assemblage, a 20% sample of the overall assemblage. In addition most of the Roman coin assemblage has undergone initial assessment as have most of the small finds.
- 7.1.2 The figures representing the varying phases of landuse on the site are schematic and do not show every feature found within a specific period. Further analysis is required to accurately date of the features and deposits represented in the written and drawn record and assign each of these to their relevant phases.

### **7.2 Roman Occupation**

- 7.2.1 The site is located slightly to the east of the main Roman road (commonly referred to as Road 1) which approached the Thames crossing in Londinium from the south. Road 1 ran from the 'mainland' of south Southwark across the two islands which formed the core of the Roman suburb south of the Thames; the site is situated on the southern island. This location obviously suggested that the excavation had considerable potential for the Roman period but survival of stratigraphy dating to the Roman occupation was somewhat limited due to the impacts of later basements and intense medieval pitting.
- 7.2.2 The marshy estuarine topography of the area was well evidenced by the silty alluvial deposits which formed the early Roman land surface. These covered the entire area of excavation and varied in height from c. 1.25-1.15m OD. The only notable variation in the early land surface consisted of a shallow southwest-northeast aligned revetted channel [3440] which ran through the southeast corner of the site.
- 7.2.3 Although the full extent of the channel was not evident part of it's western bank passed through the area of excavation. This bank had been managed by the establishment of a post and plank revetment with landfill to the rear whilst the channel remained active to the east. At present this feature is not closely dated. One of the fills, [3373], has been dated AD 50-250 which does little to closer define the period in which the channel was active.



Shallow revetted palaeochannel found in the south-east corner of the site

Scale 0.50m

- 7.2.4 It is, however, certain that these early reclamation works pre-dated the establishment of the clay and timber buildings recorded at the site, some of which lay above the channel. These mainly date to the period AD 70-120 meaning the infilling of the channel is likely to date to the mid-late 1st century. Two of the earliest coins recovered during the excavation, dated to AD 70 and 71, were recovered from an alluvial layer [2470] and a sandy layer immediately above the alluvium [2260], both of which were located toward the eastern periphery of the site. As yet no pre-Flavian pottery assemblages have been identified from the site and it would appear that following initial drainage works buildings began to be constructed after AD 70.
- 7.2.5 Another notable feature of the early Roman landscape was a very large if relatively shallow pit [2596] which was probably excavated to extract sand and gravel, possibly for use in the construction of Road 1. This feature was heavily truncated but measured at least 6.60m east-west and 4.75m north-south. The fills contained very few finds but the small assemblage of pottery has been dated AD 70-150. It appeared that this feature had been infilled, at least in part, as a result of flooding, and capped with alluvium. This suggests that early attempts at water management in the vicinity were only partially successful. Further evidence of probable sand and gravel quarrying

was demonstrated as smaller pits excavated deep into the natural deposits, these features are as yet undated.



Brickearth sill with *in-situ* painted wall plaster  
Scale 0.20m

- 7.2.6 As mentioned above the impacts of later pitting and basements dating from the medieval period onwards had destroyed a large percentage of the Roman stratigraphy which had once existed. However, the islands of stratigraphy which did survive demonstrated that the site had once been intensely occupied, particularly in the 1st and 2nd centuries. Fragmentary remains of clay and timber buildings were evident, some retaining in situ remnants of painted wall plaster which stood against brickearth sills. Though these buildings were not constructed of stone they clearly were of some status.
- 7.2.7 Patches of truncated buildings extended across virtually the entire width of the excavation from west to east, indicating that development was not confined to the areas closest to the main road. As mentioned above the pottery assemblages associated with these buildings invariably dated to AD 70-100 or 70-120.





Roman timber-lined well and construction cut  
Scale 0.50m

- 7.2.8 Some of the buildings had been accessed by narrow gravel paths constructed in shallow trenches. One of these, context [2941], produced a pottery assemblage dated AD 70-100. Elsewhere on the site well defined external yard surfaces formed of sand and gravel were also preserved. These might represent courtyards associated with nearby buildings.
- 7.2.9 The documented Roman remains suggested that once early reclamation work had been completed the majority of the site was covered by buildings. Post-excavation analysis is still at an early stage and the possible functions of these buildings is yet to be established but those furnished with wall plaster were almost certainly residential rather than being workshops. Apart from the buildings open areas persisted, some of which were utilised for maintaining the water supply. Seven timber lined wells of varying dates were recorded. These were spread across a large part of the excavated area though one location had clearly been re-used, possibly when the lining of the earlier well failed. The wells were invariably surrounded by very large construction cuts which penetrated deep in to the natural sands and gravels. In some cases the timber box lining was installed and clay packed around it before the remainder of the construction cut was backfilled.



Truncated gravel path [2941] with broken storage vessels  
Scale 0.50m

7.2.10 One of these wells, [3679], was located on the western periphery of the site close to a group of clay and timber buildings. The backfill of the construction cut for the well contained pottery dated AD 70-120 which would suggest that this feature was contemporary with the buildings. The fill of the well itself dated to AD 120-150 demonstrating that it went out of use during the period in which the early clay and timber building were themselves being abandoned.



7.2.11 Another large well [2326] was located much closer to the Borough High Street frontage and represented provision of water supply in a much later period. The pottery recovered from context [2376], one of the backfills of the construction cut, has been dated AD 200-250/275. A much larger assemblage from another fill [2295] was dated AD 250-275. The pottery assemblage recovered from this well was very large and included some complete vessels. Part of a broken figurine or statuette also formed part of the assemblage recovered from this context which might easily be defined as votive/structured deposition. This may be seen as part of the wider phenomenon of votive deposition or closure rituals noted in many late Roman wells found in London. The pottery report suggests that there are numerous examples of pottery vessels associated with ritual which form part of the pottery assemblage recovered from the site.



Late Roman votive pit  
Scale 0.50m

7.2.12 As is so often the case in London the landuse relating to the later Roman period was unclear. If the clay and timber buildings were replaced by later structures these were not immediately apparent in the documented remains, they might be evident as postholes and nothing more. Should such buildings exist their ground plans will need to be painstakingly reconstructed during the post-excavation process. Cut features of late Roman date, particularly timber lined wells, were evident and it was clear that occupation continued into this period. A votive pit which contained a

Nene Valley/Cologne type beaker had clearly been excavated in the period AD 270-400. Apart from the beaker the pit contained a horn core placed at the opposite end and, at a lower level, a shoulder joint from a large animal which may have represented an offering.

7.2.13 The presence of a substantial late Roman population was also evidenced by the results of systematically metal detecting the 'dark earth' horizon which sealed the later Roman features. A large number of coins dated to the third and particularly the fourth centuries were recovered from these deposits. A late Roman layer [1896] which lay immediately below the dark earth horizon contained three fourth century coins, the latest being an issue dated AD 364-378. Among the coins so far identified is an example dated AD 388-402. Coins of this period are the latest dated Roman bronze coins issued in Britain. The coin assemblage demonstrates continuous occupation from the later 1st century to the late 4th/early 5th century. Analysis of the Roman pottery from one of the early dark earth layers [1963] has identified a large assemblage dated AD 250/270-400 along with sherds of medieval date.

### **7.3 Post-Roman Abandonment**

7.3.1 Following the collapse of the western Roman Empire Southwark was abandoned along with the rest of Londinium. Small quantities of early Saxon pottery have been recovered from excavations at Bermondsey Abbey, Lant Street and Trinity Street but there is as yet no evidence for a sustained settlement dating to this period further north in Southwark. Following the desertion of the Roman city the area obviously reverted to open ground and homogenous soil horizons, commonly referred to as dark earth, formed over large parts of the former city and its suburbs including the Borough High Street site.

7.3.2 The processes related to the formation of dark earth horizons are varied and too complex to be fully discussed in this document. It is probable that the dark earth horizon at Borough High Street represented a variety of processes ranging from bioturbation and earthworm action in its early post-Roman phases to ploughing, waste disposal and the excavation of pits in its later, medieval phases. Medieval pits had indeed punched through the entire dark earth formation which was on average c.0.60-0.70m thick. However, very few of the edges of these pits or other cut features could be distinguished within the dark earth horizon, the pits only became apparent once the dark earth had been removed. The horizon was excavated in spits in an effort to produce broad time brackets for its formation and systematically metal detected. Almost three hundred Roman coins were recovered during the course of the excavation most of which came from the dark earth horizon. The vast majority of these dated to the fourth century. A number of the dark earth horizons were chosen for provisional pottery spot dating. These produced assemblages dated to AD 1080-1200, 1080-1350, 1140-1220, 1140-1400 and 1270-1350. It can thus be demonstrated that the resurgence of urban life on and around the site can be dated to the late 11th or early 12th

centuries. The presence of a single sherd of pre-conquest Late Saxon shelly ware dated AD 900-1050 is of intrinsic interest even though this sherd was residual in the pottery assemblage recovered from layer [1963]. The presence of a double ended pin-beater (SF 63), an iconic middle Saxon object, is also significant as is a bone comb which dates to the same period or slightly later.

- 7.3.3 It appears that the site remained open ground into the early medieval period and was roughly flat. The upper surfaces of the dark earth were recorded between 2.63m and 2.31m OD in the west (layer [1603]) and 2.66m to 2.31m OD in the east [layer [1725]].

## **7.4 Medieval Re-Occupation**

- 7.4.1 During the Roman period Southwark had flourished as a suburb of Londinium but without the city to the north or a bridge to cross the river the area reverted to being something of a marshy backwater. The old Roman city was only re-invigorated after the Alfredian re-occupation and the abandonment of Lundenwic. Holding both banks of the river would have been a major advantage for the Saxons in their struggle with the Vikings and the construction of a bridge would have further bolstered the defences. However, as yet there is no evidence of a Middle Saxon bridge or settlement in Southwark. Urban life had begun to be re-established in Southwark in the later Saxon period and it is thought that roadside development along Borough High Street, the medieval successor to the Roman Road 1, extended as far south as St. Georges Church by the end of the 12th century. The site lies quite close to the bridgehead and it may have had timber buildings along the street frontage at a relatively early date. Unfortunately the level of truncation in this area caused by modern basements and drainage features precluded the survival of any possible remains from this period. Initially the majority of the site remained open ground. Medieval pits extended over most of the excavated area and in some cases clearly pre-dated the construction of later medieval buildings with chalk and stone foundations. Medieval pits were also recorded below the earliest gravel surfaces which formed the alleyway later known as Nag's Head Yard. As yet only three of the pottery assemblages from these pits have been dated. Pit [3474] contained a largely complete jug dated AD 1270-1330; pit [2410] produced two assemblages one dated to the 12th century the other AD 1310-1350 whilst pit [2351] held three assemblages two of which dated AD 1290-1350 whilst the third has been dated AD 1300-1500. These dates indicate that areas of the site remained open ground into the late 13th or early 14th centuries, as does the pottery recovered from barrel well [3675] which has been dated 1240-1300.
- 7.4.2 The property boundaries and thoroughfares established in the medieval period have remained in use, with some adaptations, to the present day. Immediately to the north of the main excavated area Spur Inn Yard extended eastward from Borough High Street providing access to properties developed to the rear of the street. Further south, within the main area of excavation, Nag's Head

Yard followed a similar alignment but excavation has demonstrated definitively that this thoroughfare did not initially extend across the entire area as was the case later in the site's history. A complex of medieval buildings extended over the entire eastern periphery of the site with the exception of the northern area of Pavely Gym where modern truncation had removed any archaeological remains.



Medieval chalk and stone foundations

7.4.3 The medieval buildings recorded in the east survived as narrow and shallow chalk and stone footings c 0.40m or less in width. These foundations seem unlikely to have supported a heavy masonry structure; it is far more probable that the superstructures of these buildings were formed principally of timber. As can be seen in the photograph above the northern building survived as a single long narrow room. However, it should be admitted that as no floor levels were preserved internal partitions within the building may not have survived. As can also be seen in the photographs above and below the wall foundations represented either two adjoining buildings of the same width or a single building subdivided by internal walls due to its extended length. The southern building was considerably smaller than that to the north, the former having internal dimensions of c. 3.60m by 4.70m. The building to the north measured 3.60m by more than 9.00m. The external width of the buildings was c. 4.40m which would just allow the foundations to fit within a plot measuring one perch (5.5 yards or 5.03m, though subject to local variations) wide. This system of land division was common in the medieval period. Though originally used for open



fields the same measurements were later adopted within towns leading to the development of burgage plots, strips of land often with a narrow frontage facing onto streets or alleyways.



Medieval chalk and stone foundations with remnant of later basement  
Scale 0.50m

7.4.4 Chalk lined cesspits of differing sizes and construction were found to the east of the northern building and south of the southern building. The northern cesspit was larger than that to the south and solidly constructed from neatly squared chalk blocks. A further chalk foundation [1389] continued to the south of the smaller southern structure and another fragment of wall [1405] extended westward toward a much more substantial structure which is discussed below. At present there is little to precisely date the establishment of these buildings. All of the foundations post-date the dark earth horizon discussed above which contained medieval pottery dating from AD 1080 up to 1350. Cesspit [1391] had apparently truncated an earlier ditch [1661] which contained a pottery assemblage dated AD 1400-1500. If this relationship is correct the cesspit clearly must post-date the ditch meaning this structure, at least, was late medieval in inception.



Chalk and stone foundations of medieval townhouse  
The WWII air raid defence tunnel and approach is evident in the top right

- 7.4.5 The function of these tenement buildings is at present unclear, the paucity of internal features hampers interpretation. Neither doorways nor hearths were apparent which might suggest that these buildings were used for storage or possibly stabling horses. However, the presence of the cesspits suggests that these buildings were dwellings or workshops. Although the foundations are slight the use of chalk and stone rather than timber implies buildings of some status. As mentioned above no floor levels survived but if these buildings were dwellings it is probable that they were divided internally into smaller rooms, particularly the extensive building to the north.
- 7.4.6 A much more substantial complex of stone and chalk walls was evident to the east of the buildings described above. All of the elements of this building lay to the south of the alleyway later known as Nag's Head Yard. The foundations of this structure were far more robust than the thin strip footings evident to the east, measuring c. 1.00m in diameter and occupying a foundation trench c. 0.70m deep. There can be little doubt that the upper stories of this building were constructed in stone. The full extent of this structure was not evident due to later truncations but a large basement was defined by walls [1542], [1659], [1149], [1801] and [1899]. It is perhaps worth noting that the building, or at least the basement element, did not apparently extend further to the



west toward the Borough High Street frontage and it must be assumed that it was accessed via the alleyway and a small courtyard which projected south from it. The surface of the road at this time would have been at c. 2.50m OD. Although very heavily truncated the remnant of the south wall of the basement was located adjacent to the party wall of 145 Borough High Street indicating that this property boundary has a medieval origin.



Medieval stone doorway with pintle in situ and tile hearth

- 7.4.7 The basement defined by the circuit of substantial foundations discussed above enclosed an area 5.00m north south by 9.40m east-west. Parts of this structure were modified and englobed in later basements which meant the original floor level had been lost. Another room was evident to the north of the basement described above. The western limit of this room was defined by another stone wall which though substantial and well built was only 0.30m wide. This may indicate that it was a later addition to the massive masonry structure evident to the south.
- 7.4.8 Though this complex of medieval walls survived principally as foundations a finely worked stone doorway [1300] did survive, partially englobed in 19th century foundations. The iron pintle which had supported the original door or gate was still in situ. A small tile hearth was evident immediately to the north of the doorway.



Brick base and surrounding hearth area  
Scale 0.50m

- 7.4.9 The status of this building was clearly somewhat higher than that of the tenements found further to the west. The remains might represent a town house belonging a nobleman, merchant or possibly a prelate. Precise dating for the construction of the building has not yet been established but wall [1149] truncated a dark earth layer [1603] which has been dated AD 1270-1350.
- 7.4.10 As mentioned above no floor levels survived within this building principally due to the impacts of later basements which had removed them. The only exception to this consisted of a small area located within the central part of the large basemented room. No obvious floor surface formed of brick, tile or other solid materials, existed within this area either but an area of horizontal stratigraphy did survive. Within this sequence were a series of scorched roughly circular bases defined by thin layers of brown clay and chalk. A solid surface formed of either stone or, in the latest case, brick occurred within the circular area. These bases were often sealed by thin layers of sand, possibly used to douse fires. The function of these features is still unproven; they appear to be bases, possibly for braziers, a heat source was clearly present but the use to which this was put is a yet not known. Pottery recovered from a layer located below the latest base has been dated 1270-1300, the brick fabric used in the base dates to 1450-1700.
- 7.4.11 The area of excavation close to the modern street frontage had been very heavily impacted by modern basements and drainage features; no areas of horizontal medieval stratigraphy survived.



However, some very heavily truncated chalk foundations were evident in the extreme northwest corner of the site. These consisted of thin strip footings similar to those recorded on the eastern side of the site. The building represented by the foundations was even narrower than those found in the east, measuring only 3.5m wide internally by over 5m long (the western limit of the building extended beyond the area of excavation). The very narrow ground plan of this structure may reflect the higher costs of properties which stood on the main street frontage. It is assumed that this building was medieval in origin due to the materials used but as stated above no medieval stratigraphy was preserved in this area, the chalk foundations as seen were cut into Roman layers and the date of this building is effectively unknown.

## 7.5 Early Post-Medieval Developments

7.5.1 Notable changes occurred in the layout of the buildings and alleyways present on the site in the early post-medieval period. The most obvious of these consisted of the extension of Nag's Head Yard further to the east which clearly must have involved the demolition, at least in part, of the medieval tenement buildings which had extended across the eastern area of the excavation



Early post-medieval basement [1050]

7.5.2 .Due to the effects of later truncation this was more evident on the southern side of the alleyway where a new brick-built basement had been punched through the earlier medieval chalk

foundations; a brick-built frontage extended to the east adjacent to the newly extended gravel road surface.



Early post-medieval basement and medieval chalk foundation  
Scale 1m

7.5.3 The walls [1050] of the brick basement were neatly and solidly constructed, mainly from brick but some chalk was included particularly in the lower courses. The brick floor [1199] also appeared to be a high quality piece of workmanship. The construction date of this building has yet to be definitely established but the bricks used to build the floor have been dated AD 1450-1600. The later adaptation of the basement involving the laying of a new floor at a higher level does give some indication of when the building was in use. A make-up layer [1208] contained a pottery assemblage dated to the mid 17th century and clay pipe most of which were dated 1640-1660 with one dated after 1660. A coin of Charles I minted between 1634-36 was also recovered from this deposit. The bulk of this evidence suggests that the lower part of the basement was being backfilled in the mid 17th century. This obviously shows that the construction of the basement was somewhat earlier. The pottery and other objects recovered from layer [1208] may form a particularly interesting assemblage representing house clearance of some sort. Apart from the pottery this deposit contained four ivory combs, two toy stoneware marbles and five cutlery implements with ivory handles. The basement measured 3.3m by 4.5m internally.



7.5.4 Very few details can be obtained concerning the brick buildings which had been constructed to the west of the basement along the frontage of the alleyway. A 19th century wall and basement had completely truncated the building to the south of the frontage meaning that no ground plan can be constructed for this building/buildings but it seemed clear that the earlier medieval structure had been superseded in this area. The brick fabric used in one of the floors [952] has been dated AD 1450-1700.



Chalk lined well [1664]  
Scale 0.50m

7.5.5 The status of the buildings which stood to the north of the alleyway is rather less certain. There can be no doubt that the southern frontage of the building was demolished as the newly extended gravel alleyway surface extended over it. Elements of the building to the north may have been retained however. Another brick built basement had been constructed immediately to the west of the earlier medieval building but the chalk footings of the medieval structure had not been removed or replaced, the eastern basement wall had been constructed by partially undermining the pre-existing foundations. This suggests that the building to the west was still in use. The basement in this area had been very heavily impacted by later developments and is difficult to date precisely. Two brick samples obtained from walls [1921] and [2321] both date to AD 1450-1700 which suggests that this basement was an early post-medieval development. The presence of this structure also suggests an increasingly dense building pattern as this area had previously

been open ground. Modern truncations had destroyed the northern part of the basement, it's full extent is therefore unknown but this room measured 5m east-west.

- 7.5.6 Further to the west and south of the gravel alleyway elements, if not all, of the substantial stone building continued in use though the impacts of later basements and the WWII tunnel render a full understanding of the sequence extremely challenging. There is no doubt that the basement room containing the chalk lined well [1664] continued in use during this period, and later. The well lining and surround had been repaired using brick at some point but this feature almost certainly ceased to be functional during this period and was backfilled. It was later sealed by a brick floor.
- 7.5.7 The substantial stone walls which formed the southern and western limits of the original room were retained and a new wall [1617] added to the north. The materials used in the construction of the later wall were very mixed consisting of chalk blocks which were probably re-used and red brick, stone and tile. The bricks used in wall [1617] have been dated 1450-1700. The impact of later foundations prevent the full circuit of walls which defined this room from being traced but if it is assumed that the new basement extended as far as wall [1007] to the east the basement would have measured c. 6.6m east-west by 4.5m north-south.



Medieval stone walls with later addition [1617] to the right  
Scale 0.50m

- 7.5.8 The overall status of the large medieval basement which stood to the south of the room described below is difficult to establish. It was undoubtedly subdivided in this period; large parts of the



eastern wall were demolished to foundation level when walls [798] and [1007] were constructed. Rather bizarrely a small section of chalk wall which formed the northwest corner of the room was retained and englobed within the later walls. This may indicate that the north wall of the medieval basement was retained at this time and only later reduced to foundation level when the two separate basements were joined.

7.5.9 The construction date for these new basement walls has yet to be established. A very wide array of materials was used in their construction. Most of which were –re-used. These ranged from brick, chalk and re-used medieval moulded stone to a fragment of ragstone which had Roman mortar still adhering to it. Even the bricks, some of which have been dated AD 1450-1700, could easily have been re-used. A clue to the construction date of these walls may be provided by a peg tile hearth which abutted the south side of walls [798] and [846]. This feature was sealed by layer [779] which contained fragments of a small jug bearing the date 1634. This should place the use of the hearth solidly in the middle of the 17th century demonstrating that the walls were already in place by this time. The presence of this hearth also shows that this part of the earlier medieval basement had been backfilled by this time and a new ground surface established. The highest level recorded on the hearth was 3.29m OD. This is comparable to the highest level on the gravel road surface [1384] which was 3.19m OD.



Medieval chalk wall englobed by later walls [1007] left and [898] to the right  
Scale 0.50m

## 7.6 Later Post-Medieval Developments

7.6.1 The discussion of developments provisionally dated to the 18th century or later is essentially limited to the area adjacent to Nags Head Yard. It is hardly surprising that the site was covered by a dense array of buildings even by the mid 18th century. Figure 7 demonstrates very clearly that parts of the site were remodelled and rebuilt on numerous occasions from the mid 18th to 20th centuries. The earlier phases of the excavation work were devoted to unpicking dense clusters of walls and attempting to expose earlier structures many of whose elements were englobed and still used in later builds. Modern basements had removed large areas where earlier buildings had once stood and structures dating to this period were often confined to isolated subterranean features such as brick lined cesspits, soakaways or wells. Most of these are not shown on Figure 7; the features were scattered over most of the excavated area with the exception of the Pavey Gym area which had been totally truncated.



Western end of cobbled alleyway Nag's Head Yard

7.6.2 Perhaps the most obvious change introduced during this period was the provision of a solid surface for Nag's Head Yard. The alleyway had consisted of nothing more than a gravel surface from the medieval period onward until a cobble surface was laid during the middle of the 18th century. Of the two assemblages of pottery recovered from the layers below the cobbles one has been dated broadly to the 18th century whilst the other contained ceramics dated 1720-1740; layer [1082] also contained clay tobacco pipe dated 1730-1740. The surface of the alley sloped



from west to east from 3.61m OD to 3.26m OD. This probably reflects to effects of continual redevelopment along the Borough High Street frontage which had raised ground level in this area compared to the western part of the site.



Late 18th or 19th century basement floor [1076]  
Scale 0.50m

- 7.6.3 To the south of the alleyway the basement rooms established in the early post-medieval period were retained during the 18th century and it was during this period that they were conjoined by demolishing part of original medieval chalk and stone wall which had once separated them. A neatly laid brick floor [1076] occupied the southern part of the L-shaped basement. Flat brick surfaces had been laid around the periphery of the room, the floor then sloped toward as central area presumably as an aid to drainage though it must be admitted that the purpose of this is unclear. The bricks used in floor [1076] have been dated 1780-1900, though these late fabrics may represent a later repair. The northern part of this floor lay directly above the foundation of the demolished medieval stone wall
- 7.6.4 The northern part of the basement was remodelled by the construction of a new wall [1105] which formed the southern and western limits of the room. The medieval chalk and stone walls were not demolished in this area though they may no longer have been functional. The area between the new brick wall and the older medieval walls was backfilled. The original northern extent of this

room is unknown as a substantial 19th century wall had impacted this area. It appeared that the basement was retained at least into the early part of the 19th century as the patchwork brick and cobble floor [1080] appeared to have been laid up to the wall.



18th-19th century basement. Note the superimposed walls dating from the medieval period onwards.  
Scale 0.50m

- 7.6.5 The basement described above was backfilled in the 19th century, a period in which it appears that all of the building south of the alleyway were rebuilt and ground level raised considerably in the process. Substantial brick walls c. 0.60m thick were evident along most of the alley frontage with basements to the south of them. The brick fabrics used in these walls and foundations suggest that most of the construction work was undertaken in the first half of the 19th century. The brick fabrics have been dated 1780-1870 and no yellow stock brick, which was commonly used in London from the 1850s onwards, was noted in the builds of these walls. Further analysis of the pottery assemblage should allow the construction dates of these buildings to be more closely defined.





19th century basement [979]  
Scale 0.50m

7.6.6 As stated above remains dating to the late post-medieval period had been obliterated by later impacts over large area of the site with the exception of deep cut features such as wells and soakaways. The finds assemblages from these features have yet to be analysed and as such there is very little information that these features can contribute to this report. One feature was of particular note, however, as it lies within the property shown as the Nag's Head on the 1872 Ordnance Survey map. The feature consisted of a large circular brick lined soakaway c. 2.00m in diameter fed by a chute built from brick and flagstones. This feature has yet to be dated; it was filled almost exclusively with demolition debris which included frogged bricks. The exact function of this feature is unknown but it's position within the large footprint of the building is of intrinsic interest.



Brick lined soakaway [1765] and chute  
Scale 0.50m

- 7.6.7 An air raid defence tunnel with its entrance in the southwest corner of the site had been constructed in 1940. This entrance was one of several which allowed access to disused underground railway tunnels located below Borough High Street which had been converted to air raid shelters. The entrance to the tunnel from street level consisted of pre-cast concrete steps laid on brick walls which had been built above a concrete foundation sunk deep into the natural sands and gravels below the basement floor level of 143 Borough High Street. Some distance from the street frontage the 'cut and cover' steps gave way to a circular tunnel formed of pre-cast concrete segments. This tunnel had obviously impacted the archaeological stratigraphy which had been present.
- 7.6.8 Rather bizarrely the tunnel became more fully exposed as the archaeological excavation proceeded and the extant stratigraphy was removed above it. The full history of the tunnel has been reported on separately by Pre-Construct Archaeology.

## 8 Conclusions

- 8.1 Preliminary assessment of the results of the excavation have confirmed the broad hypothesis developed during the course of the excavation regarding the development of the site. Large areas of Southwark were marginal ground in the early Roman period and unsuitable for settlement before drainage work had been undertaken and the margins of the islands strengthened with timber revetments. The area excavated at 127-143 Borough High Street proved no exception to this even though it lay in close proximity to the main Roman road leading to the Thames crossing.
- 8.2 The natural sands and gravels which formed the natural deposits in the area were capped by alluvium which formed the early Roman ground surface. A shallow palaeochannel crossed the southeast corner of the excavated area, following a southwest to northeast alignment. The channel had been managed by the construction of a post and plank revetment which survived as a line of substantial postholes that penetrated the natural sands. It was clear that the site was frequented in the early Roman period but, with the exception of the drainage work undertaken in the channel and quarrying for sand and gravel there appears to have been limited development prior to AD 70.
- 8.3 Large areas of the site had been heavily impacted by excavation for the construction of basements. This led to the destruction of a considerable proportion of the Roman remains which had once been present on the site. However, it was clear from the surviving islands of stratigraphy that the site had been intensely occupied in the late 1st and early 2nd centuries as the fragmentary remnants of buildings, wells and gravel paths were all extant. The pottery assemblages associated with these buildings invariably fall into the time bracket of AD 70-120. The presence of these structures demonstrates that the early drainage problems had been overcome and that the land had been surveyed and property boundaries established. Marginal areas of land had become part of the Roman settlement.
- 8.4 The remnants of the Roman buildings included some surviving wall lines which had been decorated with painted plaster. This suggests they were residential buildings of elevated if not the highest status. However, the pottery, bone and environmental sample assemblages indicate that a wide variety of commercial and craft or industrial activities were being undertaken on or around the site. The pottery contains a high proportion of amphora and drinking vessels. The amphorae provide clear evidence of trade, even if they were landed on the quayside of the north bank, and their prominence in the assemblage can be compared to the published assemblages known from other sites in Southwark<sup>99</sup>. The bone assemblage provided clear evidence of butchery; a large group of horn cores was recovered from a timber box well which was in use when the clay and timber buildings were occupied. The residues from some of the environmental samples taken

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<sup>99</sup> Cowan and Wardle in Cowan et al 2009, Fig 72



from Roman deposits contain hammerscale which demonstrates that metalworking was probably taking place nearby.

- 8.5 The nature of the late Roman occupation is more difficult to define. No remains buildings dating to this period were recognised during the course of the excavation but deep cut features such as wells were evident. One of these contained a very large assemblage of pottery including whole vessels dated AD 250-275. A votive pit dated c. AD 270-400 was also recorded. Continued occupation into the late 4th or early 5th century was attested by the large numbers of late Roman coins recovered from the 'dark earth' deposits which sealed the Roman stratigraphy.
- 8.6 Full analysis of the finds assemblage has yet to be undertaken but the preliminary findings indicate at a possible Saxon presence near the site. There is no doubt that Southwark was abandoned in the post-Roman period and though small quantities of early Saxon pottery have been recovered from sites in Bermondsey and south Southwark any settlement that may have existed is unlikely to have consisted of more than isolated farmsteads. Evidence dating to the Middle Saxon period is similarly sparse even though it is known that the Roman city was re-occupied in the late 9th century. The presence of an iconic Middle Saxon object, a pin beater used in cloth production, is therefore of considerable interest. As yet only one sherd of late Saxon pottery has been identified but more may become apparent as full analysis is undertaken.
- 8.7 Large areas of the site remained open ground in the earlier part of the medieval period. Numerous pits were dug for rubbish disposal but the re-emergence of Southwark as an urban centre was attested by the wide array of pottery recovered from these. The small sample of pottery which has been analysed indicated that kitchen and cooking wares were prevalent in the early medieval period (defined as AD 1050-1200) though some imported vessels were already present at this time.
- 8.8 A remarkable object dating to this period was recovered from one of the later 'dark earth' horizons which lay below the later medieval alleyway that became known as Nag's Head Yard. This consisted of a lead seal, a Papal Bulla, which would have been appended to a document as authentication from the Vatican. The Pope's name, Innocent III, was clear on the reverse of the seal which has depictions of St. Peter and St. Paul on the obverse. Innocent III was in office from January 1198 to July 1216. Among his most celebrated actions was the annulment of Magna Carta though other documents from his reign, such as that calling for the Fourth Crusade in 1198, would undoubtedly also have been dispatched to England. There is no way of knowing which document the bulla would originally have been attached to but it's presence on the site is intriguing. Religious establishments were the most probable destinations for communications from the Vatican and though several are present in north Southwark there is no evidence for one on the site. The layer from which the bulla was recovered contained pottery dated AD 1080-1200.



Papal Bulla of Innocent III

- 8.9 A high proportion of vessels associated with serving drinks was apparent in the pottery assemblage dated c. AD 1200-1350 (Jarrett, Appendix 3). Among these are higher quality jugs produced in Surrey and Essex. Initial analysis of the pottery assemblage has suggested that the inns which became the dominant feature of the Borough High Street landscape by the late medieval period might have been established by the late 13th century, the first documentary evidence for them dates to AD 1338.
- 8.10 The high proportion of drink serving vessels apparent in the assemblage described above continued into the late medieval period. By this time, if not earlier, buildings extended well back from the Borough High Street frontage. Chalk and stone foundations extended over most of the areas where more modern basements had not removed the stratigraphy relating to this period.
- 8.11 Two diverse but connected groups of buildings were apparent. Narrow tenements built on thin strip foundations made of chalk and stone extended over the eastern periphery of the site and blocked access further to the east. The alleyway extended from Borough High Street as far as the tenements. To the south of the alleyway the much more substantial basemented building located

there dominated the area. This building, which almost certainly had a substantial stone superstructure, was accessed via a small gravel courtyard which extended south from the alleyway. The solidity of the walls and size of the structure indicate that this was a building of elevated status perhaps suitable as a town residence for a noble, merchant or prominent clergyman.

- 8.12 The large medieval stone building probably remained in use after the tenement buildings located in the east had been demolished. The cesspits associated with these smaller buildings contained pottery dated to the late 15th and 16th centuries which indicates the period in which the buildings went out of use and were replaced by new brick-built structures. The main change in the landscape of the site was the extension of the alleyway further to the east. This was possibly necessitated by the development of the street frontage of King Street, modern Newcomen Street, to the south. If this had blocked access to the area to the east of the site it may have been necessary to extend the alleyway. Considerable further work is required to establish the configuration of the property boundaries used in this period but it is perhaps worth noting that later maps show the Nag's Head public house extending east along the north side of the alleyway beyond the eastern limits of excavation. It is possible that this reflects early post-medieval developments.
- 8.13 Parts at least of the large medieval stone building which stood to the south of the alleyway continued in use into the 16th and 17th centuries, if not later. Further to the east the medieval buildings south of the road had been demolished and replaced by brick structures one of which was a high quality basement. The construction date of the basement has yet to be closely defined but given that it was partially backfilled in the mid 17th century it is reasonable to assume that it was built in the 16th century.
- 8.14 The fragmentary remains of another basement which was constructed in the same period as the building discussed above were recorded to the north of the alleyway. The effects of later impacts on this building, such as modern piling, mean that little can be gleaned regarding the period in which it was in use. However, its presence is notable simply because this area had previously been open ground. It appears that the site was become increasingly densely occupied in the 16th and 17th centuries.
- 8.15 An almost bewildering sequence of redevelopments and remodelling of the buildings located to the south of the alleyway took place in the later post-medieval period. Considerably more work is required to unravel the sequence of developments but it is probable that this area of the site was extensively rebuilt in the later 18th century, possibly as part of a building scheme which was more unified than the piecemeal proceeding developments. Substantial brick walls that all followed the same alignment extended along the southern side of the alleyway which was widened when they

were built. Horwood's map of 1792-1799 shows a single continuous structure on the south side of Nag's Head Yard with a single wall extending along the frontage.

- 8.16 The alleyway was provided with a cobbled surface in the mid 18th century. It appeared that the construction cuts for the walls which defined the southern frontage of the alleyway had truncated this cobble surface and must therefore post-date it.

## 9 Research Review

### 9.1 Original Research Questions

9.1.1 All research is undertaken within the priorities established in the Museum of London's A Research Framework for London Archaeology, 2002. The general aims and objectives for the mitigation are as follows:<sup>100</sup>

- The aim of the forthcoming archaeological work is to characterise, assess and record the archaeological resource within the site.
- Insofar as possible within the methodological constraints, the aims and objectives will be to explain any chronological, spatial or functional relationships between the structures/remains identified, and to link the archaeological results with the data already recovered in the wider area.
- To identify different levels of survival and truncation of archaeological deposits across the site.

9.1.2 The following specific research questions were posed in the Written Scheme of Investigation:

- What evidence is there for prehistoric occupation of the site?
- Can the results of the archaeological investigation contribute to our understanding of the ritual? Roman landscape of the area, which includes ritual pits previously recorded at Swan Street (Beasley 2006), the Tabard Square temple and ritual landscape (Killock et al 2015)?
- Can the location of the Roman Road 1 be further defined in this location and does its location have any impact on the location of any other human burials away from the burial activity recorded at Southwark Bridge Road, Lant Street (Ridgeway, Leary and Sudds 2013), Great Dover Street and Trinity Street (Killock forthcoming)?
- Following on from the recent archaeological investigations at the Church of St George the Martyr by MoLA, can the results of the investigations further refine the location and/or extent of the east-west 'Borough Channel' thought to run to the south of the site?
- How does the site contribute to our understanding of the shifting settlement towards the bridgehead in the later Roman period, and between that already found under the Wolfson Wing and the current Borough High Street?
- What evidence is there for the medieval development of the site? Is there any further evidence of the medieval origins of the coaching inns?

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<sup>100</sup> Moore, P 2014



- What evidence is there for the development of the coaching inns on the site during post-medieval period? What other activities dating from the 16th to 19th centuries can be found on the site?

## 9.2 Research Questions: Excavation Results Review

9.2.1 The general aims and objectives as set out in the Written Scheme of Investigation have been or will be met by the excavation of the site and the ongoing analysis of the stratigraphic records and finds assemblages.

9.2.2 No evidence was recovered for prehistoric occupation of the site, at least in the form of features or deposits none of which can currently be shown to pre-date the establishment of the Roman settlement on Southwark. However, some flint objects were recovered such as the very finely worked flint arrowhead Sf <900> which was recovered from a Roman context. Further analysis of these objects should identify periods in which the site was frequented if not occupied.

9.2.3 The site lies some distance to the north of the Tabard Square and Swan Street sites both of which are located on the 'mainland' of south London. Some of the later Roman features did show evidence of structured deposition. The pottery assemblage contained numerous vessels which had holes made in them after firing, a practice generally associated with votive deposits. The presence of tazzae, face pots and triple vases also point to the importance placed on ritual.

9.2.4 No direct evidence was uncovered which demonstrated the line of the road, either in the form of road surfaces or roadside ditches.

9.2.5 No human burials were recorded during the excavation.

9.2.6 The Borough Channel, which separated the 'mainland' of south London from the southern island, lies some distance to the south of the site.

9.2.7 The apparent shrinking of the occupied area in Southwark toward the bridgehead has long been the subject of debate. There can be no doubt that some areas which had been built on in the early Roman period became open ground as they were used for burial in the 3rd and 4th centuries<sup>101</sup>. However, recent excavation combined with the widespread use of metal detectors have demonstrated that a far more complex pattern of settlement existed in late Roman Southwark. The excavations at Tabard Square have shown a strong late Roman presence in the area which continued into the early fifth century<sup>102</sup>, as have cemetery studies conducted in the same area<sup>103</sup>. The late Roman settlement was not simply shrinking toward a small bridgehead in this period. The

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<sup>101</sup> Cowan, C 2003 *Urban development in north-west Roman Southwark: excavations 1974-1990* MoLAS Monograph Series 164

<sup>102</sup> Killock *et al* 2015 *Temples and Suburbs Excavations at Tabard Square, Southwark* PCA Monograph 17  
Gerrard, J 2011 *New light on the end of Roman London* The Archaeological Journal 168, 181-94

<sup>103</sup> Killock forthcoming

excavation at 127-143 Borough High Street once again demonstrated how difficult it is to identify late Roman buildings, with the exception of those made from stone. However, the vast majority of the coins recovered during the excavation date to the 4th century. The nature of the late Roman occupation is poorly understood and the majority of the pottery has yet to be dated but the coin evidence alone demonstrates continued occupation of the site.

- 9.2.8 Full analysis of the Roman remains documented during the excavation has yet to be undertaken. The Roman sequence has not yet been compared with that from the adjoining Wolfson Wing excavation, though both will be combined in a single publication (see below).
- 9.2.9 The medieval period is very well represented at Borough High Street. The remains present range from pits and wells to buildings built on chalk and stone foundations. The results of early assessment are presented in this document. As yet none of the buildings have been identified definitively as an inn but initial assessment of the pottery assemblages has suggested that inns may have been present from as early as the late 13th century.
- 9.2.10 The cartographic and documentary evidence clearly shows that inns were found on and around the site. Nag's Head Yard, the main thoroughfare through the site running eastward from Borough High Street, survived as both a gravel surface which initially dated to the medieval period and later a cobbled surface. Unfortunately the area to the north of the alleyway where the Nag's Head stood had been impacted by modern basements to a level where very few post-medieval remains were extant. The later development of this building has therefore largely been lost. However, some of the buildings recorded on the southern side of the alleyway may still have been associated with the inn. Further analysis of the finds assemblages will be required to demonstrate the nature of the activities being carried out on the site.

### **9.3 New Research Questions**

- 9.3.1 Although no features were found which date to the prehistoric period residual flintwork was present suggesting that the site was at least frequented in earlier periods. What periods are represented by the flint assemblage and how do these compare with the known prehistoric developments from the surrounding area?
- 9.3.2 Initial analysis of the pottery and coin assemblages has not identified any pre-Flavian activity on the site, although the revetted palaeochannel may have been active in this period. Are there any assemblages or features which can be dated to this period?
- 9.3.3 The site appears to have been densely occupied in the later 1st and 2nd centuries with fragmentary buildings being present in most areas where stratigraphy dated to this period survived. Were the buildings purely residential or do they also present evidence of industrial/craft or commercial activities?

- 9.3.4 Later Roman deposits and features were recorded during the excavation and a substantial corpus of late Roman coins recovered, mainly from the 'dark earth' horizon. What was the status and landuse of the site in the later Roman period?
- 9.3.5 How does the development of the site in the Roman period compare or contrast to that recorded during the excavation of the Wolfson Wing which adjoins the site to the east?
- 9.3.6 How can the Roman sequence advance our understanding of how this area of the south island developed in the Roman period?
- 9.3.7 Is the pottery sample from the selected Roman contexts representative of the whole assemblage?
- 9.3.8 How does the Roman pottery assemblage compare to those of other excavations at Borough High Street, of Southwark, and of the City?
- 9.3.9 Is there any other artefactual or ecofactual evidence on the site for Roman ritual activity? How do these relate to the pottery assemblages?
- 9.3.10 Does the Roman pottery assemblage reflect on the function and any changes in function of the site over time?
- 9.3.11 How do the well assemblages compare to other Roman well deposits in the area?
- 9.3.12 Can the chronology of the site and of specific Roman buildings/land uses be refined using the pottery evidence?
- 9.3.13 What are the trade links to the site in the Roman period and how did these change over time?
- 9.3.14 How do the trade links compare with the evidence for long distance exchange observed at other Roman sites in the vicinity?
- 9.3.15 An iconic Middle Saxon object, a double ended pin beater, was recovered during the excavation. A bone comb also dates to this or a slightly later Saxon period. Can any features be dated to the Middle or Late Saxon period or are there other residual objects dating to these period?
- 9.3.16 At what date was the site re-occupied in the medieval period? What are the earliest features indicating that urban life had been re-established along the line of the main road?
- 9.3.17 How did the site develop in the medieval period as buildings spread to the east away from the main street frontage?
- 9.3.18 Can the functions of the buildings recorded during the excavation be demonstrated from the finds assemblages associated with them? Inns are well documented on the site, what other activities are represented in the finds assemblages?
- 9.3.19 How do developments on the site in the medieval period connect with those documented on the adjoining Wolfson Wing?

- 9.3.20 Can documentary research help establish property boundaries, landuse and ownership during the medieval period?
- 9.3.21 How did the site develop in the early post-medieval period? Can the functions of the recorded buildings be established from the associated finds assemblages and documentary data?
- 9.3.22 What are the activities represented in the archaeological record during the early post-medieval period?
- 9.3.23 Can the extension of Nag's Head Yard in this period be linked directly to the developments recorded on the Wolfson Wing to the east?
- 9.3.24 Can the functions of the later post-medieval buildings be established? Most of the recorded buildings lie to the south of Nag's Head Yard. Can these properties be linked to the inn or did they have diverse functions and ownership?
- 9.3.25 Preservation of environmental material in the environmental samples was generally good, likely as a result of the waterlogged nature of the sediment matrix. Wood charcoal was abundant throughout, the analysis of which could provide valuable information regarding the local environment of the site, as well as the types of wood that are being exploited as a fuel resource.
- 9.3.26 Seed remains were also well preserved, an initial assessment of which suggests the presence of several fruit species that may have been cultivated for consumption on site, or perhaps gathered from wild populations in the local area. Once a complete assessment of the sample residues has been carried out, it is recommended that this material be further identified along with the burnt cereal and crop remains.
- 9.3.27 The lack of well preserved terrestrial molluscs, and the waterlogged nature of some of the deposits indicates good conditions for the preservation of pollen; it is therefore also recommended that suitable column samples be selected and a low resolution pollen assessment be carried out to determine viability.
- 9.3.28 Can the analysis of environmental remains demonstrate how the natural environment and food production/consumption altered over the extended arc of time represented in the archaeological record?

#### **9.4 Publication Synopsis**

- 9.4.1 The results of the excavation will be fully published in conjunction with those of the as yet unpublished excavation conducted on the Wolfson Wing. It is anticipated that these will form a monograph detailing landuse on these two adjoining sites.

## 10 Acknowledgements

- 10.1 Pre-Construct Archaeology Limited would like to thank all the project team for their help throughout the project, but especially to Paul Hartmann, Tanmay Desai and Bernie Long of King's College London for funding the work and their support. We would also like to thank Caine MacNeill, Paul Conibere, Victoria Simpson and Michael Groves of LTS Architects, Michael O'Regan of Ross & Partners, Richard Maung of Deloitte LLP, and Paul Ford, Pat Slattery, Michael Juravle, Mick Durie and George Swain of Deconstruct. Special thanks are also due to Dr Chris Constable, Chief Archaeological Officer for London Borough of Southwark, for his support and encouragement in the entire process.
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## APPENDIX 1: Oasis Data Entry Form

OASIS ID: preconst1-259466

### Project details

Project name	127-143 Borough High Street
Short description of the project	Full excavation of a basement area covering c. 1050m2. The archaeological sequence included a revetted Roman palaeochannel, Roman clay and timber buildings, wells and pits. Features and finds dated from the late 1st to late 4th/early fifth centuries. The Roman stratigraphy was sealed by a substantial 'dark earth' horizon which contained numerous Roman coins along with late Roman and medieval pottery. The medieval period was well represented by pits, a gravel road/alleyway and extensive building remains founded on chalk and stone footings. The most substantial medieval building remained in use in the early post-medieval period when the alleyway was extended and the smaller structures were demolished. The earlier buildings were replaced by new structures built in brick. These probably date to the 16th century. The site continued to be intensely occupied throughout the 17th -19th centuries as evidenced by numerous rebuilds and remodelling of the buildings
Project dates	Start: 17-03-2015 End: 20-09-2015
Previous/future work	Yes / No
Any associated project reference codes	BOH 13 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Vacant Land 1 - Vacant land previously developed
Monument type	PALAEOCHANNEL Roman
Monument type	PIT Roman
Monument type	DITCH Roman
Monument type	BUILDING Roman
Monument type	WELL Roman
Monument type	PIT Medieval
Monument type	DITCH Medieval
Monument type	WELL Medieval
Monument type	WALL Medieval
Monument type	ALLEY Medieval
Monument type	WALL Post Medieval
Monument type	FLOOR Post Medieval
Monument type	PIT Post Medieval

Monument type	WELL Post Medieval
Monument type	SOAKAWAY Post Medieval
Monument type	ALLEY Post Medieval
Significant Finds	LEAF ARROWHEAD Neolithic
Significant Finds	POT Roman
Significant Finds	TILE Roman
Significant Finds	COIN Roman
Significant Finds	PIN Roman
Significant Finds	BROOCH Roman
Significant Finds	RING Roman
Significant Finds	PIN BEATER Early Medieval
Significant Finds	COMB Early Medieval
Significant Finds	POT Early Medieval
Significant Finds	POT Medieval
Significant Finds	TILE Medieval
Significant Finds	BULLA Medieval
Significant Finds	GLASS Roman
Significant Finds	GLASS Medieval
Significant Finds	POT Post Medieval
Significant Finds	TILE Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	TOBACCO PIPE Post Medieval
Significant Finds	COIN Post Medieval
Investigation type	"Full excavation"
Prompt	Direction from Local Planning Authority - PPS

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### Project location

Country	England
Site location	GREATER LONDON SOUTHWARK SOUTHWARK 127-143 Borough High Street
Postcode	SE1 1NP
Study area	1670 Square metres
Site coordinates	TQ 3261 8002 51.503037409813 -0.089152730144 51 30 10 N 000 05 20 W Point

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### Project creators

Name of Organisation	Pre-Construct Archaeology Limited
Project brief originator	Chris Constable
Project design originator	Peter Moore
Project director/manager	Peter Moore
Project supervisor	Douglas Killock
Type of sponsor/funding body	Developer
Name of sponsor/funding body	Kings College London

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### Project archives

Physical Archive recipient	LAARC
Physical Archive ID	BOH 13
Physical Contents	"Animal Bones", "Ceramics", "Environmental", "Glass", "Industrial", "Leather", "Metal", "Textiles", "Work ed stone/lithics"
Digital Archive recipient	LAARC
Digital Archive ID	BOH 13
Digital Media available	"Database", "Images raster / digital photography", "Survey", "Text"
Paper Archive recipient	LAARC
Paper Archive ID	BOH 13
Paper Media available	"Context sheet", "Drawing", "Matrices", "Plan", "Report", "Section", "Survey ", "Unpublished Text"

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### Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)
Title	Summary Assessment of An Archaeological Excavation at 127-143 Borough High Street, London Borough of Southwark, London SE1 1NP
Author(s)/Editor(s)	Killock, D )
Date	2016

Issuer or publisher	PCA
Place of issue or publication	Brockley
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## OASIS:

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Cite only: <http://www.oasis.ac.uk/form/print.cfm> for this page

## APPENDIX 2: Interim Report On The Romano-British Pottery

By Eniko Hudak

Excavations at 127-143 Borough High Street, London Borough of Southwark (BOH13) produced a very large amount of Roman pottery. Overall, the assemblage seems to include a great variety of imported and Romano-British forms and fabrics dating to both the early and late Roman period. There also seems to be a large amount of amphorae, a wide variety of drinking vessels, and a range of vessels linked to the preparation as well as serving of foodstuffs showing signs of burning, limescale, and heavy usage.

For the purpose of this interim report, pottery from selected contexts was subjected to a rapid assessment including spotdating, the results of which are summarised in Table 1 below. Individual context assemblages ranged in size from single sherds to several boxes, and contained minute-fragments to complete vessels. There are a range of fabrics represented with an emphasis on the early Roman period, especially the late 1<sup>st</sup> and early 2<sup>nd</sup> centuries AD, including typical early Roman fabrics such as VRW, HWC, AHSU, CCGW, LOMI, and LONW. There is also a large amount of BAET and GAUL amphorae sherds, and a considerable amount of *Terra Sigillata*, some with stamps and even *graffiti*.

The most important assemblages come from the fills of three timber box wells on the site. The pottery from these contexts includes several near-complete and complete vessels, as well as numerous sherds with post-firing holes. These, and the presence of fragments of *tazzae*, face pots, lamps and triple-vases in the assemblage could all be indicative of ritual activity on the site.

The largest assemblage was recovered from fill (2295) of Well [2326]. It includes large amounts of BB1 4M1 type flanged bowls (dated to after AD250) and 5J plain dishes, a complete Central Gaulish beaker with white barbotine decoration, a near-complete MHAD flagon, numerous fragments of CGBL, MOSL, and NVCC indented beakers, and some possibly residual earlier material. Fill (2376) yielded a much smaller assemblage, but also included BB1, NVCC, CGBL, MOSL and late BAET amphora fragments. The backfill of the construction cut for the well (2338) produced a medium assemblage, which, not surprisingly, is mixed in date and contains residual late 1<sup>st</sup> and early 2<sup>nd</sup> century material, as well as some later fabrics including a Gallia Belgica *mortarium* fragment (dated AD150-200) and a NAFR amphora sherd (AD140-400).

Wells [3315] and [3679] are, however, earlier in date. Fill (3314) of Well [3315] contains large fragments of a LONW 4E-type bowl with incised compass decoration (AD90-120), VRW 7HOF-type *mortarium* (AD50-120) and 1B-type ring-neck flagon (AD50-200), and large fragments of BAET amphorae. The backfill (3661) of the construction cut of Well [3679] produced sherds of similar date, including a fairly complete spout fragment from a LOMI spouted strainer (AD70-120). The fill (3680) of Well [3679], however, seems to be slightly later in date with the presence of BB2 2F type jar fragments (AD120-250) shifting its earliest date in the early 2<sup>nd</sup> century.



Sherds of intrinsic interest also include a near-complete TSK jar from (2085), which seems to be burnt in places, and only the rim of the vessel is missing. There are also two Central Gaulish exotica sherds in the assemblage: one from (3620) with very detailed moulded decoration representing a veiled female figure with two children, and a nude male. This sherd is from a vessel which was probably made by Samian potters at Lezoux in the Antonine period (J. Bird pers. comm.). And the other from (2613) with a single nude male figure with a cloth wrapped around one arm, an almost exact parallel to which was found at the Drapers' Gardens excavations.

Overall, the assemblage is of great interest and of importance, and offers the potential of aiding the chronological and functional analysis of the site. It is highly recommended to study this material in more detail, especially the well assemblages along with other types of artefacts, such as the horn cores and butchery deposits. The following questions need to be borne in mind when processing and analysing the complete site assemblage:

- Is the sample from the selected contexts representative of the whole assemblage?
- How does the assemblage compare to those of other excavations at Borough High Street, of Southwark, and of the City?
- Is there any other artefactual or ecofactual evidence on the site for ritual activity? How do these relate to the pottery assemblages?
- Does the pottery assemblage reflect on the function and any changes in function of the site over time?
- How do the well assemblages compare to other Roman well deposits in the area?
- Can the chronology of the site and of specific buildings/land uses be refined using the pottery evidence?
- What are the trade links to the site and how did these change over time?

Context	Size	Spotdate	Notes
1963	VL	AD250/270-400	both residual early Roman and intrusive PMED sherds
2192	S	AD240-400	some residual
2207	M	AD120-150	
2233	S	AD120-160	
2250	S	AD70-100/130	
2295	VL	AD250-275	some residual; complete vessels
2338	M	AD150-160/200	mixed, some residual
2347	S	AD50-70/100	
2376	M	AD200-250/275	some residual
2595	S	AD70-150	
2613	L	AD70-120/130	incl. exotica sherd, which could be slightly later
2634	S	AD50-200	
2653	S	AD70-120	

2654	S	AD50-300	single sherd
2660	M	AD120-150	
2683	S	AD70-160	
2814	S	AD50-100	
2826	M	AD70/90-100	
2888	L	AD70-100	
2941	M	AD70-100	
2960	S	AD70-100	
3020	S	AD70-120	
3036	S	AD70-100/150	
3047	M	AD70-130	
3314	L	AD70-120	many large fragments
3373	S	AD50-250	
3661	M	AD70-120	
3680	M	AD120-150	

Table 1 - Spotdates

## **APPENDIX 3: Post-Roman Pottery Report (Selected Contexts: BOH 13)**

**By Chris Jarrett**

### **Introduction**

This pottery assessment considers 28 targeted 'key contexts' from a large assemblage of Post-Roman pottery that totals at least 60 boxes. These prioritised contexts were chosen in order to determine their date (and therefore assist in the dating and phasing of the stratigraphy), determine what site activities can be recognised and allow for a preliminary comparison of the assemblage to others in Southwark and particularly those from Borough High Street. One sherd of pottery dates to the Late Saxon period and is almost certainly residual, while the rest of the assemblage dates from the late 11th century through to the end of the 18th and start of the 19th century. The prioritised contexts contain groups of pottery dated to each of the centuries represented within the aforementioned time period.

In order for the targeted contexts to be speedily assessed and provide an impression of what pottery types and forms exist in the assemblage the material was only quantified by minimum number of vessels. This gives an indication that small, medium and large sized groups of pottery exist in the rest of the assemblage. The material studied here is mostly in a good condition, except for a very few abraded sherds and indicates that the majority of the pottery was deposited soon after breakage. The groups of pottery studied consist of mostly sherd material with identifiable forms recorded, some of which have complete profiles or large parts of the forms survive. A tin-glazed earthenware ointment pot was the only intact vessel. The pottery was classified following to the system used by Museum of London Archaeology (MOLA 2014).

Medieval and post-medieval pottery occurs as similar quantities and can be quantified as belonging to the following periods

Medieval: 137 MNV

Medieval/post-medieval: 6 MNV

Post-medieval: 133

The assemblage is discussed by context as an index with the pottery types organised according to the earliest types represented. There then follows a summary of the pottery and its function by period.

### **Index**

**Context [847], spot date: 1580–1600**

London-type ware (LOND), 1080–1350, 2 MNV, form: jug

Spanish unsourced amphora (SPOA), 1200–1900, 1 MNV

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 2 MNV, form: jar

Cheam whiteware (CHEA), 1350–1500, 1 MNV

London-area early post-medieval redware (PMRE), 1480–1600, 1 MNV, form: jar

Surrey-Hampshire border whiteware with green glaze (BORDG), 1550–1700, 1 MNV, form: porringer

London-area post-medieval redware (PMR), 1580–1900, 1 MNV

Total: 9 MNV

### **Context [892], spot date: 1480–1600**

Early Surrey-Hampshire border whiteware (EBORD), 1480–1550, 2 MNV, form: drinking jug, money box

Cistercian ware (CSTN), 1480–1600, 2 MNV, form: rounded jug

London-area early post-medieval redware (PMRE), 1480–1600, 3 MNV, form: cauldron

Raeren stoneware (RAER), 1480–1610, 1 MNV, form: rounded drinking jug,

Total: 8 MNV

### **Context [989], spot date: 1720–1740**

Early medieval sandy ware with calcareous inclusions (EMCALC), 1000–1150, 1 MNV

South Hertfordshire-type greyware (SHER), 1170–1350, 1 MNV

Surrey-Hampshire border whiteware with green glaze (BORDG), 1550–1700, 2 MNV

Surrey-Hampshire border whiteware with clear (yellow) glaze (BORDY), 1550–1700, 3 MNV

Frechen stoneware (FREC), 1550–1700, 3 MNV, form: rounded jug

Surrey-Hampshire border redware (RBOR), 1550–1900, 1 MNV, form: jar

English tin-glazed ware (TGW), 1570–1846, 2 MNV

London biscuit-fired tin-glazed ware (TGW BISC), 1570–1846, 1 MNV

Essex-type post-medieval black-glazed redware (PMBL), 1580–1700, 1 MNV, form: cylindrical mug

Essex-type post-medieval fine redware (PMFR), 1580–1700, 7 MNV, form: bowl or dish

Essex-type post-medieval fine redware with brown glaze (PMFRB), 1580–1700, 1 MNV, form: bowl

London-area post-medieval redware (PMR), 1580–1900, 1 MNV, form: jar

Westerwald stoneware (WEST), 1590–1900, 1 MNV, form: rounded mug

Surrey-Hampshire border whiteware with brown glaze (BORDB), 1600–1700, 1 MNV

London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style D) (TGW D), 1630–1680, 4 MNV: form: charger

Metropolitan slipware (METS), 1630–1700, 1 MNV, form: dish

London tin-glazed ware with plain pale blue glaze (TGW BLUE), 1630–1846, 1 MNV

Staffordshire-type combed slipware (STSL), 1660–1870, 2 MNV

London tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H) (TGW H), 1680–1800, 4 MNV, form: plate

Dipped white salt-glazed stoneware (SWSL) 1710–1760, 1 MNV

White salt-glazed stoneware (SWSG), 1720–1780, 1 MNV, form: bowl

Miscellaneous unsourced medieval/post-medieval pottery (MISC), 900–1500, 1 MNV

Total: 41 MNV

### **Context [1082], spot date: 18th century**

Surrey-Hampshire border redware with slip-trailed decoration (RBOR SLTR), 1580–1800, 1 MNV, form: rounded dish

London-area post-medieval redware (PMR), 1580–1900, 1 MNV, white lead making industrial vessel

Chinese blue and white porcelain (CHPO BW) 1590–1900, 1 MNV, form: bowl

Total: 3 MNV

### **Context [1208], mid 17th century**

Surrey-Hampshire border whiteware with green glaze (BORDG), 1550–1700, 1 MNV, form: rounded dish

Surrey-Hampshire border whiteware with olive glaze (BORDO) 1550–1700, 1 MNV, form: rounded mug

Surrey-Hampshire border whiteware with clear (yellow) glaze (BORDY), 1550–1700, 6 MNV, forms: rounded and carinated bowls, chamber pot, money box, tripod pipkin (external lid-seated rim)

Frechen stoneware (FREC), 1550–1700, 5 MNV, form: bartmannen

Surrey-Hampshire border redware (RBOR), 1550–1900, 2 MNV, form: rounded bowls

London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style A) (TGW A), 1570–1650, 3 MNV, form: charger

London biscuit-fired tin-glazed ware (TGW BISC), 1570–1846, 2 MNV, upright candlestick

Essex-type post-medieval fine redware (PMFR), 1580–1700, 3 MNV, two-handled flared bowl, rounded jar, rounded jug,

Essex-type post-medieval fine redware with brown glaze (PMFRB), 1580–1700, 3 MNV, form: jug

London-area post-medieval redware (PMR), 1580–1900, 1 MNV4 MNV, form: two-handled flared bowl, deep flared bowl, cauldron, two handled jars, tripod pipkins

Martincamp-type ware type III flask (red earthenware) (MART3), 1600–1650, 1 MNV

Surrey-Hampshire border whiteware with brown glaze (BORDB), 1600–1700, 1 MNV, rounded mug  
London tin-glazed ware with blue- or polychrome-painted decoration and external lead glaze (Orton style D) (TGW D), 1630–1680, 3 MNV form: charger  
Metropolitan slipware (METS), 1630–1700, 4 MNV, form: rounded dishes  
London tin-glazed ware with plain white glaze (Orton style C) (TGW C), 1630–1846, 1 MNV, form: ointment pot (intact: SF 233)  
London tin-glazed ware with manganese-mottled glaze (Orton style B) (TGW B), 1630–1680, 1 MNV, form: rounded mug

Total: 51 MNV

**Context [1274], spot date: 1480–1550**

Saintonge unglazed ware (SAIU), 1250–1650, 1 MNV,  
Coarse Surrey-Hampshire border ware cooking pot with flat-topped rim (CBW FT), 1340–1500, 1 MNV  
Late London-type slip-coated ware (LLSL), 1400–1500, 1 MNV  
Early Surrey-Hampshire border whiteware (EBORD), 1480–1550, 1 MNV,  
London-area early post-medieval redware (PMRE), 1480–1600, 1 MNV, form: cauldron  
London-area post-medieval slipped redware with clear (yellow) glaze (PMSRY), 1480–1650, 3 MNV, form: small rounded bowl, cauldron or pipkin, chafing dish

**Context [1317], spot date: 1480–1550**

Dutch slipped red earthenware (DUTSL) 1300–1650, 1 MNV, form: basket handled-jar  
Cistercian ware (CSTN), 1480–1600, 1 MNV, form: rounded mug  
London-area early post-medieval redware (PMRE), 1480–1600, 2 MNV, form: pitcher, carinated bowl  
Raeren stoneware (RAER), 1480–1610, 1 MNV, form: rounded drinking jug  
London-area post-medieval slipped redware with clear (yellow) glaze (PMSRY), 1480–1650 1 MNV, form: medium sized carinated bowl  
Miscellaneous unsourced post-medieval pottery (MISC), 1480–1900, 1 MNV, form: rounded jug

Total: 8 MNV

**Context [1376], spot date: 1270–1300**

London-type ware (LOND), 1080–1350, 1 MNV, form: jug  
Kingston-type ware in the highly decorated style (KING HD), 1240–1300, 1 MNV, form: jug

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 1 MNV

Miscellaneous unsourced medieval/post-medieval pottery (MISC), 900–1500, 1 MNV

Total: 4 MNV

**Context [1384], spot date: 1480–1500**

Coarse London-type ware (LCOAR), 1080–1200, 1 MNV, form: jug

London-type ware (LOND), 1080–1350 1 MNV, form: jug

South Hertfordshire-type greyware (SHER), 1170–1350, 3 MNV

London-type ware with Rouen-style decoration (LOND ROU), 1180–1270, 1 MNV, form: jug

London-type ware in the highly decorated style (LOND HD), 1240–1350, 1 MNV, form: jug

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 5 MNV, form: cooking pot, biconical drinking jug, jug

Dutch red earthenware (DUTR), 1300–1650, 1 MNV

Late medieval Hertfordshire glazed ware (LMHG), 1340–1450, 2 MNV

Langerwehe/Raeren stoneware (LARA) 1450–1500, 1 MNV, form: drinking jug,

Raeren stoneware (RAER), 1480–1610, 1 MNV, form: jug

Total: 17 MNV

**Context [1412], spot date: 1350–1500**

Cheam whiteware (CHEA), 1350–1500, 1 MNV, form: jug

**Context [1496], spot date: 1480–1500**

Rhenish Tiel-type greyware RHGR 900–1100, 1 MNV

London-type ware (LOND), 1080–1350, 9 MNV, form: jug

Shelly-sandy ware (SSW), 1140–1220, 1 MNV, form: cooking pot

South Hertfordshire-type greyware (SHER), 1170–1350, 1 MNV, form: cooking pot

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 6 MNV, form: drinking jug

Coarse Surrey-Hampshire border ware cooking pot with flat-topped rim (CBW FT), 1340–1500, 1 MNV

Dutch red earthenware with folded handles (DUTR), FH 1480–1650, 1 MNV, form: frying pan

Total: 20 MNV



**Context [1603], spot date: 1270–1350**

Andenne-type ware (ANDE), 1050–1200, 1 MNV, form: pitcher  
Coarse London-type ware (LCOAR), 1080–1200, 3 MNV, form: jug  
London-type ware (LOND), 1080–1350, 5 MNV, form: jug, including a spouted example  
Shelly-sandy ware (SSW), 1140–1220, 1 MNV, form: cooking pot  
Limpsfield-type ware (LIMP), 1150–1300, 2 MNV, form: cooking pot  
South Hertfordshire-type greyware (SHER), 1170–1350, 1 MNV, form: cooking pot  
London-type ware with Rouen-style decoration LOND ROU 1180–1270, 1 MNV, form: jug  
Earlswood-type ware (EARL), 1200–1400, 2 MNV, form: jug  
Kingston-type ware in the highly decorated style (KING HD), 1240–1300, 1 MNV, form: jug  
Kingston-type ware (KING), 1240–1400, 1 MNV, form: jug  
Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 3 MNV, form: jug

Total: 21 MNV

**Context [1628], spot date: 1140–1200**

Early Surrey ware (ESUR), 1050–1150, 1 MNV, form: pitcher  
Andenne-type ware (ANDE), 1050–1200, 1 MNV, form: cooking pot  
Coarse London-type ware (LCOAR), 1080–1200, 1 MNV, form: cooking pot  
Shelly-sandy ware (SSW), 1140–1220, 2 MNV, form: cooking pot

**Context [1660], spot date: 1350–1500**

Coarse London-type ware with shell inclusions (LCOAR SHEL) 1080–1200, 1 MNV  
Kingston-type ware (KING), 1240–1400, 1 MNV, form: jug  
Late Rouen ware (ROUL), 1250–1350, 1 MNV, form: jug  
Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 1 MNV, form: biconical jug  
Coarse Surrey-Hampshire border ware large rounded jug (CBW LGR), 1 MNV, 1340–1500  
Cheam whiteware (CHEA), 1350–1500, 1 MNV, form: conical jug

Total: 6 MNV

**Context [1662], spot date: 1400–1500**

Brill/Boarstall ware BRIM 1250–1500, 1 MNV, form: rounded jug

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 1 MNV

Coarse Surrey-Hampshire border ware large rounded jug (CBW LGR), 1340–1500, 1 MNV

Late London-type ware (LLON), 1400–1500, 1 MNV, cauldron

Total: 4 MNV

**Context [1727], spot date: 1080–1200**

Early medieval crucible fabric (EMCR), 1000–1200, 1 MNV

Early Surrey ware (ESUR) 1050-1150 1 MNV, form: cooking pot

Andenne-type ware (ANDE), 1050–1200, 1 MNV, form: pitcher

Coarse London-type ware (LCOAR), 1080–1200, 3 MNV, jug

Rhenish Tiel-type greyware (RHGR) 900–1100, 1 MNV

Total: 7 MNV

**Context [1864], spot date: 1780–1810**

Surrey-Hampshire border whiteware with green glaze (BORDG), 1550–1700 1 MNV

Frechen stoneware (FREC), 1550–1700 2 MNV, form: rounded jug

Surrey-Hampshire border redware (RBOR), 1550–1900 2 MNV, form: flared dish, paint pot

London tin-glazed ware with pale blue glaze and dark blue decoration (Orton and Pearce style H) (TGW H), 1680–1800 1 MNV, form: plate

White salt-glazed stoneware (SWSG), 1720–1780 1 MNV, form: tea bowl

Chinese porcelain with famille rose decoration (CHPO ROSE), 1720–1800 1 MNV, form: medium rounded bowl

Pearlware with under-glaze blue-painted decoration (PEAR BW), 1770–1820 2 MNV, form: dinner plate

Total: 10 MNV

**Context [1963], spot date: 1140–1220**

Late Saxon shelly ware (LSS), 900–1050 1 MNV

Early medieval shell-tempered ware (EMSH), 1050–1150 1 MNV, form: cooking pot

Shelly-sandy ware (SSW), 1140–1220 1 MNV, form: cooking pot

London-type ware baluster jug (LOND BAL), 1180–1350 1 MNV

Total: 4 MNV

**Context [2350], spot date: 1300–1500**

London-type ware (LOND), 1080–1350, 4 MNV, form: jug

Essex unsourced sandy orange ware (SOWX), 1200–1550, 1 MNV, form: jug

Kingston-type ware (KING), 1240–1400, 1 MNV, form: possibly a metal-copy jug

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 4 MNV, form: jug

Dutch red earthenware (DUTR), 1300–1650, 1 MNV

Miscellaneous unsourced medieval pottery (MISC), 900–1500, 1 MNV

Total: 12 MNV

**Context [2364], spot date: 1080–1350**

London-type ware (LOND), 1080–1350, 2 MNV, form: jug

**Context [2365], spot date: 1500–1580**

Dutch red earthenware (DUTR), 1300–1650, 1 MNV, form: rounded jar

Essex late medieval transitional ware LMTX 1350–1600, 1 MNV

London-area post-medieval slipped redware with clear (yellow) glaze (PMSRY), 1480–1650, 2 MNV, form: bowl or dish

Cologne stoneware (KOLS), 1500–1580, 1 MNV, form: rounded mug

Total: 5 MNV

**Context [2377], spot date: 1290–1350**

Limpsfield-type ware (LIMP), 1150–1300, 1 MNV, form: cooking pot

Kingston-type ware (KING), 1240–1400, 3 MNV, form: cooking pot, ?figurine

Coarse Surrey-Hampshire border ware (CBW), 1270–1500, 1 MNV, form: jug

Mill Green ware with polychrome decoration (MG POLY), 1290–1350, 1 MNV, form: jug (sherd link [2387])

Total: 6 MNV

**Context [2387], spot date: 1290–1350**

London-type ware (LOND), 1080–1350, 1 MNV, form: jug

Mill Green ware with polychrome decoration (MG POLY), 1290–1350, 1 MNV, form: jug (sherd link [2387])

Total: 2 MNV

**Context [2394], spot date: 1500–1550**

Early Surrey-Hampshire border whiteware (EBORD), 1480–1550, 1 MNV, form: jug

Martincamp-type ware type I flask (buff earthenware) (MART1), 1480–1550, 1 MNV

London-area early post-medieval redware (PMRE), 1480–1600, 2 MNV, form: cauldrons

Martincamp-type ware type II flask (dark brown stoneware) (MART2), 1500–1600, 1 MNV

Total: 5 MNV

**Context [2408], spot date: 1310–1350**

Miscellaneous unsourced medieval/post-medieval pottery (MISC), 900–1500, 1 MNV, form: jug

Coarse London-type ware (LCOAR), 1080–1200, 1 MNV, form: jug

London-type ware (LOND), 1080–1350, 2 MNV, form: jug

Kingston-type ware (KING), 1240–1400, 1 MNV, form: jug

Kingston-type ware small rounded jug (KING SMR), 1310–1400, 1 MNV

Total: 6 MNV

**Context [2409], spot date: 13th century**

London-type ware baluster jug (LOND BAL), 1180–1350, 1 MNV, form: jug

Earlswood-type ware (EARL), 1200–1400, 1 MNV, form: jug (highly decorated period)

Total: 2 MNV

**Context [3473], spot date: 1270–1330**

Mill Green ware conical jug (MG CON), 1270–1330, 1 MNV, SF 895

Mill Green ware (MG), 1270–1350, 1 MNV, form: jug

Total: 2 MNV

### **Context [3677], spot date: 1240–1300**

London-type ware (LOND), 1080–1350, 3 MNV, form: jug

South Hertfordshire-type greyware (SHER), 1170–1350, 3 MNV, form: jugs

Kingston-type ware in the highly decorated style (KING HD), 1240–1300, 1 MNV, form: jug

Kingston-type ware (KING), 1240–1400, 1 MNV, form: conical jug

Total: 8 MNV

### **Discussion of the pottery and its functions by period**

#### **Early medieval**

There are three contexts ([1628], [1727] and [1963]) assigned to the early medieval period (c. 1050–1200), although all deposits contained London-type wares (LCOAR and LOND) and as the pottery type is generally a rare late 11th century occurrence, then it is more than likely that all three deposits date from the 12th century, which is backed up by the absence of early medieval sandy ware, dated c. 970–1100. The probable absence of 11th century deposits would fit in with the hypothesis that the settlement on Borough High Street was established as the 10th-century defended Bridge Head settlement and from the late 11th century ribbon development expanded southwards, along the old Roman road of Watling Street. The London-type wares provide the main source of pottery (8 MNV) and occur mainly as jug sherds, except for three cooking pots (LCOAR: context [1727]) and shelly sandy ware (two examples: contexts [1628] and [1963]). All of the other sources of pottery are only represented by two vessels or less and include cooking pots in Early Surrey ware (two examples: contexts [1628] and [1727]), while only one example occurs in early medieval shelly ware, which is from a Thames Valley source. An industrial vessel is represented by a single sherd of a crucible with a clay cladding and an external 'self glaze' (EMCR: context [1727]). There are three imported vessels and these consist of a single sherd from a Rhenish Tiel-type greyware vessel (context [1727]), while from the Low Countries are two clear-/yellow-glazed Andenne-type ware pitchers: contexts [1628] and [1727]. The latter example is further decorated with applied pinched strips.

The functions of the pottery in the early medieval period are more concerned with the kitchen and cooking (53.8% MNV) than with drink serving forms (38.5% MNV) and the industrial crucible accounts for (7.7% MNV).



## **Medieval**

This period concerns the 'high medieval' period, c. 1200–1350 and pottery was recovered from ten contexts: [1376], [1603], [2350], [2364], [2377], [2387], [2408], [2409] [3473] and [3677]. The main source of the pottery is derived from the London area (21 MNV) and solely in the form of jugs (cooking pots stopped being made in this industry after c. 1200). A baluster-shaped jug was noted in context [2409] while a spouted example occurred in context in [1603]. Most of these jug sherds were simply decorated with a white slip and glaze, although an example with Rouen-type decoration was additionally noted (context [1603]).

There are seventeen vessels from a Surrey source, which are represented by as three main types of pottery. The Limpsfield greyware industry, dated c.1150–1300, accounted for three vessels: a flared bowl (context [1603]) and two cooking pots (contexts [1603] and [2377]). There are also three good quality jugs in Earlswood-type ware (EARL) and these were found in contexts [1603] and [2409]. The latter also produced the base of a highly decorated example with closely spaced curving, applied strips and a clear and green glaze.

The Surrey whiteware from Kingston accounts for eleven vessels and is mainly present in the form of jugs with a baluster type (context [1603]), conical shape (context [3677]) and a c. 1310-1400 dated small rounded example (context [2408]). Jug sherds decorated in the highly decorative style, dated c. 1240–1300 were found in contexts [1376], [1603] and [3677]. Parts of a good quality green-glazed figurine or an anthropomorphic/zoomorphic jug were recovered from context [2377] and survive as two coils of clay stacked on top of each in addition to a cylinder of clay with one end pushed in and a pellet of red clay inserted. From a Surrey-Hampshire source are 9 MNV of coarse Surrey-Hampshire border ware. This ceramic was present in the London area from c. 1270 in small quantities and became the main pottery type used in London from the mid 14th century and during the 15th century. This ware could only be confidently identified as green-glazed jug sherds.

There are five vessels recorded from an Essex source and most of this occurred as sherds of Mill Green ware, dated c. 1270–1350 and in the form of jugs. The greater part of a conical jug, dated c. 1270–1330) has wet sgraffito decoration and was noted in context [3473] (SF 895). Two sherds of the same jug made in Mill Green ware has polychrome decoration, dated c. 1290–1350 and occurred in context [2387] and [2388]. Additionally the rim of a jug made in Essex unsourced sandy orange ware, dated c.1200–1500, occurred in context [2350].

Four vessels are recorded from a Hertfordshire source and these only occur as south Hertfordshire-type greyware, dated c. 1170–1350. This ware is usually found in the London area in the form of cooking pots and one such vessel was found in context [1603]. However, three rounded or globular shaped jugs occurred in context [3677] and all the examples have mortised strap handles with multiple rows of knife point stabbing.

From an unknown source there are recorded as three vessels, firstly as a sherd from a possible North West Kent greyware vessel (context [1376]), secondly as a jug sherd made in a white-slipped and

green-glazed fine sandy ware fabric with reddish-brown pellets (context [2350]) and thirdly as a jug rim with a strap handle decorated with a good quality white slip and green glaze (context [2408]).

The only imported pottery noted for this period is from a Low Countries source and consists of sherds of an Andenne pitcher (context [1608]) and a glazed sherd of Dutch red earthenware (context [2350]).

Functionally the pottery from this period shows a very high number of drink serving forms (jugs and pitchers) with 78.7% MNV, while a relatively small quantity of pottery is associated with cooking (6.6% MNV). Usually for this period cooking pots would be expected in a much higher quantities, reflecting that these forms tended to break frequently due to thermal stresses. It would normally be expected that the functional breakdown of the pottery would mirror that of the early medieval period (see above). A single flared bowl represents a food preparation form and follows that bowls or dishes are usually infrequent encounters in London area medieval assemblages. Borough High Street was dominated by inns from the late medieval period until the mid 19th century and three inn are known to have existed on the study area or in its vicinity by the mid 16th century: The Horse Head (later the Nag's Head), The Spur and The Christopher. However, the earliest reference to an inn in Southwark dates to AD 1338. Therefore, the high occurrence of jugs on the study area may provide evidence for inns existing on the site prior to that date and perhaps as early as the late 13th century, which has been postulated elsewhere on Borough High Street (Goffin 1991). The good quality non-local jugs, such as those from Earlswood and Mill Green, may indicate that the properties these vessels were derived from were willing to expend their income on superior products compared to that of the lower quality local ware.

### **Late medieval**

Only three contexts ([1412], [1660] and [1662]) are dated to the late medieval period, c. 1340/50–1500. The sample is small, although it follows the trend seen in the London region for this time frame in that the Surrey-Hampshire borders provide the main source of pottery in the form of coarse whiteware. This additionally occurs as late medieval dated forms, such as a biconical jug and a c. 1340–1500 dated large round jug (found in contexts [1660] and [1662]). Three vessels are from a Surrey source and consist of other whitewares in the form of jugs in Kingston-type ware and Cheam ware, dated c. 1350–1500, which includes a conical example. The latter were found in context [1660], while a single sherd of CHEA was found in context [1412]. Single items are sourced from London in the form of a cauldron in late London ware, dated c. 1400–1500 (context [1662]). The greater part of a rounded jug decorated with bands of incised horizontal lines on its upper part and a clear glaze occurs in medieval Brill/Boarstall ware (context [1662]). The only import noted is a sherd of late Rouen-type ware (ROUL), dated 1250–1350 and it may have been residual in context [1660]

Functionally, the identifiable forms in this period consist noticeably more of drink serving shapes (89% MNV) than those for cooking (11.1% MNV), mirroring the disparity between these functions seen in

the earlier medieval component of the assemblage. Therefore the high number of drink serving functions may be indicative of the inns being in place across the study area during the late medieval period.

### **Early post-medieval**

Seven contexts ([847], [892], [1274], [1317],[1384], [1496] and [2365]) are assigned to the early post-medieval period, here defined as dated to c. 1480–1600, although the majority of deposits are dated c. 1480–1550. The main source of the pottery was derived from the Surrey-Hampshire borders and represented as 18MNV. Thirteen of these vessels consist of the medieval coarse whiteware (CBW), which was still in production at the beginning of this period. Forms consist of cooking pots, including the 1340–1500 dated flat-topped rim types (contexts [1274] and [1496]) besides a jug sherd. However, ceramics items made for individual use, which increasingly appeared from c. 1270, are represented in the form of two drinking jugs (context [1496]) and include the base of a biconical example found in context [1384]. A development of the latter industry is the green-glazed, very fine early Surrey-Hampshire border whiteware, dated c. 1480–1550 and its forms comprise sherds of a drinking jug and a money box (both found in context [892]) and a jug (context [2394]). Money boxes tend to be found on higher status sites, such as the Great Houses on the Thames to the north of the site and at the Southwark Stuart and Jacobean theatres (Whittingham 2009a; 2009b). The later, sandier development of this industry, Surrey-Hampshire border whiteware, dated c. 1550–1700 was noted solely in the form of a green-glazed (BORDG) porringer (context [847]).

Pottery from a London source accounts for 17 MNV and occurs mostly as London-area early post-medieval redware, dated c. 1480–1600 and is present in the form of a two-handled carinated bowl (context [1317]), four cauldrons (contexts [892], [1274] and [2934]), a jar (contexts [847]) and a pitcher (context [1317]). The slipware version of this redware, dated c. 1480–1650, is represented by the yellow-glazed ware (PMSRY) and was found in the form of bowls or dishes, besides a cauldron or pipkin, as well as a chafing dish rim with sgraffito decoration (context [1274]).

Imported pottery is most frequent in London during the 16th-century and this is mirrored here in the sample with 13 MNV (1.3%) being from non-British sources. Typically for the London area, the main source of imports during this period on the site are from Germany (5 MNV) and found mostly in the form of Raeren stoneware drinking jugs or jugs (contexts [892], [1317] and [1384]). Additionally, the base of a rounded mug made in Cologne stoneware, dated c. 1500–80, occurred in context [2365]. There are four items of Dutch red earthenware, dated c. 1300–1650 which are from a Low Countries source, these include a rounded jar (context [2365]) and the complete profile of a frying pan with a folded handle (context [1496]), while a jar with a basket handle fragment occurs in the slipware (contexts [1397]). The three vessels from a French source globular flasks believed to have been made in the Martincamp area and these occur as a sherd of the buff earthenware, besides a more complete dark brown stoneware example (both found in context [2394]). Otherwise there is a cylindrical wall sherd made in unglazed

Saintonge ware recovered from context [1274]. The only Spanish item is a fragment of an amphora with a partial internal green glaze (context [847]).

There are three vessels from a Midlands source and these are represented by Cistercian ware, dated c. 1480–1600. Fragments of two rounded jugs occurred in context [892], while the base of a rounded mug was noted in context [1317]. This high-fired red earthenware is very much seen as the northern English counterpart to the fine Surrey whitewares. Additionally there is a sherd of late medieval transitional redware, possibly from an Essex source and a large fragment of a rounded drinking jug made in an earthenware, which is copying a German stoneware form (context [1317]). It may be from a South Midlands source.

There is a wider range of functions represented amongst the early post-medieval pottery compared to the earlier periods. Drink serving forms are more frequent (24.1% MNV), while kitchen wares are present with 13.9% MNV. Drinking forms for individual use are also quite well represented (11.4% MNV), while smaller quantities of food preparation wares (6.3% MNV) and for kitchen storage (5.1% MNV) and other minor use categories occur. The functions of the pottery could therefore be equated with activities associated with inns, where by the main uses are associated with drinking and cooking and food preparation items relate to the provision of food for visitors and patrons at the inn, as well as others such as the household members. A notable group of early 16th-century pottery from the adjacent Wolfson Wing archaeological excavation (BHB00) included numerous Raeren stoneware drinking jugs and cups in Cistercian ware, besides local redware kitchen forms. This group was equated with activity at one of the inns located on the site (Jarrett 2000).

### **Post-medieval**

There are three contexts ([989], [1082] and [1208]) assigned to the period c. 1580-1750. The most frequent source of pottery is from the London area (38 MNV) and this consists mostly of tin-glazed earthenwares mostly found with 17th-century decoration. Forms in this ware consist mainly of chargers, although a complete mid-late 17th-century plain white ointment pot (SF 233) was found in context [1208]. The tin-glazed earthenware biscuit ware derived from the local pothouses is frequently found on many Southwark archaeological excavations and this site is no exception as three vessels of this type occur, most notably as part of a large upright candle stick (context [1208]). The other London source of pottery consists of London area post-medieval redware (PMR), dated c. 1580–1900 and this was mostly found in the form of bowls, jars and cauldrons or tripod pipkins. Of note is the base of an industrial vessel used to make white lead (context [1082]) and this was probably derived from an offsite source.

The fine red earthenwares from an Essex source account for 14 MNV and are present in London during the period c.1580–1700. This ware occurs mostly as the plain glazed ware (PMFR), dated 1580–1700 and it is present in the form of bowls, a jar and a jug. The black-glazed ware (PMBL) only occurs as a cylindrical mug (context [1208]). Additionally there are four bowls or dishes in Metropolitan slipware, dated c.1630–1700, three of which were recovered from context [1208].

Fourteen vessels are from a Surrey-Hampshire borders source and fifteen of the vessels occur in the whiteware, dated c.1550–1700. The only identifiable forms are in context [1208] which consisted mostly of bowls or dishes in addition to parts of rounded mugs made in the brown- and olive- glazed wares, while a money box and a tripod pipkin are yellow glazed. The redware (RBOR), dated c. 1550–1900 occurs as a rounded bowl (context [1208]) and a jar (context [989]), while a slipware dish (RBOR SLTR) was found in context [1082].

Imported pottery accounts for 12.6% MNV in this period and mostly consisted of German stonewares (8 MNV) and particularly that of rounded jugs or bartmannen from Frechen, dated c. 1550–1700. These were present mostly in contexts [989] and [1208]. Westerwald stoneware, dated 1590–1900, occurs in the form of the rim of a round mug (context [989]). The only French item comprises a globular flask made in Martincamp red earthenware, dated c. 1600–50 and recovered from context [1208]. A sherd of an early 18th-century blue and white Chinese porcelain bowl was recovered from context [1082].

Pottery from a general British source accounts for four vessels, all of which were found in context [989] and these consist of fragments of Staffordshire-type slipware, dated c. 1660–1870 and dipped white salt-glazed stoneware, dated 1710–60, besides a bowl made in white salt-glazed stoneware, dated c. 1720–80.

The pottery from this period is found in similar proportions functionally and reflects the diversity of ceramic forms produced to meet contemporaneous household needs and changes in domestic fashion and habits, which became more obvious from the 16th century onwards. Kitchen and table wares are both represented by 19.5% MNV, while drink consumption forms are recorded as 16.1% MNV. Smaller quantities of kitchen storage (6.9% MNV) and food consumption (4.6% MNV) wares are noted, while single pharmaceutical and sanitary items occur for the first time in the sample. This break down of the pottery functions can be related to the material culture of inns, particularly by the presence of a high number of drink consumption forms, while the importance of the kitchen and table wares reflects the facilities of inns to provide food for its visitors and patrons.

### **Late post-medieval/modern**

Only one context produced a group of pottery dated to the late post-medieval or modern period (c. 1760 onwards) and this was context [1864], deposited c. 1780–1810. This produced a small sample of contemporaneous pottery (7 MNV). The sources of the pottery reflect what was happening nationally in that ceramics from a general British source are more frequent (3 MNV) and are represented by pearlwares, most notably in the form of a pearl ware plate with a blue rococo shell-edge border which dates the context. Additionally, there is a tea bowl made in white salt-glazed stoneware. There are two vessels recorded from the Surrey-Hampshire borders and found exclusively as the redware (RBOR) and present in the forms of a flared dish and chamber pot-shaped paint pot, which has an internal white pigment. A late 18th-century plate occurs in tin-glazed ware and this represents the only item from a London source. Imported pottery is much rarer in London after c. 1660 and restricted to a small number of



wares, such as Chinese porcelain, which in this context occurs as a medium rounded bowl decorated with the famille rose palette of enamels and dated c. 1720–1800.

The pottery from this period is too small a sample to be a reliable reflection of what ceramic activities are occurring on the site. However, table wares, food consumption and those of a miscellaneous function each occur as two vessels each (28.6 % MNV), while tea wares are represented as a single vessel (14.3% MNV). This very broadly reflects the types of activities seen in domestic rubbish groups for the time and it is difficult to relate specifically to inns *etc.*

### **Significance and potential of the assemblage and recommendations for further work**

The assemblage is of significance at a local level and the pottery types present fit the ceramic profile for London and particularly Southwark. The material is also significant for further characterising what types of pottery were being marketed to or acquired in Southwark and from the mid 14th century, if not earlier, for demonstrating the material culture associated with inns (*e.g.* Pearce 2002). A number of pottery assemblages from nearby sites can be used for comparison (Jarrett and Sudds 2009; Jarrett in prep) in particular that from the Wolfson Wing, which shared the same properties as that of the study area (Jarrett 2000). The pottery has the potential to date the contexts it was recovered from and provide a sequence for the material. A small number of vessels require illustrating to add to the corpus of forms for certain pottery types. There are no recommendations for further work at this stage, which will be made in full after the assemblage has been fully assessed.

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## APPENDIX 4: Review Of Ceramic Building Material 127-143 Borough High Street, London, SE1 1NP (BOH13)

By Amparo Valcarcel

### BUILDING MATERIALS SPOT DATES

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
788	3046;3032	Early post medieval red sandy brick; post great fire brick	V*	1450	1900	1666	1900	1780-1850	No mortar
789	3046; 3032,3035	Early post medieval red sandy fire brick; post great fire bricks	V*	1450	1940	1770	1940	1780-1870	No mortar
792	3032nr3033, 3032;3101PM	Intermediate and post great fire unfrogged bricks	2	1664	1900	1666	1900	1780-1900	1750-1900
798	3046	Early post medieval sandy red brick	V*	1450	1700	1450	1700	1450-1700	No mortar
883	3033;3101PM	Early post medieval wide red sandy unfrogged brick T1	2	1450	1700	1450	1700	1450-1700	1450-1700
952	3046;3101PM	Early post medieval thick red sandy unfrogged brick, T1	1	1450	1700	1450	1700	1450-1700	1450-1700
1061	3033;3034	Early post medieval red sandy brick; local post great fire brick	2	1450	1900	1666	1900	1666-1900	No mortar
1076	3032	Post great fire bricks	V*	1666	1900	1666	1900	1780-1900	No mortar
1159	3033; 3101PM	Early post medieval red sandy shallow brick, T02	2	1450	1700	1450	1700	1450-1700	1450-1650
1199	3033;3101PM	Early post medieval red shallow wide sandy unfrogged bricks; T1	4	1450	1700	1450	1700	1450-1600	1450-1700
1617	3046	Early post medieval red sandy shallow bricks	2	1450	1700	1450	1700	1450-1700	No mortar
1911	3033;3039;3101 PM	Early post medieval sandy red shallow brick, T1	2	1450	1700	1450	1700	1450-1900	1450-1700
1921	3033;3046;3101 PM	Early post medieval sandy red wide bricks; T1	2	1450	1700	1450	1700	1450-1700	1450-1700
2321	3046;3039	Early post medieval sandy red shallow wide bricks	2	1450	1700	1450	1700	1450-1700	No mortar

## Review

A small assemblage (21 fragments, 38.32 kg) comprising pieces of post medieval building material (red sandy and post great fire bricks) was assessed for this report. More than 90% of the assemblage consists of early post medieval ceramic building material, with much smaller quantities of later post medieval fabrics. It is possible that some early post medieval structures and bricks are associated with the inns in this area of Southwark.

Three different sandy red brick fabrics were identified; the fine sandy 3033, the very sandy red 3046, associated with structures and the moderate yellowish white silty inclusions 3039. All were manufactured for the city using local London brick clay between 1450 and 1700. The largest proportion of bricks are wide and unfrogged. Much of the structures are of a Tudor date bonded with yellow sandy lime mortar (T1).

A small sample of purple post great fire bricks (3032nr3033), local post-Fire red brick yellow (3034) and late 18th century-mid 20th century estuarine bricks (3035) were retained from the site. The bricks are narrow and unfrogged. Some have sharp arises suggesting possible machine manufacture. The presence of these bricks shows a phase of redevelopment at the end of 19<sup>th</sup> century and probably earlier.

Context	Feature	Fabric	Form	Mortar
788	Brick wall	3046; 3032	Unfrogged, narrow	No mortar
789	Brick wall	3046;3032;3035	Unfrogged, frogged, narrow	No mortar
792	Brick wall	3032nr3033;3032	Unfrogged, narrow	T3
798	Basement wall	3046	Unfrogged	No mortar
883	Brick basement walls	3033	Wide, unfrogged	T1
952	Brick wall	3046	Unfrogged	T1
1061	Brick wall	3033;3034	Unfrogged	No mortar
1076	Brick wall	3032	Unfrogged, narrow	No mortar
1159	Brick oven/brazier base	3033	Unfrogged, shallow	T2
1199	Brick floor	3033	Unfrogged, shallow, poorly fire	T1
1617	Brick and stone wall	3046	Unfrogged, wide	No mortar
1911	Brick floor	3033;3039	Unfrogged	T1
1921	Brick wall	3033;3046	Unfrogged	T1
2321	Brick wall	3046;3039	Unfrogged, wide and shallow	T1

Table 01: Summary of fabric bricks associated to structures.

## MORTAR; CEMENT

Mortar/Concrete Type	Description	Use at BOH13
T1	Yellow soft sandy mortar (1450-1700)	Recovered from walls [1921] [2321], floors [1199] [1911] and basement wall [883]. Associated with fabrics 3033,3046 and 3039
T2	Pinkish mortar, mixed with smashed cbm or pottery (1450-1700)	Recovered from a oven [1159] using 3033 fabric
T3	White hard lime mortar (1750-1900)	Recovered from brick wall [792]. Associated with fabrics 3032nr3033 and 3032

Table 02: Summary of mortar associated to structures and fabrics.

## **Appendix 5: Clay Tobacco Pipe Assessment**

### **Clay tobacco pipe and hair curler assessment (BOH13) (prioritised contexts)**

**By Chris Jarrett**

#### **Introduction**

This clay tobacco pipe assessment considers twelve targeted 'key contexts' from a small assemblage of material that totals three boxes. Most fragments are in a good condition, indicating that they had been deposited soon after breakage; although elements of some groups of clay tobacco pipes contained small quantities of residual material. Clay tobacco pipes occur as small (under 30 fragments) and medium (31-100 fragments) sized groups. Additionally there are four pipe clay hair curlers from the excavations that have been described in this report.

All of the clay tobacco pipes (168 fragments) were entered in to a database and classified following Atkinson and Oswald's (1969) typology (AO); 18th-century examples are according to Oswald's (1975) typology and prefixed OS. The pipes are further coded by decoration and quantified by fragment count. The hair curlers were classified using Le Cheminant (1982). The tobacco pipes and hair curlers are discussed by their types and distribution as an index.

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

The clay tobacco pipe assemblage from the site viewed for this report consists of 81 bowls, 83 stems and four mouth parts. The clay tobacco pipe bowls range in date between 1640 and 1880. All of the bowls show evidence of use. The bowl types and their quantification are as follows:

AO9, 1640–1660: 8 spurred bowls with a rounded profile

AO10, 1640–1660: 9 heeled bowls with a rounded profile

AO15, 1660–1680: 3 spurred bowls with a rounded profile

AO19, 1680–1610: 2 spurred bowls with a rounded profile

OS10, 1700–1740: 8 heeled bowls with a straight back and rounded front, thick stems

OS12, 1730–1780: 10 heeled bowls with a straight back and rounded front, thin stems

AO26, 1730–1800: 1 generic (fragmentary) spurred 18th-century bowl. The item has moulded an armorial Prince of Wales's feathers design

OS22, 1730–1780: 12 spurred bowls with a straight back and sub-rounded front, thin stems. Five bowls have moulded armorial designs: two have the Prince of Wales's feathers and three have the Hanoverian coat of arms.



OS23, 1760–1800: 10 spurred bowls with a straight back and rounded front, thin stems. Five bowls have moulded armorial designs: four have the Prince of Wales's feathers and one has the Hanoverian coat of arms.

AO27, 1770–1845: 1 square heeled bowl with a straight back and rounded front, thin stems. Decorated with leaf borders.

AO28, 1820–1860: 14 spurred bowls with a straight back and rounded front, thin stems. Decorated with leaf borders and singular examples have a Masonic design and a stamp for William Williams 1 and 2, Kent Street, Borough.

AO29, 1840–1880: 2 heeled bowls with a straight back and rounded front and a sloping rim and thin stems

Uncertain, 19th century: 1 heeled bowl

### Clay tobacco pipe index

The index is ordered by context and the earliest bowl type and shows (where present) initialled and decorated bowls.

#### Context [1082], spot date: c. 1730–1740

Bowl type/part	Date range	Decoration	Initials	No. of bowls/frags	Comments
AO15	1660-1680			2	
AO19	1680-1710			2	
OS10	1700–1740			1	
OS10	1700–1740		? ?	1	
OS10	1700–1740		I S	2	
OS12	1730-1780		I B	2	
Mouth part				1	
Stems				45	

Total: 56 fragments: ten bowls, one mouth part, 45 stems

#### Context [1099], spot date: c. 1730–1780

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
OS12	1730-1780		S H	1	

#### Context [1100], spot date: c. 1730–1780

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
OS12	1730-1780		S H	1	

**Context [1114], spot date: c. 1730–1780**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
OS10	1700–1740		I R	1	
OS12	1730-1780		S R	1	

Total: two fragments: two bowls

**Context [1117], spot date: c. 1730–1780**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
OS10	1700–1740		I B	2	
OS10	1700–1740		W B	1	
OS12	1730-1780		S R	1	

Total: four fragments: four bowls

**Context [1208], spot date: c. 1660**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
AO9	1640-1660			8	
AO10	1640-1660			9	Includes possible non-local variants
AO15	1660-1680			1	
Mouth part				1	
Stems				31	

Total: 50 fragments: eighteen bowls, one mouth part, 31 stems

**Context [1227], spot date: 1820–1845**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
AO27	1770-1845	Leaf border	o o	1	Small circles on the spur
AO28	1820-1860		* *	1	Flowers on the spur
AO28	1820-1860	Masonic	* *	1	Flowers on the spur
AO28	1820-1860		W ?	1	
AO28	1820-1860		H H	1	
AO28	1820-1860	Leaf border		2	
AO28	1820-1860	Leaf borders		1	
AO28	1820-1860	Leaf and grass border		2	
AO28	1820-1860	Leaf border	o o	2	Small circles on the spur
AO28	1820-1860	Leaf and grass border	o o	1	Small circles on the

Bowl type/part	Date range	Decoration	No. of		Comments
			Initials	bowl/frags	
AO28	1820-1860		W W	1	spur
AO28	1820-1860	Stamp	W W	1	Initials on the spur and a poorly impressed circular incuse stamp on the back of the bowl with '[WILLIAMS LON]DON' around a quartered circle with a cross in the upper left quarter

Total: fifteen fragments: fifteen bowls

**Context [2989], spot date: 1760–1800**

Bowl type/part	Date range	Decoration	No. of		Comments
			Initials	bowl/frags	
AO26	1730-1800	Prince of Wales's feathers		1	
OS23	1760-1800	Prince of Wales's feathers		1	

Total: two fragments: two bowls

**Context [3000], spot date: 1760–1780**

Bowl type/part	Date range	Decoration	No. of		Comments
			Initials	bowl/frags	
OS12	1730-1780			1	
OS12	1730-1780		I B	1	
OS12	1730-1780	Crowns above the initials	I S	1	
OS12	1730-1780		R S	1	
OS22	1730-1780			6	
OS22	1730-1780	Prince of Wales's feathers		1	
OS22	1730-1780		I	1	
OS22	1730-1780	Prince of Wales's feathers	G R	1	The initials are moulded on the bowl
OS23	1760-1800			1	
OS23	1760-1800	Hanoverian coat of arms		3	
OS23	1760-1800	Prince of Wales's feathers		3	
OS23	1760-1800		?G B	1	
OS23	1760-1800		I B	2	
OS23	1760-1800		?C S	1	
Mouth part				2	
Stem				4	

Total: 30 fragments: 24 bowls, two mouth parts, four stems

**Context [3002], spot date: 1840-1880**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
Bowl			I J	1	19th-century heel and stem
AO29	1840-1880	Leaf borders	o o	1	
Stem				3	

Total: five fragments: two bowls, four stems

**Context [3052], spot date: 1740–1780**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
OS22	1730-1780	Hanoverian coat of arms		1	

**Context [3106], spot date: 1840-1880**

Bowl type/part	Date range	Decoration	Initials	No. of bowl/frags	Comments
AO29	1840-1880	Acorn and oak leaf borders	W L	1	

**Discussion**

The earliest group of clay tobacco pipes was recovered from context [1208] which produced a medium sized group of clay tobacco pipes that included eighteen bowls, the majority of which were dated c. 1640–60 (with eight spurred AO9 and nine heeled AO10 bowls). The latest bowl recorded is a short variant of the spurred AO15 shape, dated c. 1660–80 and it may be intrusive or considering the date of the other pipes, dates the deposition of the material to c. 1660. The majority of the pipes from this deposit have a good quality of burnishing and finish; have three quarters or full milling of the rim indicating that they can be associated with middling to high socio-economic groups. None of the clay tobacco pipes have makers' marks, which fits in with the trend observed elsewhere for mid 17th-century clay tobacco pipe assemblages.

The majority of the groups of clay tobacco pipes date to the mid to late 18th century. The earlier groups ([1082] and [1099]) are dated c.1730–40 as they contain both OS10 and OS12 bowls as their latest types. Other groups are dated to the mid 18th century, such as contexts [1100] as they mostly contain OS12 bowls as the latest bowls. Initialled bowls include examples with I B, W B, S H, IR and SR and can be equated with local Southwark pipe makers (Oswald 1975). Eighteenth-century bowls with moulded Armorial designs appeared around c. 1740 and occur on the spurred OS22 and OS23 bowls and were found in contexts [2989], [3052] and particularly so in context [3000] where eight examples are recorded. The armorial bowls are mostly without maker marks, except for an example found in context

[3000] where the initials G R are part of a Prince of Wales's feather design, although it is possible that the letters stand for *George Rex*.

Three contexts produced 19th century bowls. Context [1227] was dated by the presence of a single AO27 bowl and fourteen AO28 bowls. These bowls are mostly decorated with moulded leaf borders although one fragmentary example has evidence for a Masonic design. The bowls mostly have either flowers/stars or circles on their spurs, although a single example has the initials H H and another bowl is marked W W and additionally has a poorly impressed incuse circular stamp with the name '[WILLIAMS LON]DON' around a quartered circle with a cross in the upper left quarter, the latter being a derivative of the London armorial shield. Similar stamps to this have been found elsewhere in Southwark and relate to one or more of three generations of a family of pipe makers with the same name: William Williams, Kent St. Borough, working c. 1823-64, if not earlier (Oswald 1975, 149). A third bowl only has the first name of H surviving. Two contexts ([3002] and [3106]) produced AO29 bowls, dated c. 1840–80, as the latest type and are decorated with leaf borders, although only one example is initialled W L (context [3106]) and cannot be related to any known Southwark pipe maker.

## **The Hair Curlers**

### **Unstratified**

No type available, 18th century. Dumbbell shape: one fragment with a flaring end (3mm in length) before a bulge (12mm in diameter) and a cylindrical body (10mm in diameter), length: 41mm+. Burnt surfaces. SF209.

### **Context [1063]**

Type 10, c. 1750. Intact, symmetrical dumbbell shape with cut ends. Maximum diameter: 13mm, minimum diameter: 6mm, length: 9mm. Lathe made. Off white surfaces. SF164

### **Context [1082]**

Type 8, c. 1750. Dumbbell shape: one fragment with a cut end stamped WB with a crown above the letters. Maximum diameter: 10mm, minimum diameter: 6mm, length: 29mm+. Lathe turned. Pale yellow surfaces and core. SF179

### **Context [1227]**

Type 12, c. 1750-60. Dumbbell shape: one fragment with a cut end (14 mm in diameters), with a thick cylindrical body (13mm in diameter) and a bulge (17mm in diameter) close to the end. Length: 41mm+. Lathe made. White surfaces and core. SF 944

## Significance and potential of the assemblage and recommendations for further work

The sample of clay tobacco pipe from the assemblage are significant as they are associated with at least three late medieval/post-medieval inns documented on the study area: the Horse Head (later the Nag's Head), The Spur and The Christopher. A large assemblage of clay tobacco pipes dating from the 17th-19th centuries was recovered from the adjacent excavation of the Wolfson Wing (BHB00: Jarrett 2002). This excavation encompassed the rear of the properties of the aforementioned inns and therefore both assemblages are interlinked. Other local Southwark clay tobacco pipe assemblages are available for comparison: Tabard Square (LLS02: Jarrett 2009) and the Network Rail Thameslink project (Jarrett in prep). Clay tobacco pipes are an important aspect of the material culture of inns, public houses, taverns and ale houses and their large numbers on such sites may be characteristic of the presence of a drinking establishment (Pearce 2000, 174; Jarrett 2013). The medium sized group of c. 1660 dated clay tobacco pipes recovered from context [2018] and the group of late 18th century pipes from context [3000], which include a notable number of armorial bowls, as well as the other groups of material are important for understanding the activities associated with the inns on the site. These pipes may give an indication of who was supplying clay pipes to the inns and what was being brought to these places by their patrons. The Wolfson Wing excavation was also of interest for producing a small number of non-local 17th-century bowls which almost certainly represented the possessions of travellers staying at the inns (Jarrett 2002). The sample of clay tobacco pipes is typical for the London area and also Southwark; especially with the local pipe makers are represented.

Hair curlers are relatively rare finds on post-medieval archaeological excavations. Their occurrence is often related to the late 17th and 18th century fashion for wearing wigs and are usually associated with middling and higher socio-economic groups. The occurrence of the hair curlers on the site therefore gives an indication of the wealth or standing of the patrons and even possibly the owners of the inns.

The main potential of the clay tobacco pipes and hair curlers are to date the deposits they were recovered from. Additionally, the pipes are important for understanding activities associated with the site, specifically that of inns and the socialising aspect of smoking.

There are no recommendations for further work at this stage, although the importance of the assemblage will be fully reviewed once all of the material has been assessed.

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## **APPENDIX 6: Glass Report**

### **Glass assessment (BOH13) (prioritised contexts)**

**By Chris Jarrett**

#### **Introduction**

This glass assessment considers five targeted 'key contexts' from a small assemblage (five boxes). These prioritised contexts were chosen in order to determine dating (and therefore assist in the phasing of the stratigraphy), establish what site activities can be recognised and allow for a preliminary comparison of the assemblage to others in Southwark and particularly those from Borough High Street. The glass dates from the Roman and post-medieval periods. However, much of the Roman glass appears to be residual although it is most likely to have been derived from on site sources. The glass is on the whole fragmentary and no vessels have a complete profile. As the majority of the assemblage is composed of soda and post-medieval natural glass then the natural weathering of items is a frequent occurrence. The material was quantified by minimum number of vessels (MNV). The sample of the assemblage consists of five contexts which are all small sized groups (fewer than 30 shards).

All of the glass (22 MNV) was recorded in a database format, by date, type, colour and form. The assemblage is described in an index.

The glass can be quantified as being assigned to the following periods:

Roman: 16 MNV

Post-medieval: 6 MNV

#### **Glass index**

The index is ordered by context and by the earliest forms.

#### **Context [1208], spot date: mid 17th century**

Olive green, natural glass, case bottle, 1 MNV, 1550+, wall sherd with part of the corner

Pale olive green, Natural glass, window pane, 1 MNV, corner of a window pane, weathered

Olive green, natural glass, wine bottle, 1 MNV, mid 17th century, circular wine seal with '... PETER LANE ...' around a St Andrew's cross containing 'T' and other letters. Weathered. SF 224

**Context [1864], spot date: c. 1740–1900**

Clear, soda glass, bottle or phial, 1 MNV, 18th-19th century, base, splayed, rounded kick, free-blown

Olive green, natural glass, wine bottle, 1 MNV, post-medieval, neck

Olive green, natural glass, wine bottle, cylindrical early type, 1 MNV, c. 1740+, base, splayed, wall and neck, free-blown

**Context [1963], spot date: Roman, residual**

Clear, soda glass, bottle or jar, 1 MNV, Roman, shoulder and start of a neck, weathered. Residual

Clear, soda glass, bottle or jar, 1 MNV, Roman, shoulder and start of a neck. Residual

Aquamarine, soda glass, bowl, 1 MNV, Roman, base with an applied hollow foot ring, off centre kicked base

Aquamarine, soda glass, vessel, 1 MNV, Roman, wall fragment. Possibly window glass, slightly weathered. Residual

Blue tint, soda glass, vessel, 1 MNV, Roman, thin walled ?cylindrical form. Weathered

Clear, soda glass, vessel, 1 MNV, Roman, basal fragment. Weathered. Residual

Clear, soda glass, vessel, 1 MNV, Roman, basal fragment with a central small kick. Weathered. Residual

Clear, soda glass, vessel, 1 MNV, Roman, wall fragment. Slightly weathered. Residual

**Context [2408], spot date: Roman, residual**

Aquamarine tint, soda glass, unknown, 1 MNV, Roman, a flat, elongated, lump of burnt or melted vessel glass with weathered surfaces, residual

Opaque blue green, soda glass, vessel, 1 MNV, Roman, small curving fragment. Residual

**Context [2881], spot date: Roman**

Aquamarine, soda glass, beaker, 1 MNV, roman, rim, rolled to form a hollow collar, slightly weathered,

Aquamarine, soda glass, bottle, square section, 1 MNV, roman, wall with a corner, slightly weathered,

Pale amber, soda glass, jar, 1 MNV, roman, splayed and kicked base, slightly weathered,

Aquamarine, soda glass, vessel, 3 MNV, roman, wall and base sherds,

**Significance, Potential And Recommendations For Further Work**

The glass has significance at a local level. The Roman glass is derived from part of the households of the Southwark settlement and illuminates upon the activities associated with it. The small quantity of post-medieval glass is interesting for containing the wine bottle seal (context [1208], SF 224) and alcohol storage vessels: a case bottle and wine bottles. These almost certainly relate to the presence of three post-medieval inns located on the study area: The Horse Head (later the Nag's Head), The Spur and The Christopher. A scan of the rest of the BOH13 glass assemblage shows there to be larger groups of glassware present which will better illuminate activities associated with inns. Glass items, such as for

alcohol storage and alcohol consumption, are important components of the material culture of inns, public houses, taverns and ale houses (Pearce 2002). Other locally excavated glass assemblages of relevance to the site are from the adjacent Wolfson Wing (BHB00: Cool 2002; Wilmot 2002), which shares the same post-medieval land boundaries with the study area, Tabard Square (LLS02: Shepherd 2009; 2015) and the Network Rail Thameslink project (Scott, in prep). The glass does have the potential to broadly date most of the contexts it was found in. Additionally, the glass ware is important for informing upon on site activities, particularly those concerning the post-Roman inns. Recommendations for further work will follow assessment of the assemblage.

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## Appendix 7: Roman Coin Interim Statement

By Chris Faine

### Introduction

Two hundred and ninety-four Roman coins were recovered from the excavation at Borough High St. The purpose of this statement is to characterise the assemblage as it stands in preparation for further analysis. As the time of writing 214 coins have been fully catalogued in an MS access database using criteria set out by English Heritage (Brickstock 2004), with identifications (where possible) being made using *Roman Imperial Coinage* and *Late Roman Bronze Coinage*. Coin periods used are those suggested by Reece (1991) and in common usage in southern Britain (Table 1). The remainder have been scanned, giving dates, denominations but leaving aside questions of mint, *officina* etc.

Recent archaeological work in Southwark has vastly increased the sample size of Roman coins from the borough, with Hammerson (1992), noting a total number of 964. By 2002 this had increased to over 1800, largely due to the use of metal detectors on both features and dark earth layers during excavations on the Borough High Street Jubilee Line ticket hall project (Ibid, 2002). A similar system was utilised during the Tabard Square excavations which resulted in the recovery of 958 coins, 754 of which were unstratified (Gerrard, 2015). However, after conservation 678 coins could be assigned numismatic periods.

### The assemblage

Out of 294 coins recovered at the Borough High Street site 72 were assignable to numismatic periods, with a further 40 being broadly dateable (see figures 1 & 2). It is worth noting that given their size, the majority of illegible issues are likely to be of Late 3<sup>rd</sup>/Early 4<sup>th</sup> Century date. However, as further assessment is not yet complete these proportions may change. Despite this the rate of coin loss shown is mirrored by other local sites up to the late 3<sup>rd</sup> Century (Ibid). Activity begins in the Flavian period, with some activity into the Trajanic and Hadrianic periods and less coin loss from periods 7-10 (AD 138-222). The low level of 3<sup>rd</sup> Century coin loss can be seen in many British assemblages, with a corresponding increase from AD 260-290. Interestingly few copies from these periods ("barbarous radiates") were recovered from the site, unusual for a period known for its generally low quality of coinage and high rates of forgery (although there are exceptions). By far the largest number of identifiable coins were recovered from periods 17 & 18 (AD 330-364) characterised (as at Tabard Square), by large number of Constantinian *nummi*, both officially struck and irregular (Gerrard, 2015). Small peaks of Valentinian and Theodosian coins are separated by a widely observed slump due an interruption in the supply between AD 378-388.

Despite the preliminary nature of this report it is worth noting some of the general types recovered from the various numismatic phases. A single silver republican denarius was recovered from context [2791] (SF 766), provisionally dated to the Early-Mid 1<sup>st</sup> Century BC (further work is required). This is not in itself

unusual (5 examples were recovered from Tabard Square), with some examples circulating for several hundred years after striking, suggesting a Roman period loss. Two well preserved Flavian sestertii were recovered from contexts [2260] & [2470] respectively, SF 683 is a "Salus Augustae" type dating from AD 71, with SF 725 being a "Fortunae Reduci" type dating from October-December AD 70. A Mid 260s issue of Gallienus was recovered from context [1732] SF 452, along with "Consecratio" type issue of Tetricus dated 270 AD (SF 362, context [1701]). A radiate of Carausius dated AD 287-293 (SF 484) was recovered from context [1742]. The majority of period 17 (AD 330-348) issues are of "Gloria Exercitus 1 & 2 standard" types along with 2 "Victoria" types of Constans. Of these (SF 364, context [1634]), dates from AD 347-348. Context [1732] also contained a "Pietas Romana" issue of Theodora (2<sup>nd</sup> wife of Constantius II) dated AD 337-341 (SF 470). The majority of period 18 issues (AD 348-364) are the ubiquitous "Fel Temp Reparatio" types, both official issues and copies. Most are of the various "falling horseman" types, although "galley", "Captive" & "Phoenix" issues are also present. A "Phoenix" issue of Constans dating to AD 346-350 was recovered from context [1742] (SF 487). The latest coin from the site is a Theodosian issue dating AD 388-402 (SF 374, context [1701]).

Whilst spatial data was not available at the time of writing, it is worth noting that 40% of coins identifiable as Roman were recovered from dark earth contexts (contexts [1634], [1718], [1747] & [1922] contained over 18 coins each).

### **Discussion**

Full recording, spatial and statistical analysis will help put the Borough assemblage in its proper context. Whilst coin loss histograms are useful, differing techniques and date ranges used within London can make comparing these alone difficult, meaning that statistical analysis (Reece, 1995) of coin loss is often the more useful method. Despite the brief nature of this assessment several conclusions can be made. Activity based on coin loss begins in the Flavian period and ends at the beginning of the 5<sup>th</sup> Century, with coin loss patterns similar to nearby sites. The Borough assemblage does not share the large number of Flavian issues seen at Tabard Square (Gerrard, 2015), but does share with it a larger number of Late 4<sup>th</sup> Century issues absent from the Jubilee Line assemblage (Hammerson, 2002). Interestingly the Borough assemblage contains fewer Late 3<sup>rd</sup> Century "barbarous radiates" than other sites both in Southwark and north of the river in the city proper.

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Coin period (Reece 1991)	Date (AD)
I	-41
II	41-54
III	54-68
IV	69-96
V	96-117
VI	117-138
VII	138-161
VIII	161-180
IX	180-192
X	193-222
XI	222-238
XII	238-260
XIII	260-275
XIV	275-296
XV	296-317
XVI	317-330
XVII	330-348
XVIII	348-364
XIX	364-378
XX	378-388
XXI	388-402

Table 1 Reece's coin periods



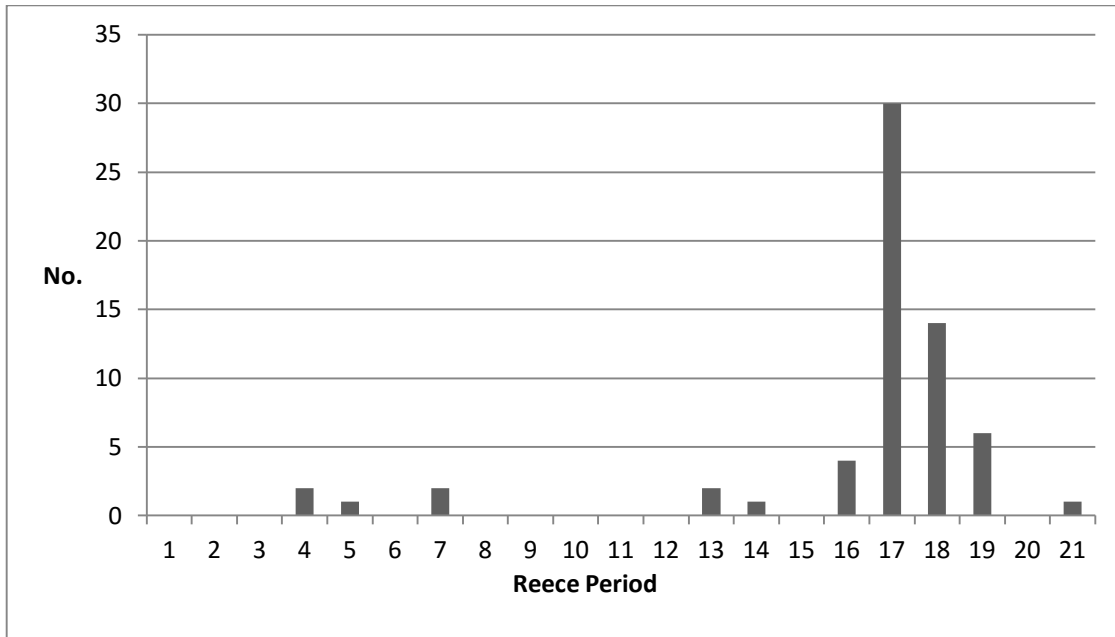


Figure 1: Coin loss by Reece period.

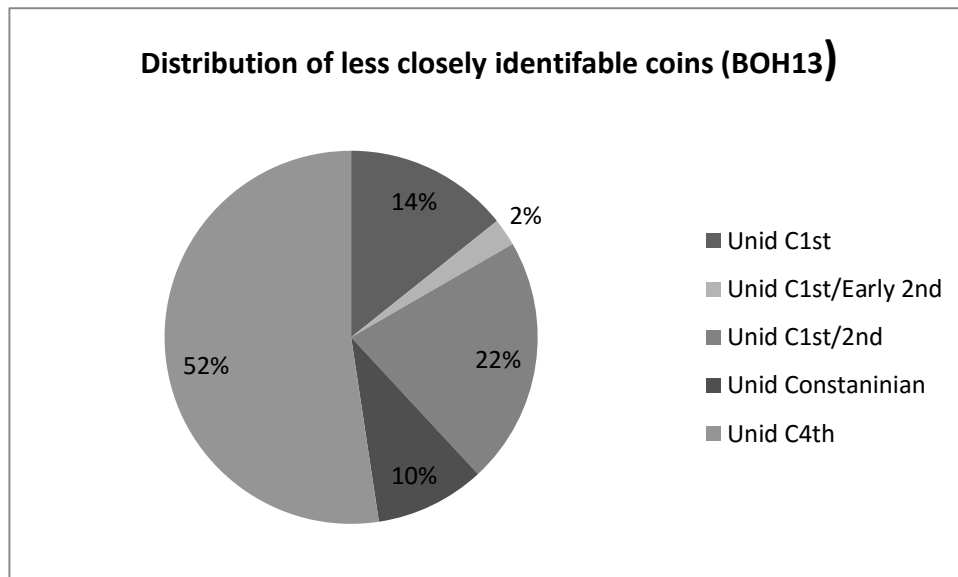


Figure 2: Broadly identifiable coins by period

## **APPENDIX 8: Roman Small Find Interim Statement**

**By Chris Faine**

### **Introduction**

Five hundred and three objects that can be termed 'small finds' were recovered from the excavation, with exact dating of many objects being possible. The purpose of this statement is to characterise the assemblage and point out interesting objects of identifiably Roman date prior to full analysis. Finds were scanned with reference to standard catalogues (Crummy 1983, Manning 1985), and considered by functional category (after Crummy, 1983, see table 1). Figure 2 shows the assemblage organised by these categories. Iron and lead objects are not covered individually in this assessment as the bulk iron finds (especially nails) have not all been processed and many require conservation and/or x-raying before analysis. However, the presence of large groups of such items has been noted. As a result, it is also worth noting tools and fittings may be underrepresented at this stage.

### **The Assemblage**

Figure 2 shows a sample that at first glance suggests a typical Roman assemblage, being dominated by personal adornments & dress accessories (Gerrard, 2015 & Crummy, 2007). There are proportionally fewer toilet implements than is average from Romano-British assemblages. It is worth noting however, that some categories (such as dress accessories), are far wider in definition than others (such as military equipment) and can lead to overrepresentation of some categories. Dress accessories made from a variety of materials were recovered including copper alloy, bone and glass. Only 2 brooches of any significance were recovered. SF 724 (Context [2426]) is a "trumpet" type with a moulded knob and the remains of some enamelling visible (albeit badly preserved). Trumpet types were a military import that continued to be manufactured in to the late 3<sup>rd</sup> Century, with the example here being similar to other 2<sup>nd</sup> Century types (Mackreth, 2011 & Crummy, 1982) SF 410 [1727] a "springhead" Colchester derivative type dating from the Late 1<sup>st</sup>/2<sup>nd</sup> Century AD.

Hair and dress pins are the most numerous type of dress accessory in the assemblage (N: 20) mostly of bone but with 2 copper alloy examples. The first (SF 60 context [2084]), is a "Crummy type 2" example with a bead and reel head dating from the 2<sup>nd</sup>-Early 3<sup>rd</sup> Century AD (Crummy, 1982). The second is globular headed of type 3<sup>rd</sup> Century date onwards (SF 353, context [1634]). Two other type 2 shanks were also recovered (SF's 456 & 736). The best preserved bone examples (SF's 129, 488, 576 & 699) are globular headed types; a type first appearing in the 3<sup>rd</sup> Century and continuing into the 4<sup>th</sup>. SF 79 [658] is a cuboid headed example of Mid-3<sup>rd</sup> to 4<sup>th</sup> Century date. A single finger ring was recovered from context [2463] (SF 715) in the form of "Giraud type 6" wound wire example. Such types were ubiquitous throughout the Roman Empire (and indeed before & after) and are not closely dateable (Giraud, 1989). A single Late Roman bracelet fragment was also recovered from context [1634] (SF 326).

Numerous glass beads were also recovered. SFs 538, 655, 853 & 969 are gadrooned melon beads of turquoise frit, these largely being confined to the 1<sup>st</sup> & 2<sup>nd</sup> centuries (Guido, 1978). A single similar type but made of blue glass was recovered from context [3583] (SF 908). SF 912 (context [3659]) is a bead of mid-green paste with marbled whorls of grey glass and white paste cabling. Classed by Guido as “exotic” a similar example was recovered from 2-4<sup>th</sup> century contexts from Colchester (Crummy, 1982). As mentioned above, toilet & surgical implements are scarce, with the best preserved being a portion of possible toilet spoon (*ligula*) or spoon probe (*cyathiscomele*, SF 707, context [2420]). Textile manufacturing is attested to by the presence of 5 ceramic spindle whorls. Identification of pottery fabrics is ongoing.

Objects classed as household utensils and furniture are among the best preserved in the assemblage, with copper alloy, iron, bone and ceramic objects being recovered. A copper alloy vessel foot and handle were recovered from contexts [1701] & [333] respectively (SF's 52 & 372). Two spoons were also identified. A pear shaped “Crummy type 2” version in copper alloy was recovered from context [2285] (SF 649) and dates from the early 2<sup>nd</sup> Century AD onwards. A round bowled bone version (SF 840, context [3183]) dates from the 2<sup>nd</sup> half the 1<sup>st</sup> Century onwards. Three ceramic *firmalampen* of Loeschke type 9 (Eckardt, 2002), were recovered from contexts [2161] (SF's 645 & 658) and context [1797] (SF 529) of 1<sup>st</sup>-2<sup>nd</sup> century date. A worked bone hinge was recovered from context [3198] (SF 848).

Recreational objects are scarce consisting primarily of bone and glass gaming counters. Bone counters (N:6) are primarily plain lathe turned examples with a single “Crummy type 2” decorated with concentric rings recovered from context [2234] (SF 666). These types are ubiquitous throughout the Roman period. Two polished glass examples were recovered from contexts [1731] & 3461 respectively (SF's 461 & 904). A small worked bone instrument fragment (SF 379) was also recovered from context [1722]. Most likely fashioned from a piece of ovipacrid bone, it displays a window and finger holes but also collars at each end implying it would have formed part of a larger instrument.

Writing implements are limited to a few possible styli and 3 seal boxes. SF 429 (context [1723]), is the base plate of lozenge shaped type showing a common base hole arrangements (Andrews, 2012) SF 665 (context [2239]), is an “acorn” type with an unusual embossed horizontal bar decoration. SF 689 (context [2260]) is a plain circular type with no visible decoration. Seal boxes were imported into Britain during the mid-late 1<sup>st</sup> Century AD and continued to be used throughout the Roman period. Andrews 2012 study has increasingly led to the interpretation of these items as securing bags rather than tablets, but it is customary to consider them under their former classification in reports.

Assessment of the next categories (9, 10 & 11) is problematic as the vast majority of tools, fittings and building related artefacts are of iron and lead construction and require further conservation and x-ray before any identification can be made. As would be expected a large number of nails, unidentified tool handles and lead fragments were recovered along with 6 whetstones (stone identification is ongoing). One recognisable type of fixture are locks. Numerous copper alloy lock bolts were recovered. SFs 652 & 854 (contexts [2207] & [3244]) are similar sizes to have been used in large boxes and cupboards, with SF

678 (context [2294]) being only 3cm in length. SF 677 from the same context is another partial bolt along with a portion of the iron box housing the mechanism. Further work is required on this item.

A possible copper alloy shield binding with incised decoration was recovered from context [1054] (SF 217). Military equipment is rare from London but with similar examples have been recovered from sites (Crummy, 1982, Chapman, 2005 & Gerrard, 2015). A single votive object (SF 332) was recovered from context [1635] in the form of a miniature lead axe head 3.5cm in length. Miniature tools such as these (more commonly of copper alloy) are found throughout Roman Britain with axes being especially popular (Green, 1978), Unsurprisingly they are common on temple sites, with similar examples being recovered from Tabard Square (Gerrard, 2015).

Given the early stage of analysis many objects remain unidentified. Most unusual of these is SF 261 (context 1247). A portion of red deer antler, it has been flattened and cut to form a two pronged handle. The prongs have been pierced transversely with the remains of copper alloy fittings visible within. On both sides of the handle there is an incised decoration of 2 concentric rings around a 6 petalled flower. It is unlikely to be a hinge or cheek piece as the biface decoration intimates it was meant to be viewed from both sides. Further work is recommended.

## Discussion

As mentioned above the cursory nature of the assessment precludes any concrete observations being made aside from referencing interesting individual finds and generally characterising the assemblage. As it stands the finds categories noted are similar to those found on other nearby Roman sites, with numbers of finds similar to Tabard Square (Ibid) and Trinity St but around half the size of the sample recovered from the Jubilee line excavations (Drummond-Murray et al, 2002). After conservation and integration with the ceramic, numismatic and stratigraphic data, the assemblage should help to add to the growing body of evidence for the Roman occupation of Southwark.

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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 metalworking
16	Objects and waste material associated with horn and bone working
17	Objects and waste material associated with pottery working
18	Objects of unknown function

Table 1: Crummy's (1983) functional categories for the analysis of small finds

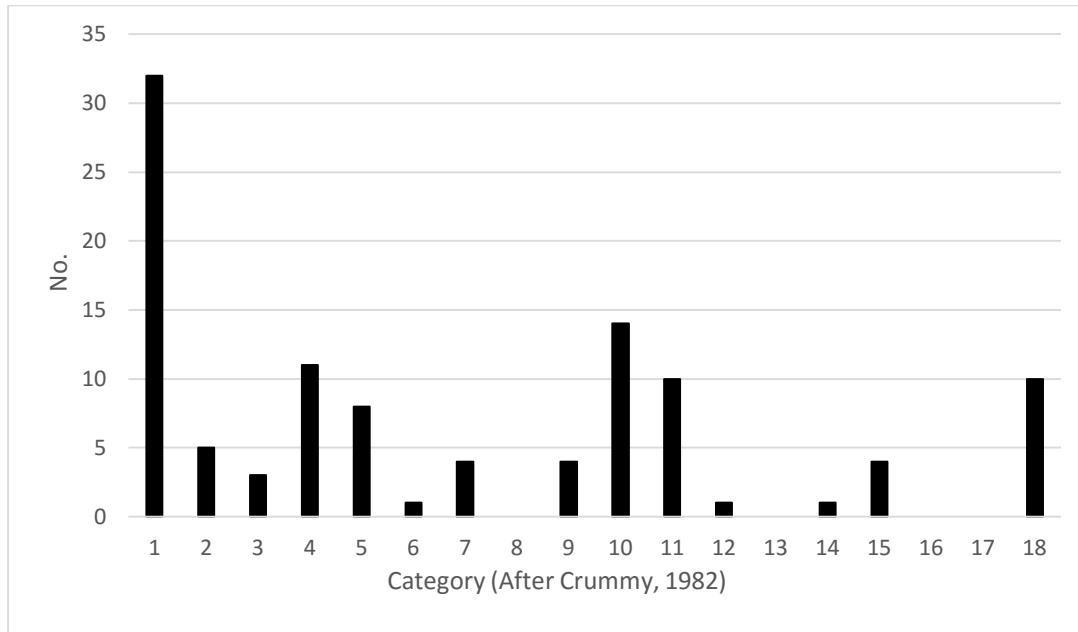


Figure 1: Finds by functional category.

## APPENDIX 9: Post Roman Small Finds Report

By Märit Gaimster

Some 75 identifiable post-Roman objects were included in this initial assessment. The finds represent three broad periods: Anglo-Saxon and earlier medieval, late medieval and early modern, and later post-medieval. A catalogue is provided for each section.

### Anglo-Saxon and Earlier Medieval

Four objects dating from the mid- to late Anglo-Saxon period and into the High Middle Ages (c. 1000–1300 AD) were identified. They include two key Anglo-Saxon artefacts in the form of a double-ended pin beater and the fragment of a composite comb, both of bone. The pin beater (SF 63) represents a characteristic textile implement, particularly associated with the use of the vertical warp-weighted loom in Early and Middle Saxon times. Here the textile was produced from the bottom upwards, and the double-ended pin beater is thought to have been used to pick out threads or strum across the warp to even out the tension before the weft was beaten in place with a weaving batten (Walton Rogers 2014, 288). In the Late Saxon period, another type of vertical loom, the two-beam loom, was introduced, something that appears to have also brought a change from double-ended to single-ended pin beaters (*Ibid.*, 292). As a tool the pin beater is rare after the introduction of the horizontal loom in the 12th or 13th centuries (cf. Riddler 2004, 58). Another double-ended pin beater was recovered from excavations at Green Dragon Court, to the north of the Borough High Street site (Fairman and Teague in prep.). It was recovered from a context dating from the mid-11th to mid-13th centuries where it may have been residual or perhaps indicates that warp-weighted looms did continue in use in the Late Saxon period, also on urban sites (cf. Leahy 2003, 72–4). Like the pin beater, the tooth segment from a composite double-sided comb (SF 913) represents a signature mid- to late Anglo-Saxon object. While most frequently utilizing antler, bone combs of this type appear on urban sites already in the 8th century, likely reflecting insufficient antler supplies in these contexts (cf. Riddler and Trzaska-Narkowski 2013, 91–93).

A possible Late Saxon object is presented by a copper-alloy pin with an elaborate openwork head (SF 361). The cuboid shape of the head is rendered polyhedral by angled corners, each with a drilled pit for decoration; at the top of the head is a small pierced lug. As yet, there are no direct parallels to this pin, but while it resembles later medieval polygonal-headed pins ornated with drilled dots (cf. Egan and Pritchard 1991, fig. 202) it may be better compared to Late Saxon pins. Among this key group of dress accessories, too, are pins with polyhedral heads decorated with drilled pits (cf. Rogers 2009, fig. 1.24). Significantly, linked pins form a distinct category, although heads are normally disc-shaped or trapezoidal. On the latter form, the perforation for the chain link, as on the Borough High Street pin, is placed at the apex of the head (*Ibid.*, fig. 1.26 no. 556; cf. Margeson 1993, fig. 4 no. 25).

A Papal bull issued by Pope Innocent III is a particularly interesting find (SF 428). The bull or bulla was a lead seal used to authenticate a papal document (cf. Egan 2001). Innocentius III was in office between 1198 and until his death in 1216; among the documents he issued was the famous annulment of the



Magna Carta on 24 August 1215, a copy of which is kept in The British Library. Several other *bullae* of Innocentius III are known from England, and reported on the Portable Antiquities Scheme (cf. PAS nos BERK-64F246; DUR-B72736; ESS-812B33; LIN-E39DF1; NCL-C60397; SF-75C3F8; SWYOR-30D3F1). The bull was associated with pottery dating from the late 11th to 12th centuries.

## Finds catalogue

context	SF	description	pot date	recommendations
353	63	Bone double-ended pin beater; incomplete; markedly polished surface from use; L 130mm+; W 10mm	N/a	
1701	361	Copper-alloy pin; complete with cuboid openwork head, rendered polyhedral by angled corners with drilled dots; small pierced lug at the top; L 47mm	N/a	Further identify
1727	428	Lead seal; Papal bull of Innocentius III (in office 1198-1216); complete; diam. 40mm	1080-1200	
3671	913	Tooth segment of composite double-sided comb; half rivet hole for connecting plate on one side; ht. 56mm; W16mm	N/a	

### BOH13: Anglo-Saxon and earlier medieval finds

#### Late Medieval To Early Modern

The largest, and most varied, group of identifiable objects could be dated to the late medieval to early modern periods (c.1450–1700). Comprising around 50 items, the finds represent a range of categories that include dress accessories, household furnishings, playthings, production-related objects and numismatica.

Dress accessories and personal items can be seen in lace-chapes, fragments of a toilet set and ivory combs. Three long and slender lace-chapes are formed of rolled copper-alloy sheet (SF 772 and 779); their increased use in the late medieval period reflects a fashion for tighter and more fitted clothing that would require lacing (Egan and Pritchard 1991, 281–90). In the 15th and 16th centuries, lace-chapes were particularly lavishly in use (Egan 2005, 52–53; cf. Margeson 1993, 22). In the early modern period, toilet implements or cosmetic sets with ear scoops, nail cleaners and toothpicks, previously manufactured in copper alloy, are frequently made of bone. The finds from Borough High Street include two fragments of a delicately carved bone toilet set (SF 213 and 214). The larger fragment, which has a decorative lug for suspension, retains the upper part of a sickle-shaped toothpick. Both pieces also have a small perforation at the top for the copper-alloy rivet that would have held the set together, and have close parallels in a toilet set from a 16th-century context excavated in Southampton (cf. MacGregor 1985, fig. 57 e). A series of eight simple double-sided combs of elephant ivory are characteristic of the 16th and 17th centuries (SF 83, 185, 203, 226–229 and 798; cf. Margeson 1993, 66–68). One comb (SF 644), with broad and slightly convex side plates, may be earlier. It has a parallel in a 14th-century wooden comb from London (cf. Egan and Pritchard 1991, fig. 248 no. 1725). If this is the case, the comb is unusual. Elephant ivory remained a rare and luxurious material in the medieval period, with Paris a main centre for manufacture (MacGregor 1985, 39). The first traces of elephant ivory working from English contexts date

from the 16th century (Riddler 2009), with more substantial amounts of ivory-working waste dating from the 17th century (cf. Hutchinson 1996, 134–41; Whipp 2006, 48–50). The flourish of domestic ivory products at this time can also be seen in cutlery handles discussed below.

Household furnishings are reflected in two copper-alloy candlesticks. One, preserved only as a stem, belongs to a type dating from the late 15th to mid-16th centuries. The stem has an octagonal cup set above an openwork ring, and complete examples show it would have been set into deep hollow biconical base with a shallow wax-pan fitted around the top (cf. Ward Perkins 1940, fig. 55 no. 2). The cup has opposing oval slots below the remnants of two circular openings. The openings would have enabled the candle ends to be pushed up and extracted, with the holes perhaps to fix the remaining stump of the candle to burn to the end. Other candlestick stems of this type are known from the Southwark riverfront further north-east, associated with the moat of Fastolf Place (Egan 2005, fig. 68 no. 335), and from Ewell in Surrey (Williams 1996, fig. 11 no. 80). A complete example was recently excavated at Park Street, just to the north of the Borough High Street site (Fairman and Teague in prep.). The other candlestick consists of a flanged base with an integral drip tray and the lower part of the stem. This candlestick is likely to date from the 17th century (cf. Lindsay 1970, fig. 265).

Spoons and cutlery were also recovered. A copper-alloy spoon with a characteristic fig-shaped bowl and part of the diamond-section stem represents a more unusual find, with lead and pewter spoons from the late medieval and early modern periods far more frequent (cf. Egan 1998, 244–52; Egan 2005 109–21). Three slender knives include one tang-hafted blade (SF 717). A knife with a long solid bolster retains rivets for probable wooden scales; it would date from the late 16th to early 17th centuries (cf. Moore 2006, 11–13). Unusually, on this knife the scales are set at an angle to, rather than in plane with, the blade. The third knife has an integral iron handle with a moulded finial (SF 742), a characteristic late 16th-century form that may have been produced as a *memento mori* gift for funerals (Brown 2001, 75 no. 29; cf. Egan 2005, fig. 74). A two-disc lead cloth seal is now corroded to the upper end of the blade of this knife. Besides these knives, context [1208] produced a series of five tang-hafted knives with ivory handles (SF 237–240 and 242). The knives were associated with pottery dating from the mid-17th century (Jarrett, this report Appendix 3); the same context also yielded four of the ivory combs, above.

Other household related objects include a substantial copper-alloy book clasp (SF 115). Furnished with a hook at one end, and with a splayed terminal, this is a form that is found in late medieval and early modern contexts; the size and shape has close parallels in a book clasp from Castle Rising in Norfolk, (Morley and Guerne 1997, fig. 60 no. 20; cf. Goodall 1988, fig. 21 no. 1). Textile production is reflected in three brass thimbles and a sewing ring (SF 254), the latter basically a thimble open at both ends, and traditionally used by tailors (Holmes nd, 1). All have shallow drilled pits. One of the thimbles, possibly cast, is a tall heavy-duty form with a tapersure and may date from the 15th century (SF 130; Egan 1998, fig. 206 no. 831). The shallow cup shape and two engraved lines at base of SF 298 also suggest a late medieval date. A thimble with a flat crown (SF 95) has parallels in a find from the area of Fastolf Place on the Thames waterfront further north, from a late 15th/early 16th-century context (cf. Egan 2005, fig. 126

no. 623); the Borough High Street thimble has unusually short sides. A spindle whorl of glazed stoneware represents an imported object; these items were produced by potters in the Rhineland and widely distributed in SE England in the early 16th century (Gaimster 1997, 89). A small lead cloth seal (SF 700) reflect the system of quality control of textile that was in operation from the late Middle Ages and through to the abolition of the alnage system in 1724 (Egan 1994, 1–7). The seal has fragmentary remains of stamp on one side. Linked two-disc seals, like the Borough High Street item, were the normal form from the late 14th to the late 16th centuries, succeeded by four-part seals (*Ibid.*, 5–6). Two part seals were also used later, but the small size of the Borough High Street seal suggests it may be late medieval or early modern; it was associated with pottery dating from 1300–1500. A further two-disc seal was found corroded to the blade of a late 16th-century knife found on site (SF 742, above). Playthings can be seen in two toy marbles (SF 232 and 234). Both are made of glazed stoneware, and like the spindle whorl they represent imports from the Rhineland, where these toys were produced by potters already in the 15th and 16th centuries (Gaimster 1997, 125).

A number of coins were recovered from the excavations, the majority of which will require x-ray or cleaning for identification. They include eleven silver or likely silver coins, the majority of which are likely to fall within this period (SF 92, 149, 152, 192, 204, 211, 243, 264, 345, 494 and 817). Only identified coins and jetons are catalogued in this report. They include copper-alloy farthings by James I (SF 916) and Charles I (SF 231), with a further four likely 17th-century royal farthings of these regents among the finds (SF 132, 187, 198 and 219). Two private halfpenny tokens (SF 96 and 147) reflect the acute lack of small change in the period c. 1648–1673, which saw the circulation of tens of thousands of private base-metal coins minted for tradesmen and shopkeepers (Dickinson 1986, 4–15). The two tokens from Borough High Street both appear to have been minted in 1667; one for a haberdasher in Southwark named John Elliott (SF 147). Later coins are seen in two Charles II farthings (SF 186 and 945), and a farthing and halfpenny of William III (SF 199 and 127). Alongside coins were also copper-alloy jetons, used for calculating sums on a chequered board or cloth. By the mid-16th century, these reckoning counters was dominated by Nuremberg products as can be seen in a so-called ‘Rechenmeister’ jeton dating from the late 16th century (SF 125; cf. Mitchener 1988, 415–17). At this time, many jetons carried pious mottoes on the back, seen in two of the Borough High Street examples. One (SF 4), by the jeton master Wolf Laufer (1612–51) is inscribed GOTES SEGEN MACHT REICH (God’s blessing brings riches); the other (SF 202), likely by the master Hans Krauwinkel II (1586–1635), GOTTES GABEN SOL MAN LOB (One should praise God’s gifts).

## Finds catalogue

context	SF	description	pot date	recommendations
0	96	Private halfpenny token; HIS HALFE PENY; JAMES EWAR IN THE PAR.. around // initials E above I I 1667; NEARE ORAVILL LANE around; diam. 19mm	N/a	Further identify
	125	Copper-alloy jeton; Nuremberg Rechenmeister type;	N/a	Further identify

		diam.22mm		
	127	William III halfpenny (1694-1702)	N/a	
	185	Ivory simple double-sided comb; in several pieces; ht. 57mm; W 100mm9	N/a	
	186	Charles II farthing (1672-85)	N/a	x-ray for copper plug
	644	Ivory simple double-sided comb; broad and convex side plate only; ht. 80mm; ?medieval	N/a	Further identify
	916	James I royal farthing; Lennox type (1616-25); heavily corroded	N/a	Clean to identify
	945	Charles II farthing (1672-85)	N/a	x-ray for copper plug
173	4	Copper-alloy jeton; Wolf Laufer Nuremberg (1612-51); rose-and-orb type with pious motto: GOTES SEGEN MACHT REICH; diam. 21mm	N/a	
811	83	Ivory simple double-sided comb; incomplete; ht. 52mm	N/a	
847	95	Copper-alloy thimble; complete but squashed; flat crown and very short sides; diam. 18mm; ht. 8mm	1580-1600	
852	94	Glazed stoneware spindle whorl; complete globular; diam. 32mm; ht. 25mm	N/a	
857	130	Copper-alloy thimble; ?cast heavy-duty with tonsure and plain edge; complete; diam. 20mm; ht. 22mm	N/a	
870	103	Copper-alloy spoon with fig-shaped bowl and diamond-section handle; incomplete; bowl W 40mm; full L 125mm+	N/a	x-ray
899	115	Copper-alloy book clasp; substantial with hook and splayed finial; L 67mm	N/a	x-ray
1001	147	Private halfpenny token; HIS HALFE PENNY, initials E above I M; IOHN ELLIOTT HABERDASHR around // figure of horse looking behind; IN SOVTHWARKE 67 around; diam. 21mm	N/a	Clean to identify
1061	207	Ivory cutlery handle for tanged implement; tapering with flat terminal; L 85mm	N/a	
1168	199	William III farthing (1694-1702)	N/a	
1182	202	Copper-alloy jeton; probably Hans Krauwinkel II (1586-1635); rose-and-orb type with pious motto: GOTTES GABEN SOL MAN LOB; diam. 21mm	N/a	
1183	203	Ivory simple double-sided comb; near-complete small and compact form; ht. 44mm; W 35mm	N/a	
1187	213	Bone implement from toilet set; fragment only with decoratively carved edges and small hole for copper-alloy rivet; L 30mm	N/a	
	214	Bone implement from toilet set; near-complete sickle-shaped toothpick element with small hole for copper-alloy rivet below hole for suspension ring; L 47mm	N/a	
1208	226	Ivory simple double-sided comb; incomplete; ht. 55mm; W 70mm+	mid-17th century	
	227	Ivory simple double-sided comb; near-complete small and compact form; ht. 51mm; W 40mm	mid-17th century	
	228	Ivory simple double-sided comb; incomplete; ht. 50mm; W 50mm+	mid-17th century	
	229	Ivory simple double-sided comb; incomplete; ht. 60mm; W 75mm+	mid-17th century	
	231	Charles I royal farthing; Maltravers type (1634-36); heavily worn and incomplete	mid-17th century	
	232	Toy marble of glazed stoneware; diam. 15mm	mid-17th century	
	234	Toy marble of glazed stoneware; diam. 15mm	mid-17th century	
	237	Iron knife with ivory handle; handle tapering with slightly bulbous terminal; L 70mm	mid-17th century	x-ray

	238	Iron knife with ivory handle; handle tapering with straight terminal; L 70mm	mid-17th century	x-ray
	239	Iron knife with slim ivory handle; handle tapering with slightly bulbous terminal; L 65mm	mid-17th century	x-ray
	240	Ivory cutlery handle for tanged implement; tapering with slightly bulbous terminal; L 65mm	mid-17th century	
	242	Ivory cutlery handle for tanged implement; tapering with slightly bulbous terminal; L 70mm	mid-17th century	
1219	254	Copper-alloy sewing ring; complete with tapering sides; diam. 20mm; ht. 10mm	N/a	
1223	250	Copper-alloy candlestick; stem only with octagonal cup set on openwork ring; ht. 70mm	N/a	
1328	277	Copper-alloy candlestick; flared hollow base with drip tray and lower part of stem only; base diam. 67mm; ht. 60mm+	N/a	
1567	298	Copper-alloy thimble; complete but squashed; shallow cup shape and two engraved lines at base; ht. 20mm	N/a	
1747	606	Lead token; bifacial on small thin flan; corroded; diam. 12mm	N/a	Clean to identify
2145	717	Iron knife with slender blade; ?tang-hafted; blade L 105mm	N/a	x-ray
2350	700	Lead two-disc cloth seal; faint traces of stamp on one side; diam. 13mm; L 20mm	1300-1500	Further identify
2656	742	All-iron knife; slender blade and tapering handle with moulded finial; L 175mm+; lead two-disc cloth seal corroded to top end of blade	N/a	x-ray; remove cloth seal from blade
	744	Iron scale-tang knife with long solid bolster; iron rivets for ?wooden scales, unusually set at angle to blade; incomplete; L 120mm+	N/a	x-ray
2837	772	Copper-alloy lace-chape; incomplete; L 35mm	N/a	
2867	779	Copper-alloy lace-chape; two incomplete; L 33 and 45mm	N/a	
2989	798	Ivory simple double-sided comb; incomplete thin with narrow convex sides; ht. 42mm; W 59mm	N/a	

**BOH13: late medieval to early modern finds**

**LATER POST-MEDIEVAL**

The later post-medieval period is represented here by around 20 items. Of particular interest is the large assemblage of finds from context [3109], including six ivory brush plates (SF 810–14). The brush plates are mainly composite items, with a separate back plate covering the plate of wire-drawn bristles, and fixed with small copper-alloy rivets; they are likely to date from the late 18th to mid-19th centuries. Other finds from this context include a delicate green-stained ivory cutlery handle with a carved scallop finial (SF 821). The handle has parallels in small fruit knives and foldable cutlery from the late 18<sup>th</sup> century (cf. Brown 2001, 121 no. 99). There are also four small dished bone buttons (SF 937–40) and fragments of a delicate ivory fan (SF 942). The cache of brush plates may reflect the presence of a shop or small-scale manufacture; two blanks for ivory products, a toothbrush and a handled brush, were also recovered from the site (SF 801 and 917). Other later post-medieval finds are presented by copper-alloy objects in the form of a small oval plaque, embossed H. RUSTON // HIGH STREET // BORO // LONDON (SF 800), a barrel tap with a T-shaped key (SF 195), and a substantial annular buckle with a central bar and the remains of an iron pin (cf. Whitehead 2003, 44 no. 251). There is also a handful of slate pencils (SF 88, 100, 101, 935).

## Finds catalogue

context	SF	description	pot date	recommendations
0	88	Slate pencil; complete with one pointed end; L 70mm	N/a	
868	100	Slate pencil; incomplete	N/a	
	101	Slate pencil; incomplete	N/a	
1132	195	Copper-alloy barrel tap with T-shaped key; L 83mm	N/a	
3002	800	Copper-alloy plaque; oval; embossed H. RUSTON //HIGH STREET // BORO // LONDON; W 40mm; ht. 55mm	N/a	
	801	Blank for ivory toothbrush with rectangular head; L 158mm	N/a	
3106	808	Ivory toothbrush; narrow oval wire-drawn head only; W 10mm; L 55mm	N/a	
3109	810	Ivory brush plate; composite for wire-drawn tuft; rectangular with rounded ends; W 29mm; L 102mm	N/a	
	811	Ivory brush plate; composite for wire-drawn tuft; rectangular with rounded ends; W 27mm; L 75mm	N/a	
	812	Ivory handled brush; rectangular brush plate for wire-drawn tuft; full L 155mm	N/a	
	813	Ivory brush plate; composite for wire-drawn tuft; rectangular with rounded ends; W 28mm; L 99mm	N/a	
	815	Ivory brush plate for wire-drawn tuft; rectangular with rounded ends; W 22mm; L 103mm	N/a	
	814	Ivory brush plate; composite for trepanned tuft; rectangular with one rounded ends; W 18mm; L 83mm	N/a	
	821	Scale-tang green-stained ivory cutlery handle tapering towards narrow carved scallop finial; L 80mm	N/a	x-ray
	830	Copper-alloy buckle; substantial flat-section annular with central bar and iron pin; diam. 50mm	N/a	x-ray
	935	Slate pencil; incomplete	N/a	
	937	Dished bone suspender button with four eyes; diam. 12mm	N/a	
	938	Dished bone suspender button with four eyes; diam. 12mm	N/a	
	939	Dished bone suspender button with four eyes; diam. 12mm	N/a	
	940	Dished bone suspender button with four eyes; diam. 12mm	N/a	
	942	Ivory fan blade; minute openwork fragments	N/a	
3719	917	Blank for ivory handled brush; one side burnt and sooted; full L 160mm	N/a	

### BOH13: later post-medieval finds

#### The significance and potential of the assemblage and recommendations for further work

The metal and small finds from Borough High Street provide an important insight into local households and industries in Southwark in the post-Roman period. The assemblage crucially includes at least two mid- to late Anglo-Saxon objects, adding to the generally weakly represented Anglo-Saxon finds from Southwark. The finds may represent waste from the area of the Late Saxon *burh* further to the north, or reflect small-scale rural settlements outside of this. The papal bulla is a significant object in itself, but also dates from a period generally less well-represented in archaeological finds. The large late medieval to early modern assemblage fits well into the emerging picture of Southwark at this time, as evidenced in

recent and forthcoming publication (cf. Egan 2005; Fairman and Teague in prep.). The smaller group of later post-medieval finds, too, are of interest and likely to originate from pre-Victorian households and activities.

Recommendations are made for further identification of individual objects in the catalogue. As a whole, the finds discussed here will need to be evaluated along with the full assemblage of metal and small finds, some of which are awaiting x-raying and further identification and, where relevant, be included in any forthcoming publication of the site.

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## **APPENDIX 9: Animal Bone Report**

**By Kevin Rielly**

### **Introduction**

The site is situated adjacent to Borough High Street in Southwark about 250 metres south of London Bridge Station and, during the Roman era, in the central part of the South Island. It is a multiperiod site with Roman, medieval and post-medieval occupancy, with each of these periods providing large quantities of finds including animal bones. These were principally collected by hand but this collection was augmented by a thorough sampling programme.

### **Methodology**

This assessment was targeted at a number of 'key contexts', offering a selection of data covering the entire occupation period of the site. The bone was recorded in order to ascertain the number of bones from each of these deposits, including a species count, a quantification of age and size, plus any other information to illustrate the potential value of further bone work as for example the presence of particular species, especially status-orientated, or notable collections of certain skeletal parts, denoting processing and/or industrial/craft waste. It should be stated that this assessment will be limited to the hand collected bones, those recovered by sieving being dealt with elsewhere.

### **Description of faunal assemblage**

A total of 605 bones were recorded according to the methodology described above, accounting for about 7% of the total number of animal bones recovered from this site. All of these bones were in good condition and without any obvious signs of gross fragmentation. It can certainly be suggested that the bones are likely to have suffered no more than a minimal level of redeposition. It was possible to associate each deposit with a broad date range and the proportion in each period is shown in Table 1, also demonstrating the total number of bones identified to each species. There is a notable broad range in each period, although in particular within the latest period.

A large proportion of each period collection was taken from just one deposit, as shown in Table 2. These include the fill [3680] of a Roman timber-lined well; from a medieval agricultural/garden soil [1963]; and from the fill [2394] of a chalk-lined cesspit [2355]. The preponderance of cattle bones in the earlier level is very largely composed of horncores (67 fragments) probably signifying tanning or hornworking waste. However there were also a number of other cattle fragments, almost all limb bone pieces, demonstrating a wide array of butchery cuts invariably made using a cleaver/chopper. A large proportion of the remaining bones from the well comprised the major part of an adult dog skeleton (missing the head,

vertebral column and foot bones) as well as a radius/ulna from another dog which had clearly suffered a major trauma causing fusion of these two bones at the midshaft. The overall species representation of both the Roman and the medieval collections (here including the individual [1963] assemblage, typically follows the London pattern for these two periods – showing a dominance of cattle compared to sheep/goat and pig. This pattern changes, again typically, by the post-medieval era with a greater abundance of sheep/goat. Notably, the late collection from [2355] follows the Roman example with evidence for craft/industrial waste. Here there were a small number of complete cattle horncores as well as three horn points (showing a remarkable level of preservation). It can be assumed that these horn fragments represent the practice of removing the points in order to facilitate the removal of the horn sheaf from the underlying horncore by encouraging a more rapid deterioration of the connective tissue (after MacGregor 2001, 371). While not necessarily suggesting that hornworking was taking place nearby, these parts do at least indicate that the raw material for this craft was being prepared/processed in the general vicinity. Finally, it is evident that this later deposit also provided a greater proportion of bird and fish bones compared to the other collections. This could be related to the better recovery of bones from the cesspit, perhaps related to the obvious concentration of bones within this feature.

The aforementioned condition of the bones was obviously conducive to the recognition of butchery cuts (especially noticeable amongst the Roman collections). This must have also aided the good proportion of bones which can be aged – here mainly concerning epiphyseal fusion. In contrast, there are relatively few available measurements, at least amongst the Roman assemblage, this largely related to the high level of butchery with most limb bones split. However, there is great potential for both age and size data from the large quantity of Roman cattle horncores (here following Armitage and Clutton-Brock 1976).

## **Conclusions and recommendations**

This assessment is obviously based on only a very small proportion of a notably large animal bone assemblage. However, assuming that it can be recognised as a representative sample, the evidence clearly points to a high potential value concerning the information this collection can provide. The good condition of the bone assemblage is certainly typical of other collections found in the vicinity and there is little doubt that a similarly good level of preservation will be demonstrated by the remainder of the bones from this excavation. The abundance of cattle in the Roman collections, these exhibiting a high level of heavy butchery, has also been seen elsewhere in Southwark and the City. The quantity of butchery marks should make it possible to compare butchery techniques to those already examined from large contemporary collections from Drapers Gardens and the Thameslink sites (Rielly in prep a and b). The latter sites, just south and west of London Bridge, exhibited areas with notable concentrations of butchers waste (cattle head and foot parts) and it would certainly be of note if similar collections were found amongst the bones yet to be examined from this site. The concentrations of horncores clearly signify the presence of craft activities in this locality, reminiscent of similar collections found at a number of sites

within the city at the northern end of the Walbrook (Rielly in prep a and Clutton –Brock and Armitage 1977), these essentially date to the 3<sup>rd</sup> and 4<sup>th</sup> centuries AD. A somewhat smaller concentration of such material has been found, dated to a similar period, at Winchester Palace (Rielly 2005, 163), but to date nothing as large as the collection from Borough High Street. It is certainly significant that this level of craft activity may now also have been present in Roman Southwark.

The medieval and post-medieval collections also follow the species abundance pattern seen elsewhere in London with a notable increase in sheep/goat by the latter period. The notable collection of bone from the medieval period is of some importance due to the general lack of such collections from Southwark with the notable exception of those from Winchester Palace and Tabard Square (Rielly 2006 and Rielly in prep c). In contrast there are several post-medieval collections from this area, including that from the nearby site at Guys Hospital (Armitage in prep). A major aspect of this later period is the spread of animal product based industries, in particular the leather industry. It is interesting in this respect to add further information to that already compiled (see Rielly 2011), especially in an area generally devoid of such evidence. As mentioned, the horncores and the horn fragments from the cesspit may be indicative of horn processing, with these items perhaps derived from the tanyards somewhat to the west situated along Bermondsey Street and Long Lane. Comparisons can however be seen within this locality with a somewhat larger collection of cattle horncores retrieved from the previously described Guys Hospital site, these dated to the 17<sup>th</sup> century (Armitage in prep).

It can be envisaged that the bones from this site will provide significant additional data regarding the study of animal usage within the three key occupation periods – Roman, medieval and post-medieval. Key attributes, based on the bones examined and the expected quantity of bones available for study, will include the determination of domesticate abundance, exploitation practices and size/type; as well as, bringing in the sample information, the availability and use of the other food groups, as poultry, game and fish. In addition, as mentioned, this collection has also demonstrated a notable local significance, in terms of evidence concerning tanning/hornworking in Roman Southwark as well as the presence of a large medieval assemblage.

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<b>Period:</b>	<b>Roman</b>	<b>Medieval</b>	<b>Post-medieval</b>	<b>Total</b>
<b>Species</b>				
Cattle	170	68	9	247
Equid	3	3		6
Cattle-size	63	41	21	125
Sheep/Goat	9	14	21	44
Pig	11	19	3	33
Sheep-size	4	12	26	42
Red deer	4	1		5
Roe deer	1			1
Dog	31		1	32
Rabbit			4	4
Chicken	4	3	18	25
Chicken-size			15	15
Goose		1	1	2
Dove			13	13
Fish			11	11
<b>Total</b>	<b>300</b>	<b>162</b>	<b>143</b>	<b>605</b>

Table 1. Species abundance within the major three periods of occupation (Total fragment counts recovered by hand)

<b>Period:</b>	<b>Roman</b>	<b>Medieval</b>	<b>Post-medieval</b>
<b>Context</b>	<b>3680</b>	<b>1963</b>	<b>2394</b>
<b>Species</b>			
Cattle	112	27	4
Equid		1	
Cattle-size	2	22	10
Sheep/Goat	4	4	8
Pig	1	7	1
Sheep-size		4	14
Dog	31		
Rabbit			3
Chicken	1	2	17

Chicken-size			15
Dove			13
Fish			11
<b>Grand Total</b>	<b>151</b>	<b>67</b>	<b>96</b>

Table 2. Species abundance within the best represented deposits from each period



## APPENDIX 10: Interim Environmental Archaeological Assessment Report

### Site: Borough High Street, Southwark

By Kate Turner and Marta Pérez

#### 1. INTRODUCTION

This report summarises the findings from the rapid assessment of 67 bulk samples taken during an excavation on land at 127-143 Borough High Street, Southwark.

The aim of this assessment is to give an overview of the contents of the assessed samples, and to provide an interim assessment of the material, with the view of subsequently carrying out a full analysis.

#### 2. METHODOLOGY

67 bulk samples of between 1 and 40 litres of sediment were processed using the flotation method; material was collected using a 300µm mesh for the light fraction and a 1mm mesh for the heavy residue. The heavy residue was then dried, sieved at 1, 2 and 4mm and sorted to extract artefacts and ecofacts. The abundance of each category of material was recorded using a non-linear scale where '1' indicates occasional occurrence (1-10 items), '2' indicates occurrence is fairly frequent (11-30 items), '3' indicates presence is frequent (31-100 items) and '4' indicates an abundance of material (>100 items). Preliminary results for this stage of the assessment are presented in **table 1**.

The light residue (>300 µm), once dried, was scanned under a low-power binocular microscope in order to quantify the level of environmental material, such as seeds, chaff, charred grains, molluscs and charcoal. Abundance was recorded as above. A note was also made of any other significant inclusions, for example roots and modern plant material. At this stage of assessment, a rapid scan of around 20% of each sample was carried out, to be expanded on in future reports. Preliminary results are shown in **table 2**.

#### 3. RESULTS

##### 3.1. Residues

- All of the samples contained artefacts, with the exception of sample <107>.
- Charcoal is well preserved in the majority of the heavy residues, of these 58 contained fragments large enough for species identification. 11 samples also contained sizeable deposits of waterlogged wood, which, once identified, could be used for radiocarbon dating.
- Bone was identified in 58 out of the 67 samples; this being a mixture of large and small mammalian material, as well as un-sizeable fragments. Fish bone was found in 45 samples.

- Presence of charred seeds and/or grain was varied, with material in around 50% of residues. Taxa present include *Prunus spp.* (stone fruit, inc. plums and cherries), *Vitis spp.* (vines, inc. grape), *Malus spp.* (apple), and *Pyrus spp.* (pear). Charred grains of *Triticum spp.* (indeterminate wheat) and *lens spp.* (lentil) were also identified.
- Marine and terrestrial molluscs were present in low concentrations throughout most of the assemblage; significant abundances (>30 specimens) of marine shell were identified in samples <121>, <123>, <126>, <127>, <141>, <149>, <157>, <162>, <165>, <168> and <174>, and of terrestrial shell in <172>. *Cerastoderma edule* (common cockle) and *Mytilus edulis* (common mussel) were identified, along with *Ostrea edulis* (flat oyster) though none of the samples contained enough material not to provide a statistically significant (>100 complete valves) sample for analysis.
- All but 13 of the samples contained building material, in the form of daub, brick, tile, stone, mortar, plaster and roofing material. Concentrations were generally low (<30 fragments), though samples <138>, <145> and <153> contained not only a greater amount, but also a wider variety of materials.
- Other artefacts present included pot fragments (found in 59 samples), flint material (found in 43 samples) and glass (found in 23 samples). Small amounts of hammer-scale were also identified in samples <109>, <111>, <113> and <121>, the fine residues of which were kept for further analysis. Finds of particular significance include several bone pins, glass beads, a copper pin and a worked wooden pin. A full record is provided in **table 1**.
- Any finds have been passed onto the relevant specialists for analysis.

### 3.2. Flots

- All of the processed samples produced light residues ranging from 1 to 480 ml in volume.
- Wood charcoal was identified in the entirety of the assessed flots; of these 26 contained sizeable fragments which, along with viable material from the heavy residues, should be sent to a specialist for further analysis. Waterlogged wood was also found in small amounts, though a preliminary scan indicated that none was of a size to be identified.
- 31 samples were found to contain charred grain; barley (*Hordeum spp.*), wheat (*Triticum spp.*), oat (*Avena sativa*) and rye (*Secale cereale*) (glume/bases) were present in varying concentrations, as were lentil (*Lens spp.*) and vetch (*Vicia spp.*). Several samples, including <171> and <154>, contained material that was too charred to be identified, along with which many of the recognisable grains were puffed and distorted, suggesting high temperatures and/or

repeated burning. Charred fruit seeds (pear and apple) and grape (*Vitis* spp.) were also found in sample <142>.

- Chaff, in the form of glume and rachis fragments, was found in 3 samples (<137>, <142> and <148>), which may indicate that cereal processing was undertaken on site.
- Un-charred seeds were discovered throughout the assemblage, with the exception of samples <110>, <137> and <140>; the widespread preservation of this material is likely due to the waterlogged nature of the sediments. At this stage of the assessment only the main taxa were counted, a record of which can be found in table 3. The most widely represented species were *Ficus carica* (fig), *Fragaria* spp (strawberry), *Rubus fruticosus/idaeus* (blackberry/raspberry) and *Sambucus* spp. (elder), all of which produce edible fruits, suggesting these species may represent a dietary component. *Carex* spp. (sedges) and *Chenopodium album* (fat-hen) were also well featured, the latter being a species common to waste ground and cultivated deposits.
- Mollusca remains were generally poorly preserved in the flot material; whole shells being present in only 8 samples. The majority of specimens present are of terrestrial origin, identified species including *Discus rotundatus* and *Vallonia excentrica*, though sample <173> also contained several freshwater species (*Bathyomphalus contortus* and *Planorbarius corneus*).
- 40 out of the 67 samples contained varying concentrations of insect remains; as insects can be a useful proxy for reconstructing past climate change it is therefore recommended that, where material is available, contexts of interest be paraffin sieved and sent to a specialist for assessment. The bones of small mammals/amphibians and/or fish were also identified in 45 samples, the most significant amounts being present in samples <167> and <172>.
- With regards to material culture, metal working residue in the form of slag, coal, clinker and hammer-scale were identified in 9 samples, the most significant amount being in samples <152> and <153>. No other finds were identified.
- Roots, moss and/or plant fibres were found in 5 samples, which may be indicative of stratigraphic movement and a contamination by modern intrusive elements. Several also contained modern insect remains, another indication of bioturbation.
- Once a complete assessment has been carried out, all extracted material should be passed onto the relevant specialists for analysis.

#### 4. Recommendations

Preservation of environmental material in these samples was generally good, likely as a result of the waterlogged nature of the sediment matrix. Wood charcoal was abundant throughout, the analysis of

which could provide valuable information regarding the local environment of the site, as well as the types of wood that are being exploited as a fuel resource. Seed remains were also well preserved, an initial assessment of which suggests the presence of several fruit species that may have been cultivated for consumption on site, or perhaps gathered from wild populations in the local area. Once a complete assessment of the sample residues has been carried out, it is recommended that this material be subject to further specialist identification, along with the burnt cereal and crop remains.

The lack of well preserved terrestrial molluscs, and the waterlogged nature of some of the deposits indicates good conditions for the preservation of pollen; it is therefore also recommended that suitable column samples be selected and a low resolution pollen assessment be carried out to determine viability.

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**Table 1:** Preliminary assessment of residues, BOH 13

Sample number	Context number	Feature Type	Volume (litres)	Residue						
				Charcoal	Seeds/grain	Shells	Animal Bone	Fish Bone	Building material	Artefacts
100	352	Pit fill	24	2	1	Marine (1)	Large (1) Small (3) Fragments (2)	3	Brick (1) Daub (1)	Pot (2) Iron (2) Slag (1)
101	355	Ditch fill	25	3	1	Marine (1)	Large (1) Small (2) Fragments (2)	3	Brick (1)	Pot (3) Copper (1) Bead (1)
102	394	Pit fill	23	2		Marine (1)	Large (3) Small (3) Fragments (1)	3		Pot (3)
103	396	Pit fill	26	2		Land (1)	Large (2) Small (1)	1	Brick (2)	Burnt flint (1) Pot (2) Glass (1)
104	400	Pit fill	27	2			Large (1) Small (1)		Brick (1) Daub (1)	Pot (2)
105	404	Pit fill	16	1			Small (2)		Brick (1)	Pot (1)
106	405	Pit fill	33	2	1	Marine (2)	Small (3) Large (2) Fragments (3)	2	Brick (1)	Pot (2) Glass (1) Iron (1) Copper (1)
107	405	Clay lens	3							NO FINDS
108	406	Pit fill	23	1	1	Marine (1)	Fragments (2)	2		Pot (2) Slag (1) Glass (1)
109	423	Pit fill	17	1		Marine (1)	Large (1)			Pot (1) Hammer-scale (3)
110	431	Layer	1	1				1	CBM (1)	
111	433	Pit fill	27	3		Marine (1)	Large (2) Small (3) Fragments (2)	3	Brick (1)	Pot (2) Iron (1) Copper (1) Slag (1) Glass (1) Hammer-scale (1) Residue saved for hammer-scale
112	435	Layer	23	2			Small (2) Fragments (1)		Daub (1)	Pot (2) Glass (1)
113	439	Layer	24	1			Large (1) Small (2) Fragments (2)		Brick (1) Daub (1) Roofing material (1)	Struck flint (1) Pot (2) Iron (1) Glass (1) Hammer-scale (1) Residue saved for hammer-scale

114	498	layer	23	2		Marine (1)	Large (1) Small (1)	2	Daub (1)	Pot (2) Iron (1) Slag (1) Glass (1)
115	542	Fill of linear feature	27				Small (1)	1		Pot (1)
116	550	Pit fill	27	2		Land (1)	Large (1)		Brick (1) Daub (2)	Pot (2) Iron (1) Glass (1) Beads (1)
117	557	Layer	28				Fragments (1)			Pot (1) Burnt flint (2)
120	1302	Layer	24	4	1	Marine (2)	Fragments (1)		Brick (2) Mortar (2)	Burnt flint (3) Pot (1) Iron (2) Glass (1) Insect remains (1) Charcoal rich
121	1349	Layer	24	4	1	Marine (3)	Large (1) Small (1)	1	Brick (1) Tile (2) Mortar (3)	Eggshell (2) Burnt flint (1) Struck flint (1) Pot (1) Clay pipe (1) Iron (1) Hammer-scale (1)
122	1386	Pit fill	8	4			Fragments (1)		Mortar (1)	Burnt flint (1) Iron (1)
123	1502	Pit fill	29	2	3	Land (1) Marine (3)	Large (2) Small (3)	3	Brick (1) Tile (1) Daub (1)	Eggshell (1) Burnt flint (1) Pot (1) Iron (2) Copper (1) Slag (2) Glass (2) Wood (1) Insect remains (1) Copper pin (1)
124	1644	Pit fill	26	1	1	Marine (1) Freshwater (1)		3	Daub (1)	Burnt flint (1) Pot (1)
125	1642	Pit fill	9	2			Small (2)		Tile (2)	Burnt flint (1) Pot (2) Organic residue (3)
126	1652	Pit fill	33	4		Marine (4)	Large (4) Small (3)	3	Mortar (3) Tile (2)	Eggshell (1) Burnt flint (1) Pot (3) Glass (1) Burnt flint (2) Residue kept for fish bone
127	1745	Pit fill	38	3		Seeds (4) Grain (3) Marine (3)	Large (1) Small (2) Fragments (2)	2	Tile (3) Mortar (2)	Burnt flint (1) Pot (1) Wood (2) Leather (1) Fabric (1)
128	1785	Pit fill	30	4	1	Marine (2)	Large (2) Small (3) Fragments (3)		Tile (3)	Burnt flint (2) Pot (3) Slag (2) Glass (1) Metal (1)

129	1785	Pit fill	35	2		Marine (1)	Large (2)	2	Brick (1) Daub (1) Mortar (1) CBM (2)	Iron (1) Burnt flint (1) Pot (2)
133	2033	Fill of pot	0.25	2						Pot (2) Burnt bone (1)
134	1952	Pit fill	25	2	1	Marine (1) Freshwater (1)	Large (1) Small (1)		Brick (1)	Pot (2) Slag (2)
135	1966	Pit fill	30	2	1	Marine (1)	Small (3) Fragments (2)	2	Tile (2)	Burnt flint (3) Pot (2) Glass (1)
136	2045	Pit fill	33	3	2		Large (2) Small (3)	3		Burnt flint (1) Pot (2) Residue kept for fish bone
137	2060	Layer	17	4	1	Land (1) Marine (1)			Brick (1) Tile (1)	Eggshell (1) Burnt flint (1) Pot (2)
138	2054	Pit fill	36	2		Marine (1)	Large animal (3) Small (1)		Daub (2) Plaster (3) CBM (3)	Burnt flint (1) Pot (3) Iron (1) Worked wood pin (1) Coal (1) Tesseræ (1)
140	2127	Fill of pot	5	3		Marine (1)	Fragments (1)	1	Tile (1)	Burnt flint (1) Pot (3) Iron (1)
141	2149	Pit fill	35	4		Marine (3) Freshwater (1)	Large (4)	1	Tile (2) Mortar (1)	Burnt flint (2) Struck flint (1) Pot (3) Iron (1) Glass (1)
142	2350	Pit fill	16	3		Marine (1)	Small (2)	2	Brick (1) Tile (1)	Pot (1)
143	2365	Layer	27	4	2		Small (1)	1	Tile (1)	Pot (1) Iron (1)
144	2382	Layer	27	1	2	Marine (1)	Large (1) Small (1) Fragments (1)	2	CBM (1)	Coal/clinker (1) Wood (1) Pot (1) Iron (1) Copper (1) Slag (1) Glass (1) Insect remains (1)
145	2376	Well fill	35	3		Seeds (1) Grains (1)	Large (3) Small (2)	1	Brick (2) Tile (2) Daub (3) Mortar (1)	Burnt flint (2) Pot (3)

146	2382	Fill of pot	2	1	2	Marine (1)		3	Tile (1)	Insect remains (2) Copper (1) Organic residue (4)
147	2409	Well fill	24	3		Marine (1)	Large (2) Small (2)	3	Brick (2) Tile (2)	Burnt flint (2) Pot (2) Iron (1)
148	1743	Well fill	33	1		Marine (1) Freshwater (1)	Large (1) Small (3)	1	Brick (1)	Burnt flint (1) Pot (2) Iron (1) Slag (1)
149	2397	Pit fill	36	3	2	Marine (3)	Large (3) Small (2) Fragments (3)	3	Tile (3) Daub (1) Mortar (2)	Burnt flint (2) Worked flint (2) Pot (2) Iron (1) Copper (1) Fabric (1) Rivet (1)
150	2648	Pit fill	27	2	2	Marine (1)	Fragments (2)	3	Mortar (1) Tile (2)	Burnt flint (2) Pot (2) Iron (1) Slag (3) Glass (1) Burnt bone (1) Wood (1) Organic material (3)
152	3087	Pit fill	14	2	4	Land (1)	Small (1)	4		Wood (4) Insect remains (4) Iron (1) Organic residue (4) Fabric (2)
153	3109	Well fill	37		2	Marine (1)	Large (3) Small (3)	2	Brick (3) Mortar (3)	Slag (4) Coal (4) Eggshell (1) Burnt flint (1) Pot (2) Clay pipe (1) Iron (1) Copper (4) Glass (3) Button (1) Ivory (1) Bead (1)
154	3154	Pit fill	12		3	Marine (1)	Small (2)	1	Brick (2)	Burnt flint (1) Pot (2) Wood (3)
155	3121	Pit fill	16	3	1	Marine (1)	Large (2) Small (2) Fragments (3)	3	Tile (2) Stone (1) Mortar (1)	Burnt flint (2) Pot (2) Bone pin (1)
156	3166	Pit fill	14	1	3	Marine (1)	Large (1) Small (1)	1	Daub (1)	Burnt flint (1) Pot (1)
157	3187	Pit fill	31	3		Marine (3)	Large (2) Small (1) Fragments (3)		Tile (3) Stone (1)	Burnt flint (2) Pot (3) Iron (2) Bone pin (1) Tesserae (2)
158	3190	Pit fill	13	1	2	Marine (1)	Large (3)	3	Stone (1) CBM (1)	Wood (1) Eggshell (1) Burnt flint (1) Pot (3) Slag (1) Bone pin (1)



159	3069	Pit fill	9	1	1		Small (3) Fragments (1)	1	Brick (1)	Burnt flint (1) Pot (1)
160	3215	Pit fill	34	4		Marine (2)	Large (2) Small (2) Fragments (1)	1	Brick (1)	Burnt flint (1) Pot (2) Iron (1) Glass (1)
161	3211	Pit fill	24	1	1	Marine (1)	Large (1) Small (1)	2	Brick (1) Tile (1)	Burnt flint (1) Pot (1) Clay pipe (1) Glass (1)
162	3244	Well fill	40	4		Land (1) Marine (3)	Large (3) Small (3) Fragments (1)	2	Brick (1) Tile (1) Daub (3)	Burnt flint (2) Pot (3) Iron (2) Glass (1) Bead (1) Residue kept for fish bone
163	3290	Pit fill	24	4			Small (1)	1		Pot (1) Slag (1)
165	3432	Pit fill	29	2	1	Marine (3)	Large (1) Fragments (3)	2	Brick (3) Tile (2)	Burnt flint (1) Pot (3) Iron (1) Slag (1) Glass (1)
166	3490	Pit fill	25	2	3	Marine (1)	Large (1) Small (1)	3	Brick (1) Tile (1) Stone (1)	Burnt flint (2) Pot (3) Organic residue (2)
167	3544	Pit fill	27	2	1	Marine (1)	Small (2)	2	Brick (3)	Burnt flint (1) Pot (3) Iron (1) Glass (1)
168	3547	Layer	7			Marine (4)			Mortar (3)	Pot (1)
169	3627	Pit fill	36	3			Large (2)		Brick (1) Tile (1)	Burnt flint (3) Worked flint (1) Struck flint (1) Pot (3)
170	3634	Possible cremation	4	3		Marine (1)	Large (2)		Tile (1)	Burnt flint (1) Clay pipe (2)
171	3681	Pit fill	27	1	1	Marine (1)	Small (2)		Brick (1) Daub (4)	Burnt flint (1) Pot (1)
172	3671	Well fill	32	2	2	Land (3) Marine (1)	Large (3) Small (2)	4	Brick (3)	Eggshell (1) Burnt flint (1) Pot (2) Iron (1) Glass (1)
173	3774	Ditch fill	35	1	1	Freshwater (2)	Small (2) Fragments (1)	1		Pot (1) Wood (3)
174	3812	Well fill	29	4		Land (1) Marine (3) Freshwater (1)	Small (2)	1	Brick (1)	Pot (1) Iron (1) Painted plaster (1)

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

**Table 2:** Preliminary assessment of flots, BOH 13

Sample number	Context number	Volume (litres)	Vol (ml)	Flot						
				Charcoal >1mm	Charcoal <1mm	Seeds (uncharred)	Seeds (charred)	Grains	Mollusca	Other
100	352	24	16	2	3	3		2		Insect remains (2)
101	355	25	15	1	2	4		2		
102	394	23	20	2	4	4		1		Animal bone (1) Fish bone (1)
103	396	26	11	1	3	2		2		Roots (2) Fiber (1) Plastic (1)
104	400	27	2	1	2	3		1		Slag (1) Insect remains (1)
105	404	16	1	1	2	2		1		
106	405	33	41	1	3	4		1		Animal bone (2) Clay (2) Flint (2) Insect remains (1) Coal (1)
106	405	3	2	1	3	2				Clay (1)
108	406	23	14	1	3	4		2		
109	423	17	2	1	3	1				
110	431	1	1	1	2					
111	433	27	5	2	3	1		1		Hammer-scale (1)

112	435	23	4	2	3	1		1	Fiber (3)
113	439	24	12	1	3	2		1	
114	498	23	6	2	4	1			Insect remains (1) Fish scales (1) Hammer-scale (1) Animal bone (1)
115	542	27	2	1	1	1			Animal bone (1) Fiber (1)
116	550	27	18	1	3	1			Animal bone (1) Modern contamination (2)
117	557	28	2	1	2	1			Animal bones (1) Fiber (2)
120	1302	24	42	4	4	1			Hammer-scale (1)
121	1349	24	90	2	4	1			Fish bone (1) Cuttlefish bone (1)
122	1386	8	24	4	4	1			
123	1502	29	30	2	3	3			Animal bone (2) Insect remains (3) Fish bone (3)
124	1644	26	24	3	4	4			Insect remains (1) Animal bone (2) Fish bone (2)
125	1642	9	40	4	4	3		1	Animal bone (2) Fish bone (3) Insect remains (3)
126	1652	33	58	4	4	4			Insect remains (1) Animal bone (2) Fragments (4)
128	1785	30	65	4	4	3		3	Animal bone (1) Insect remains (1)
129	1785	35	90	4	4	3		2	Insect remains (1) Animal bone (1) Moss (2) Hammer-scale (1)
133	2033	0.25	0.1		2	1		1	
134	1952	25	22	4	4	3			Fish bone (1) Insect remains (2)
135	1966	30	35	4	4	4			Fish bone (1)
136	2045	33	30	4	4	4		1	Insect remains (3) Animal bone (2) Fish bone (3)

137	2060	17	210	4	4			1	Land (1) Fragments (2)	Glume fragments (1) Insect remains (1) Fish bone (1) Animal bone (1)
138	2054	36	20	4	4	4		1	Fragments (1)	Insect remains (2) Slag (1) Animal bone (1)
140	2127	5	0.2	2	4					Insect remains (1) Animal bone (1)
141	2148	35	0.2	3			2		Land (1) Fragments (1)	Insect remains (1) Animal bone (1)
142	2350	16	120	4	4	3	3	3	Land (1)	Insect remains (2) Glume fragments (1)
143	2365	27	65	4	4	4		1		Animal bone (1) Coal (2) Insect remains (1)
144	2382	27	80	4	4	4				Insect remains (3) Animal bone (2) Fish bone (2)
145	2376	35	100	4	4	4			Fragments (1)	Wood (4) Animal bone (1)
146	2382	2	0.3	1	4	3				Insect remains (1)
147	2409	24	100	4	4	4				Fish bone (3) Insect remains (3) Plant material/wood (4)
148	1743	33	24	4	4	4				Glume fragments (2) Insect remains (1) Fish bone (2)
149	2397	36	120	4	4	4		2		Wood (4) Animal bone (3) Insect remains (2) Fish bone (3)
150	2648	27	300	4	4	4				Animal bone (1) Insect remains (3) Fish bone (2)
152	3109	14	300	4	4	4				Wood (3) Fish bone (3) Insect remains (3) Animal bone (3) Coal/clinker (4)

153	3109	37	480	2	3	4			Coal/clinker (4) Slag (3) Wood (1) Insect remains (2) Animal bone (1) Fish bone (2)
154	3154	12	30	3	4	4	1	Land (1)	Animal bone (1) Insect remains (2)
155	3121	16	40	4	4	4	2		Insect remains (1) Animal bone (1) Fish bone (1)
156	3166	14	150	1		4			Insect remains (4)
157	3187	31	90	4	4	1		Fragments (4)	Animal bone (1)
158	3190	13	5	1	3	3	1		Fish bone (1) Insect remains (1)
159	3069	9	6	4	2	4	1		Fish bone (2) Insect remains (1)
160	3215	34	110	4	4	2		Land (1) Fragments (3)	Insect remains (2) Animal Bone (1)
161	3211	24	110	4	4	3	3		Insect remains (3) Fish bone (3)
162	3244	40	100	4	4	3		Land (2)	Animal bone (2) Fish bone (2)
163	3290	24	400	4	4	3			
165	3432	29	105	3	4	4	1		Insect remains (3) Animal bone (1)
166	3490	25	50	3	4	4	1		Insect remains (2) Fish bone (1) Wood (1)
167	3544	27	40	4	4	4	1		Animal bone (3) Fish bone (3)
168	3547	7	15	3	4	3	1	Fragments (4)	Insect remains (2)
169	3627	36	65	4	4	2		Fragments (4)	Insect remains (1)
170	3634	4	0.3	2	4	1			Fish bone (1) Animal bone (1)
171	3681	27	42	4	4	4	1		Insect remains (3) Fish bone (2)

172	3671	32	250	4	4	4			Land (4)	Animal bone (4) Insect remains (3) Fish bone (2)
173	3774	35	150	4	4	4			Land/freshwater (4)	Wood (4) Insect remains (2)
174	3812	29	30	4	4	3				Animal bone (1)

Key: 1- Occasional, 2- fairly frequent, 3- frequent, 4- abundant

**Table 3:** Key plant taxa from selected samples, BOH 13 (non-quantified)

Sample Number	121	122	123	124	125	126	128	129	133	134	135	136	137	138	141	142	143	144	145	146	147	148	149	150	152
<b>Uncharred seeds</b>																									
<i>Adoxa moschatellina</i>																P	P								
<i>Aethusa spp.</i>																						P			
<i>Apium spp.</i>																									
<i>Asperula spp.</i>																									
<i>Atriplex hortensis</i>												P					P								P
<i>Atriplex spp.</i>																			P					P	
<i>Brassica spp.</i>			P	P			P										P				P		P	P	
<i>Carex spp.</i>			P		P	p		P		P		P		P		P	P	P	P	P	P	P		P	P
<i>Chenopodium album</i>								P	P			P				P	P		P		P		P	P	P
<i>Chenopodium spp.</i>																	P						P		
<i>Ficus carica</i>		P	P	P	P	P	P		P					P			P	P		P	P		P	P	P
<i>Fragaria spp.</i>	P		P	P		P	P			P		P		P	P		P		P	P	P	P	P	P	P
<i>Fraxinus spp.</i>																									
<i>Fumaria officinalis</i>							P																	P	P
<i>Hyoscyamus niger</i>																									
<i>Lamium spp.</i>							P									P		P			P		P	P	
<i>Malus spp.</i>			P									P												P	
<i>Medicago spp.</i>																	P								
<i>Menyanthes spp.</i>																									
<i>Nicandra spp.</i>																			P						
<i>Persicaria spp.</i>																P									
<i>Potentilla spp.</i>																							P		
<i>Potamogeton spp.</i>												P													
<i>Prunus spp.</i>			P		P							P						P			P		P	P	
<i>Pyrus spp.</i>												P													
<i>Ranunculus spp.</i>														P		P									
<i>Rubus spp.</i>		P		P	P	P	P	P	P	P		P		P	P		P	P	P		P	P	P	P	P

<i>Rumex/polygonum spp.</i>							P					P			P		P	P						
<i>Sambucus spp.</i>	P			P	P	P	P	P			P	P			P	P			P	P	P	P		
<i>Sanguisorba spp.</i>																	P							
<i>Saponaria spp.</i>																				P				
<i>Silene spp.</i>															P									
<i>Sinapis spp.</i>																						P	P	
<i>Solanum spp.</i>							P																	
<i>Sonchus spp.</i>														P										
<i>Sorbus spp.</i>													P									P		
<i>Stachys spp.</i>																								
<i>Stellaria spp.</i>															P	P								
<i>Urtica dioica</i>																						P		
<i>Viburnum spp.</i>																						P		
<i>Viola spp.</i>																								
<i>Vitis spp.</i>																	P		P					P P
<b>Charred seeds</b>																								
<i>Brassica spp.</i>																								P
<i>Galium spp.</i>																								P
<i>Malus spp.</i>																								P
<i>Rumex/polygonum spp.</i>																								P
<i>Sonchus spp.</i>																								P
<b>Charred Grain</b>																								
<i>Avena sativa</i>							P								P									
<i>Hordeum spp.</i>							P	P																P
<i>Lens spp.</i>																								P
<i>Pyrus spp.</i>																								P
<i>Secale cereale</i>																								
<i>Triticum spp.</i>						P		P	P					P		P								P
<i>Vicia spp.</i>																								P
<i>Vitis spp.</i>																								P



Sample Number	152	153	154	155	156	157	158	159	160	161	162	163	165	166	167	168	169	170	171	172	173	174
<b>Uncharred seeds</b>																						
<i>Adoxa moschatellina</i>																			P			
<i>Aethusa spp.</i>																						
<i>Apium spp.</i>									P													
<i>Asperula spp.</i>										P												
<i>Atriplex hortensis</i>																						
<i>Atriplex spp.</i>													P						P	P	P	
<i>Brassica spp.</i>									P	P			P		P				P			
<i>Carex spp.</i>			P	P	P						P	P	P			P			P	P	P	P
<i>Chenopodium album</i>	P		P		P		P	P		P		P	P	P					P	P	P	
<i>Chenopodium spp.</i>																				P	P	
<i>Ficus carica</i>	P	P	P		P			P	P		P	P	P		P						P	P
<i>Fragaria spp.</i>	P	P	P	P	P			P								P						
<i>Fraxinus spp.</i>																P						
<i>Fumaria officinalis</i>																						
<i>Hyoscyamus niger</i>				P																		
<i>Lamium spp.</i>			P	P						P			P	P	P				P	P	P	
<i>Malus spp.</i>																P						
<i>Medicago spp.</i>																						
<i>Menyanthes spp.</i>																				P		
<i>Nicandra spp.</i>																						
<i>Persicaria spp.</i>					P																P	
<i>Potentilla spp.</i>																						
<i>Potamogeton spp.</i>																						
<i>Prunus spp.</i>			P	P	P			P					P	P					P			
<i>Pyrus spp.</i>																						
<i>Ranunculus spp.</i>						P			P	P							P					
<i>Rubus spp.</i>	P	P	P	P	P		P	P		P	P		P	P	P				P		P	P

<i>Rumex/polygonum spp.</i>					P							P	P		P					P	P		
<i>Sambucus spp.</i>			P	P	P	P	P			P			P	P	P	P	P	P	P	P	P	P	P
<i>Sanguisorba spp.</i>																							
<i>Saponaria spp.</i>									P										P				
<i>Silene spp.</i>					P																		
<i>Sinapis spp.</i>					P																		
<i>Solanum spp.</i>																						P	
<i>Sonchus spp.</i>																							
<i>Sorbus spp.</i>													P										
<i>Stachys spp.</i>				P																			
<i>Stellaria spp.</i>																							
<i>Urtica dioica</i>																				P			
<i>Viburnum spp.</i>																							
<i>Viola spp.</i>														P									
<i>Vitis spp.</i>	P	P	P		P																		
<b>Charred seeds</b>																							
<i>Brassica spp.</i>																							
<i>Galium spp.</i>																							
<i>Malus spp.</i>																							
<i>Rumex/polygonum spp.</i>																							
<i>Sonchus spp.</i>																							
<b>Charred Grain</b>																							
<i>Avena sativa</i>				P					P														
<i>Hordeum spp.</i>				P			P		P			P			P								
<i>Lens spp.</i>																							
<i>Pyrus spp.</i>																							
<i>Secale cereale</i>																					P		
<i>Triticum spp.</i>				P			P		P				P	P									

<i>Vicia spp.</i>																						
<i>Vitis spp.</i>																						



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