

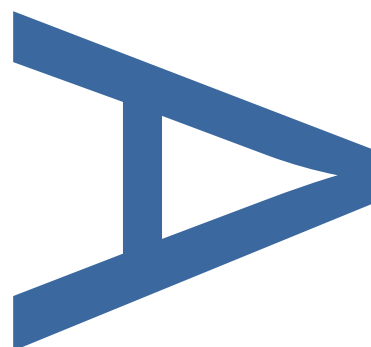
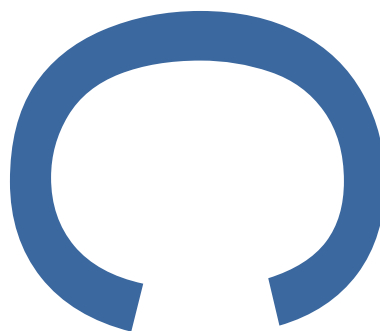
**10-18 UNION STREET
SOUTHWARK, SE1 1SZ**

**AN ARCHAEOLOGICAL
EVALUATION**

PCA REPORT NO: R12781

SITE CODE: K4863

FEBRUARY 2017




PRE-CONSTRUCT ARCHAEOLOGY

DOCUMENT VERIFICATION

**10-18 UNION STREET, SOUTHWARK SE1 1SZ: AN
ARCHAEOLOGICAL EVALUATION**

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10-18 UNION STREET, SOUTHWARK SE1 1SZ: AN ARCHAEOLOGICAL EVALUATION

Site Code: UNI17

Central NGR: TQ 32466 80031

Local Planning Authority: London Borough of Southwark

Commissioning Client: CgMs Consulting

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1 ABSTRACT

- 1.1 This report details the result of an archaeological evaluation undertaken by Pre-Construct Archaeology at 10-18 Union Street, Southwark, SE1 1SZ. The archaeological work was conducted between 17th and 20th January 2017 and was completed in accordance with the standards specified by the Chartered Institute for Archaeologists and following the guidelines issued by Historic England.
- 1.2 Two test pits (TP 1 and TP 2) were excavated and archaeologically recorded. Both were designed specifically to investigate the archaeological potential of the site. TP 1 was positioned within the basement area of the proposed new building and TP 2 was located just to the north of this area.
- 1.3 The archaeological evaluation found natural sandy silty clay deposits at 1.06m OD. These were sealed by evidence of Roman activity in both test pits. The greater concentration of this was seen in TP 2 and included Roman make-up deposits and the clay slab and stakeholes from a clay and timber building. In TP 1 this activity was represented by a layer of made ground.
- 1.4 A medieval soil horizon was noted sealing the Roman deposits in TP 2. Sequences of post-medieval and 19th century dumped deposits were recorded in both test pits. A N-S orientated 19th century wall was also seen in TP 1.

2 INTRODUCTION

- 2.1 An archaeological evaluation commissioned by CgMs Consulting was undertaken at 10-18 Union Street, Southwark, London SE1 1SZ between 17th January and 20th January 2017. The site is currently occupied by a 20th century building along the Union Street frontage, a 19th century building (no. 14) to the rear, with a central courtyard area between the two. A deep basement occupies the entire footprint of the 20th century building and the majority of the courtyard area. The proposed development comprises the demolition of the existing buildings and redevelopment of the site for a 4 to 6 storey building.
- 2.2 The site is centred at TQ 32466 80031 and lies within an Archaeological Priority Zone as defined by the London Borough of Southwark. An Archaeological Desk Based Assessment was carried out by CgMs in August 2016.
- 2.3 A scheme of archaeological evaluation comprising 2 test pits was proposed and coordinated between CgMs Consulting, the developer/property owner, and the geotechnical contractor. The Written Scheme of Investigation prepared by Pre-Construct Archaeology Ltd (Bradley 2017) details the methodology by which the evaluation was undertaken. The WSI followed the Historic England (Historic England GLAAS 2014) and Chartered Institute for Archaeologists guidelines (CIFA, 2014). The evaluation was supervised by Shane Maher and was project managed by Tim Bradley for Pre-Construct Archaeology Ltd.
- 2.4 The site was given the Museum of London site code UNI17. The complete archive comprising written, drawn and photographic records will be deposited within the London Archaeological Archive and Research Centre (LAARC).

3 PLANNING BACKGROUND

3.1 National Planning Policy Framework (NPPF)

- 3.1.1 The National Planning Policy Framework (NPPF) was adopted on 27 March 2012, and now supersedes the Planning Policy Statements (PPSs). The NPPF constitutes guidance for local planning authorities and decision-takers both in drawing up plans and as a material consideration in determining applications.
- 3.1.2 Chapter 12 of the NPPF concerns the conservation and enhancement of the historic environment.

3.2 Regional Policy: The London Plan

- 3.2.1 The relevant Strategic Development Plan framework is provided by the London Plan Consolidated with Alterations Since 2011. The Further Alterations to the London Plan (FALP) were adopted 10 March 2015. It includes **Policy 7.8 Heritage Assets and Archaeology**.

3.3 Local Policy: Archaeology in the London Borough of Southwark

- 3.3.1 The document aims to satisfy the objectives of the London Borough of Southwark, which fully recognises the importance of the buried heritage for which it is the custodian. Relevant policy statements for the protection of the buried archaeological resource within the borough are contained within the Core Strategy (April 2011).
- 3.3.2 The Southwark Plan also contains relevant policy statements, which were 'saved' in July 2010:

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.

3.4 Site Constrains

- 3.4.1 The site is located within an Archaeological Priority Zone, as defined by Southwark Adopted Policies Map (March 2012).
- 3.4.2 In terms of relevant archaeological heritage assets the site does not lie within the vicinity of a World Heritage Site, Historic Battlefield or Historic Wreck site.

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

- 4.1.1 The Institute of Geological Science (IGS 1979) shows the solid geology of the site as London Clay deposits forming the London Basin. A series of gravel terraces deposited during periods of inter-glacial conditions overlay the London Clayns (Bridgland 1994).
- 4.1.2 The British Geological Survey Sheet 256 (North London: 1994) shows the site to be underlain by deposits of alluvium, defined as mainly sand, silt and clay, immediately north of a small island of Kempton Park River Terrace Gravels, defined as Post-diversionary Thames River Terrace Deposits: gravel, sandy and clayey in part. Kempton Park Gravels have been categorised as part of the Devensian Stage, the last glacial stage of the British Pleistocene epoch (Gibbard, 1994).
- 4.1.3 Archaeological works undertaken 1988-89 revealed natural sands between 0.9m OD and 1.1m OD (CgMs 2016). During the current investigations natural clayey sands were noted at 1.06m OD.

4.2 Topography

- 4.2.1 The general topography of the surrounding the study site is level. In the centre of Union Street to the immediate south of the site a spot height of 3.7m OD was located. A Temporary Bench Mark (TBM) was established in the courtyard of 10-18 Union Street at 3.77m OD. The test pits were located on the ground floor of the current building, the floor level at each test pit was 5.46m OD.
- 4.2.2 The reproduction of the Mola Map of Londinium, shown in the Desk based Assessment (CgMs 2016), shows the site to the south of the Southwark Street channel of the River Thames in the Roman Period.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Introduction

- 5.1.1 A full assessment of the archaeological and historical background of the site is detailed in the Desk Based Assessment (CgMs 2016). The following represents an overview of the background to the site, and is drawn from that document.

5.2 Prehistoric

- 5.2.1 Residual struck flintwork was identified from Roman contexts during previous excavation during 1988-9 at 16-18 Union Street (Site code USA88), within the western part of the site itself. Archaeological work at 52 Borough High Street to the north of the site revealed peat and a water channel of prehistoric date. Evidence of later prehistoric activity was identified at 15-23 Southwark Street to the northeast of the site.
- 5.2.2 Archaeological work at 27-29 Union Street, opposite the site to the south, revealed prehistoric plough or ard marks, and the remains of a Late Iron Age pit. Excavations at 120-124 Borough High Street to the southeast revealed prehistoric post holes and a large ditch.

5.3 Roman

- 5.3.1 The site lay in an area of settlement and activity related to Stane Street, the Roman Road from London to Chichester (now Borough High Street) c.30 to the east.
- 5.3.2 Excavations within the western part of the site in 1988-9, revealed numerous sand and gravel layers containing Roman pottery; the layers were cut with pits containing 1st/2nd century pottery, sealed by dark earth deposits. A large ditch or channel running north-south was examined in section, and Roman pottery was derived from it. Excavations at 10-14 Union Street within the eastern part of the site (site code USB88) revealed make-up deposits of 1st century date, with two subsequent occupation phases of 1st/2nd century date, including timber buildings and painted wall plaster. Pits and a timber well containing 3rd century pottery were also identified, as was a 4th century pit. Finds included a folded lead curse tablet which may have been ritually deposited.
- 5.3.3 Evaluations immediately west of the site at 17-19 Union Street/Redcross Way revealed evidence of Roman occupation and activity, including burials dating to the 1st-2nd centuries AD, with limited later Roman activity.
- 5.3.4 Excavations at No 8 Union Street immediately south of the site revealed a 1st century clay and timber building cut by an oak lined 3rd century well.

- 5.3.5 Roman remains identified at 27-9 Union Street opposite the site to the south included 1st century cut features, including postholes, stakeholes and structural slots. The bulk of the activity was dated to the 2nd century, and included cut features and fragmentary horizontal deposits. A gravel or mortar floor included over one thousand glass tesserae; two linear cuts formed the corner of a building, with an associated masonry pier. A northeast-southwest aligned drain, dated to 120-130 AD, was cut by a juvenile inhumation and a box well dated to 150-160 AD. A large north-south aligned ditch contained pottery of 140-150 AD and broken water pipes.
- 5.3.6 Evidence for the road has been found at 106-114 Borough High Street to the southeast of the site, with a road c.7.5m wide identified, on a north-south alignment built over marshy land supported by a raft of east-west aligned timbers.
- 5.3.7 Two phases of clay and timber buildings of probable 2nd century date were identified on either side of the road. Excavation at 84-86 Borough High Street to the east of the site revealed identical remains to the site to the southeast. Excavation at 88 Borough High Street to the east also revealed two phases of Roman building, while remains identified at 52 Borough High Street to the northeast included eight timbers and two post holes, on north – south and southwest alignments, associated with a compacted soil floor and a later ditch. A profile through the road was identified at 120-124 Borough High Street to the southeast, together with the remains of a timber building destroyed by fire.
- 5.3.8 Roman remains identified at 15-23 Redcross Way/Southwark Street to the north of the site include dumped deposits above a channel, with a burial cut into it; possible remains of burnt buildings, together with pits and dumps, were identified on the higher ground to the north. Parts of a previously excavated 1st-4th century building complex were also uncovered, including opus signinum, tessellated floors and robber trenches. Pottery from a context overlying one floor dated to 120-160 AD, with two burials also identified.
- 5.3.9 Archaeological excavation on a 4.27m diameter shaft at Redcross Way to the northwest demonstrated that the site lay on a gravel eyot; evidence of Roman occupation and burials were also identified. Further evidence of Roman occupation was found at 15-23 Southwark Street, including a substantial masonry building of possible public purpose, followed by clay and timber buildings, followed by an inhumation cemetery. Excavations at 78-80 Borough High Street to the northeast and at 88 Borough High Street, also revealed further evidence of Roman occupation.
- 5.3.10 Excavations at 116-126 Borough High Street to the southeast revealed the remains of a series of workshops aligned to the Roman road.
- 5.3.11 A Roman inhumation burial was identified at 35 Union Street to the southwest of the site. Roman deposits were recorded during a watching brief at 78-80 Borough High Street to the east of the site, and also at 96-104 Borough High Street to the southeast.

5.4 Anglo-Saxon and Medieval

- 5.4.1 The sole find of Saxon date within the study area search radius comprised parts of a late Saxon pottery vessel identified at 120-124 Borough High Street to the southeast of the site.
- 5.4.2 Excavation at 16-18 Union Street within the site in 1988 identified medieval pottery within the large north-south orientated ditch – the area of the site is thought to have lain within the eastern boundary of the manor of the bishops of Winchester, known afterwards as the Clink Manor after the late 15th century. A continuation of this ditch was identified during the works at 10-14 Union Street, also within the site.
- 5.4.3 Remains of a medieval masonry building, together with pits, were found at 120-124 Borough High Street to the southeast. A chalk lined cess pit and chalk footing was identified at 72-76 Borough High Street to the northeast, whilst significant medieval pitting was also recorded at the recently excavated site of 127-143 Borough High Street.
- 5.4.4 Excavation at 27-29 Union Street, opposite the study site, identified a clayey alluvial deposit dated to 1180-1480 AD. Medieval pits were identified at 15-23 Southwark Street to the northeast of the site. Excavation at 106-114 Borough High Street and at 116-126 Borough High Street to the southeast revealed medieval quarry pits.
- 5.4.5 The Medieval potential of the study site is attested by the features and finds identified within the southern part of the site during the 1988-9 excavations, and the immediate environs of the site.

5.5 Post Medieval and Modern *(see also the map regression within the desk based assessment)*

- 5.5.1 The first map to show full development on the site is the Morgan Map of 1682.
- 5.5.2 The site of the Cross Bones Burial Ground borders the western boundary of the site. The cemetery formed an additional ground for St Saviours Church, initially for the prostitutes of Southwark, and later as a poor ground. Evaluations immediately to the west of the study site, at 17-19 Union Street/Redcross Way, revealed human remains. Subsequent excavation within the footprint of an electricity substation for the Jubilee Line extension resulted in the removal of c.160 skeletons together with disarticulated bone.
- 5.5.3 John Rocque's Map of London (1745) shows the presence of St Saviour's Burying Ground immediately west with the site remaining developed.
- 5.5.4 Richard Horwood's map of 1799-1819 shows the presence of Union Street forming the southern boundary and the presence of building ranges within the western, northern and eastern parts of the site, and towards the centre.
- 5.5.5 The site continued to be occupied by buildings throughout the early to mid-nineteenth century. No 14 Union Street, a hop warehouse, has been dated to c.1853.

- 5.5.6 The First Edition Ordnance Survey (1872) shows the site occupied with the hop warehouse across the northern part of the site, with individual buildings fronting Union Street to the south, with open space to the rear. The Second Edition Ordnance Survey (1893) shows minor alterations within the southwestern part of the site.
- 5.5.7 The 1930 GOAD Insurance Plan shows the site occupied by hop warehouses to the north, a timber store to the southwest (shown to have a basement), and a range of buildings fronting Union Street, including offices, a house, laundry, frame factory and a gun factory. The open area south of the centre of the site is named 'Chapel Yard'.
- 5.5.8 The World War Two Bomb Damage Map (1946) shows the site heavily impacted. Buildings to the south are shown coloured purple (damage beyond repair) and black (total destruction), also red (serious damage, doubtful if repairable) and orange (general blast damage, not structural).
- 5.5.9 The 1952-3 Ordnance Survey shows the southwestern and south central parts of the site vacant, with the former hop warehouse remaining to the north.
- 5.5.10 The 1954 GOAD Insurance Plan (Fig 16) shows the hop warehouse to the north and the gun warehouse to the southeast, together with a reconstructed timber store to the southwest. The Chapel Yard remains, now with a carpark to the south.
- 5.5.11 The 1973-6 Ordnance Survey shows little change within the site. No. 14 Union Street was refurbished to designs by TP Bennett & Son 1973-5.
- 5.5.12 The 2014 Ordnance Survey shows the presence of buildings along the Union Street site frontage.

6 ARCHAEOLOGICAL METHODOLOGY AND OBJECTIVES

- 6.1 The purpose of the archaeological investigation was to determine the presence or absence of surviving features at the site and, if present, to assist in formulating an appropriate archaeological mitigation strategy. All works were undertaken in accordance with the guidelines set out by Historic England and the Chartered Institute for Archaeologists.
- 6.2 The Written Scheme of Investigation (Bradley, 2017) aimed to address the following objectives:
- What is the nature and OD height of the natural strata on the site?
 - What is the natural topography of the site?
 - What is the depth of truncation, relative to natural deposits, of the existing and/or previous modern foundations works?
 - If the pre-Roman land surface is encountered, are there any indications of prehistoric activity, worked flints or any cut features within its surface?
 - Is there any indication of early Roman quarrying on site?
 - Is there any evidence for the presence of an early Roman managed landscape, possibly including levelling dumps, raisings the land surface or drainage schemes?
 - Is there any evidence for the Roman settlement on the site?
 - Is there any evidence for the distribution of Roman buildings and boundaries?
 - Is the settlement of a domestic, industrial or public nature?
 - How thick is the Roman stratigraphy across the site?
 - Is there any evidence for medieval activity on the site?
 - If medieval activity is encountered, can it be related to the outer precinct of Winchester Palace, e.g. the bowling alley/tennis court?
 - What are the truncation levels from 19th century and later foundations?
- 6.3 The archaeological evaluation comprised two test pits (TP1 and TP2), both located on the ground floor of the open office area of no. 14, located to the north of the courtyard. The pits were located away from the current reception for the building in an area where no previous archaeological works have been undertaken. They were positioned to target the area of the proposed new basement area.
- 6.4 This area of the building includes a substantial suspended beam and plank floor approximately 1.1m to 1.2m higher than the concrete base below. The void between the suspended floor and concrete base slab contained service runs and the brick plinth supports for the floor. The height of the floor significantly reduced the working space available for the excavation of the test pits. The test pits were sited directly under two access hatches located on the floor to provide clear service-free access to the concrete base below. Hand tools were used to break the concrete slab.

- 6.5 TP 1 measured 0.8m N-S, 1.2m E-W and was stratigraphically excavated to a depth of 2.1m below the concrete slab (3.2m below the suspended floor). Then a 1.2m deep sondage, with a top measurement of 0.5m x 0.5m and a base measurement of 0.3m x 0.3m, was excavated in the northeast corner of the test pit. A further 1.4m was excavated by hand auger which ceased when the appearance of water prevented further investigation. In total TP 1 was 4.7m deep (from the concrete slab beneath the suspended floor).
- 6.6 TP 2 measured 1.05m N-S, 1.0m E-W and was excavated stratigraphically excavated to a depth of 2.2m below the concrete slab (3.4m below the suspended floor). The presence of a ceramic foul water pipe prevented excavation across the northern portion of the test pit. A sondage was excavated in the southeast corner of the test pit. This measured 0.55m N-S x 0.5m E-W and was 1.1m deep. A further 0.44m was excavated by hand auger, to the top of the natural sandy gravels.
- 6.7 The excavation of the test pits was undertaken by hand under the constant supervision of an archaeologist. Spoil was mounded a safe distance from the edges of the test pits.
- 6.8 Following the initial hand excavation of the modern deposits, relevant faces of the trench that required examination or recording were cleaned using appropriate hand tools. The majority of the investigation of archaeological levels was carried out by hand, with cleaning, examination and recording both in plan and in section.
- 6.9 All archaeological features (stratigraphical layers, cuts, fills, structures) were evaluated by hand tools and recorded in plan at 1:20 or in section at 1:20 using standard single context recording methods. Features were evaluated so as to characterise their form, function and date.
- 6.10 A full photographic record was made during the archaeological investigation consisting of a digital photographic archive that was maintained during the course of the archaeological investigation.
- 6.11 The complete archive produced during the evaluation and watching brief, comprising written, drawn and photographic records, will be deposited with the Museum of London site code UNI 17.
- 6.12 A Temporary Benchmark (TBM) was established on a drain in the courtyard area at 3.77m OD. This was traversed from an OS benchmark located on the Borough High Street side of the Slug and Lettuce public house (4.97m OD). All levels were calculated from the TBM of 3.77m OD.
- 6.13 Levels were also taken on the basement floor slab of the modern building occupying the south of the site. The height of the slab was established at 0.16m OD.

7 THE ARCHAEOLOGICAL SEQUENCE

7.1 Introduction

7.1.1 Complete stratigraphic sequences were revealed in both test pits.

7.2 Test Pit 1

7.2.1 The earliest deposit observed during the archaeological investigation in this test pit was a natural deposit of light yellowish brown clayey sand [9] (**Phase 1**), which was seen at 0.76m OD. This extended beyond the final auger depth of -0.34m OD where the presence of water prevented further excavation.

7.2.2 The natural clayey sand [9] was capped by a 0.3m thick layer of natural silty clay material [8] (**Phase 1**). This was a light greyish to light yellowy brown colour and was noted at 1.06m OD.

7.2.3 A 0.5m thick Roman layer comprising soft, mid yellow brown, clayey sand [7] (**Phase 2**) was recorded at 1.56m OD covering natural deposit [8]. One sherd of Roman pottery spot dated AD50-120 was recovered this deposit.

7.2.4 Post-medieval layer [6] (**Phase 4**) was observed at 2.06m OD sealing Roman deposit [7]. This layer was 0.7m thick and consisted of friable, light grey brown, silty sand material with occasional mortar and charcoal flecks. The pottery sherd recovered from this had a post-medieval date range and the recovered CTP stem was 18th century.

7.2.5 At 2.66m OD a 19th century wall [4] (**Phase 5**), comprising frogged dark pinky red bricks (Fabrics 3032R and 3101), bonded in a shelly mortar, was noted in the west of the test pit. This had a N-S orientation and extended beyond the northern, southern and western excavation limits. Brick samples taken from the wall were dated 1825-1900. It was not possible to ascertain whether the exposed face of wall [4] was internal or external.

7.2.6 A 0.4m thick deposit of friable, dark to mid greyish brown, sandy silt [5] (**Phase 5**) material was recorded dumped against wall [4], at 2.66m OD. This material yielded a number of finds including pottery, bone, glass, CBM and a York stone hone. The pottery dates ranged between an earliest date of 1580 and latest date of 1900. Recovered bones came from non-avian food species, including cattle, pig and sheep/goat.

7.2.7 Sealing the silty sand [5] was a layer of loose mixed demolition material [3] (**Phase 5**) which was seen at 3.06m OD and had a thickness of 0.4m. The deposit mainly consisted of broken post-medieval bricks and mortar with occasional sherds of pottery and glass.

7.2.8 This in turn was covered by a layer [2] (**Phase 5**) of 19th century dumped material consisting of friable, mixed dark grey to light yellow brown silty sand with occasional inclusions of pottery and CBM and frequent charcoal flecks. This layer was seen at a high point of 3.76m OD and a low of 3.36m OD with the decrease in level to the east. The maximum thickness was seen to be 0.7m.

7.2.9 A compacted, mid greyish brown, sandy silt [1] (**Phase 5**) was observed at 4.16m OD sealing layer [2]. The thickness of the layer ranged between 0.4m and 0.8m and contained occasional inclusions of pottery, CBM, glass, bone, charcoal flecks and small sub-rounded gravels. One residual struck flint was retrieved from deposit. Finds recovered from this put the date in the latter half of the 19th century. These upper deposits are likely to be part of the levelling deposits associated with the hop warehouse, dated to 1853, that presently occupies the site of no. 14 Union Street (CgMs 2016).

7.2.10 The test pit was sealed by a modern concrete slab and its bedding which were 0.20m thick and noted at 4.36m OD.

7.3 Test Pit 2

7.3.1 Natural deposits were encountered at the bottom of the stratigraphic sequence in this test pit. The earliest of these was a compact layer of sandy gravels [24] (**Phase 1**) which was encountered using a hand auger at 0.66m OD. Due to the nature of the deposit the hand auger was only able to penetrate to a depth 0.12m.

7.3.2 Sealing the natural gravels [24] was a 0.4m thick layer of soft, mid yellowy to mid brownish grey, sandy clay [23] (**Phase 1**). This was seen at the same level as the upper natural deposit [8] noted in TP1, that is 1.06m OD.

7.3.3 A series of Roman deposits were observed immediately above the natural. The earliest of these was layer of compact to friable, light green to yellow brown, silty sand material [22] (**Phase 2**), with occasional charcoal flecks. This layer was recorded at 1.46m OD and had a thickness of 0.4m.

7.3.4 Sealing layer [22] was a layer of soft to friable, dark grey brown, sandy clayey silt [21] (**Phase 2**) which was seen at 1.66m OD to be 0.2m thick. Occasional inclusions of building material, pottery, bone, shell, charcoal flecks and small sub-rounded to sub-angular gravels were noted. The building material included daub, bleached Ragstone and Roman tile.

7.3.5 This was covered with a 0.4m thick deposit of soft, light green grey, silty sand material [20] (**Phase 2**). The top of this layer was recorded at 2.06m OD. An almost vertical lens of Opus Caementatum was observed in the eastern section face.

7.3.6 In the southern portion of the test pit silty sand layer [20] was capped by a clay slab [17] (**Phase 2**) at 2.06m OD. The slab of clay was firm to friable and mid-yellow brown in colour and showed signs of being fired, it had a thickness of 0.16m and extended into and beyond the southern, western and eastern limits of excavation. Occasional charcoal flecks and small patches of silty sand were noted within the deposit.

7.3.7 Six stakeholes [26], [28], [30], [32], [34], [36] (**Phase 2**) were seen cutting into the clay slab [17] at 2.06m OD. These exhibited a pattern suggestive of a wall or other structural purpose. Due to the depths at which these were encountered it was not possible to excavate the fills, which all appeared to be similar in composition. The dimensions of the stakeholes were also similar, measuring 0.08m x 0.1m. The stakeholes and the slab are likely the remains of a clay and timber building.

- 7.3.8 The northern edge of clay slab [17] was truncated by cut [19] (**Phase 2**) which was filled by a slightly sticky, dark grey brown, clayey sandy silt [18]. The cut [19] was also recorded at 2.06m OD and was found to be 0.14m deep. Roman pottery, CBM and some bone was recovered from the fill [18]. Because of the restricted nature of the test pit it was not possible to ascertain the purpose of the cut.
- 7.3.9 The Roman deposits were sealed by a 0.3m thick layer of friable, dark grey brown, sandy silt material [16] (**Phase 3**) at 2.36m OD. In total 13 sherds of medieval pottery with a probable deposition date of 1240-1300 were retrieved from the layer. The recovered building material was a mixture of Roman tile and imbrex, daub, bleached ragstone and unglazed medieval peg tile. Evidence of in-situ medieval food waste was also present within the assemblage, as cattle, pig and sheep/goat bones were recovered.
- 7.3.10 A layer of post-medieval material [15] (**Phase 4**) consisting of friable, dark grey brown, clayey silt with occasional pot, CBM, bone, shell, charcoal flecks and small sub-rounded gravels covered medieval layer [16]. This layer was 0.2m thick and was observed at 2.56m OD. Among the recovered pottery were sherds of Raeren and other unsourced German stoneware. The building materials included residual Roman tile and medieval to early post medieval peg tile and the bones of food species including cattle, pig, sheep/goat and rabbit were also recovered.
- 7.3.11 Post-medieval Layer [14] (**Phase 4**) was seen at 2.86m OD overlaying layer [15]. This deposit was 0.3m thick and comprised firm to friable, dark grey brown, sandy silt, with occasional pot, CBM, bone, shell and charcoal flecks. The pottery was mainly London wares with some residual Roman, the CBM included medieval peg tile and a residual fragment of Roman Tile. Similar food species were noted in the bone assemblage, as well as the addition of avian species including chicken, goose, and mallard. One find of note was a pinner's bone for the production of fine copper-alloy pins (see Appendix 6).
- 7.3.12 A series of 19th century dumped deposits, probably associated the construction of the present building, were recorded above the earlier post-medieval material.
- 7.3.13 Layer [14] was covered by a deposit of mixed demolition material [13] (**Phase 5**) which contained fragments of frogged brick, mortar, post-medieval peg and pan tile and one sherd of pottery. This layer was encountered at 3.56m OD and was 0.7m thick.
- 7.3.14 Covering the demolition material [13] was a 0.18m thick layer of bright orangey red crushed brick [12] (**Phase 5**). This was seen at 3.7m OD.
- 7.3.15 This was sealed at 3.92m OD by a layer of firm, light yellow grey brown, silty sand [11] (**Phase 5**) which had a thickness of 0.25m. The layer had frequent inclusions of frogged brick fragments, coal and charcoal flecks. One sherd of post-medieval pottery was recovered from it.
- 7.3.16 A 0.44m thick levelling layer [10] (**Phase 5**) overlay layer [11]. This was observed at 4.21m OD and consisted of light greyish brown, compacted demolition materials. These materials included frogged brick fragments and mortar.

7.3.17 The test pit itself was sealed by the same concrete slab seen at TP 1, here it was noted at 4.26m OD to be 0.4-0.5m thick.

PLATES



Plate 1: TP 1 wall [4] looking west 0.4m scale



Plate 2: TP 1 wall [4] and dump layer [5] looking north, 0.4m scale



Plate 3: TP1 showing dump deposit [5] with sondage and auger-hole



Plate 4: TP2 showing restricted nature of pit with foul water pipe across the northern edge of the excavation, looking east



*Plate 5: TP2 showing Roman clay slab [17] overlying Roman layer [20] looking east,
0.4m scale*



Plate 6: TP2 working shot looking east



Plate 7: Shows Roman slab [17] and stakehole cuts [26] to [36], looking south

8 ARCHAEOLOGICAL PHASE DISCUSSION

8.1 Phase 1: Natural

- 8.1.1 The site lies to the south of the Southwark Street channel of the River Thames (CgMs 2016). Natural alluvial deposits were noted in both test pits, these were seen to be a mix of sand, silt gravels and clay.
- 8.1.2 The upper deposits of natural observed in both test pits were similar in that they consisted of sand and clay material and were both recorded at 1.06m OD. The lower natural deposits differed. In TP 1 this was found to be a layer of soft clayey sand that was first seen at 0.76m OD and continued to a depth of -0.34m OD, where the presence of water prevented further augering. The lower natural deposit in TP 2 was a sandy gravel which was seen at 0.66m OD. The composition of this layer, i.e. the presence of the gravels, prevented augering beyond 0.52m OD, a depth of 0.14m.
- 8.1.3 The archaeological work that was undertaken in the southern part of the site in 1988-89 revealed natural sands at 0.9-1.1m OD (CgMs 2016).

8.2 Phase 2: Roman

- 8.2.1 The earliest evidence of human activity noted during the investigations dated from the Roman period. The earliest of these probably represented make-up or levelling deposits laid down to prepare the ground for building. In TP 1 this was represented by layer [7] and in TP 2 by layers [20], [21], [22]. The earliest of these layers, [7] and [22], were seen between 1.46m OD and 1.56m OD.
- 8.2.2 Excavations in TP 2 revealed the partial remains of a probable clay and timber structure/building at 2.06m OD. This consisted of a clay floor slab [17] cut by a series of stakeholes [26], [28], [30], [32], [34], [36] forming a regular pattern, suggesting a wall or other partition. The structure extended beyond the eastern, western and southern trench edges.
- 8.2.3 A cut feature [19] truncated the northern edge of the clay slab, but due to the confined nature of the excavation it was not possible to ascertain the true purpose of this cut, or whether it was in fact structural and associated with slab [17], perhaps the remains of a rotted timber beam or beamslot.

8.3 Phase 3: Medieval

- 8.3.1 Medieval activity was confined to TP 2 and was represented by a layer of dark sandy silt material [16]. This material showed characteristics of a horticultural or garden soil and may represent an area to the rear of a property or open ground. The presence of bone associated with food waste and the pottery suggest the former. No medieval deposits were encountered in TP 1; this is likely as a result of later truncation.

8.4 Phase 4: Post-medieval

- 8.4.1 This phase was represented by what has been described as dumped deposits in both test pits. The deposits seen in TP 2, layer [14] and layer [15], are again likely to be associated with the area to the rear of a property such as back-yard or garden. The lack of medieval activity noted in TP 1 may suggest the presence of a cut feature and the possibility that layer [6] is in fact a fill of this feature. However, due to the restricted nature of the investigation this could not be proven. As mentioned above the finds from these deposits put them in the period predating the 19th century.

8.5 Phase 5: 19th Century Deposits

- 8.5.1 The most notable feature of this phase was the wall [4] seen in TP 1. Brick samples taken from the wall showed the bricks to be well made and frogged, giving a spot date of 1825-1900. This suggests the wall is most likely to form part of a former basement associated with the present property. The upper layers in this test pit were 19th century made ground deposits.
- 8.5.2 In TP 2 the post-medieval layers are sealed by a layer of 19th century demolition material [13], possibly from demolition on the site prior to the construction of the present building. The upper deposits were again mixed dumped deposits of a similar date.

9 ORIGINAL AND REVISED RESEARCH OBJECTIVES

9.1 Primary Objectives

- 9.1.1 The Written Scheme of Investigation (Bradley 2017) prepared prior to the commencement of archaeological work at the 10-18 Union Street site highlighted a set of specific objectives to be addressed by the investigation.
- 9.1.2 No evidence of human activity pre-dating the Roman period was encountered during the investigation.

9.2 What is the nature and OD height of the natural strata on the site?

- 9.2.1 The natural alluvium (sands, silts and clays) was seen in both test pits at a height of 1.06m OD.

9.3 What is the natural topography of the site?

- 9.3.1 A stated the natural deposits were noted in both test pits at the same height. Due to the limited scope of the investigation a definitive interpretation of the natural topography is not possible. However, during an Archaeological Investigation in the south of the site in 1988-9 the natural sands were recorded between 0.9-1.1m OD (CgMs 2016). This would suggest the natural topography to be level across the site.

9.4 What is the depth of truncation, relative to natural deposits, of the existing and/or previous modern foundations works?

- 9.4.1 The evaluation showed an almost complete archaeological sequence survived in both test pits. Although not recorded during the works, it is likely that there is some truncation associated with the bases of the columns seen across the ground floor of the property.

9.5 Is there evidence of Roman activity on the site?

- 9.5.1 Evidence of Roman activity was seen in both test pits.
- 9.5.2 The earliest evidence was of made ground deposits, possibly for raising the land surface level in preparation for construction purposes.
- 9.5.3 In TP 2 a section of a possible clay and timber building was seen on top of the Roman made ground layers. This comprised a clay floor slab with a regular pattern of six stakeholes cutting into it. Another cut feature was noted along the northern edge of the slab, possibly denoting a beamslot or the site of a decayed structural timber. Previous excavations in the south of the site (as mentioned above) revealed various Roman deposits and features including clay and timber buildings.
- 9.5.4 The depth of the Roman stratigraphy varied in both excavation areas; in TP 1 it was 0.5m and in TP 2 it was 1.4m. This variation is likely as a result of post-medieval truncation in TP 1.

9.6 Is there evidence of medieval activity on the site?

9.6.1 One layer of medieval origin was noted in TP 2, possibly a garden or backyard deposit.

9.7 What are the truncations levels from 19th century and later foundations?

9.7.1 In the areas of investigation there was no visible impact on the archaeological sequence from 19th century and later truncations.

10 CONCLUSIONS

- 10.1 The results of the evaluation show that a sequence of untruncated archaeological deposits survive and that there is a very good possibility that this sequence continues across footprint of no. 14. However, there will be areas of deep truncation associated with the foundations of the 15 floor support columns. The test pits showed that the archaeological sequence started immediately underneath the concrete slab between at 0.05-0.22m deep.
- 10.2 A basement lies under the southern portion of site, which extends under the property that presently fronts Union Street and the courtyard area. The calculated level of the floor of the basement was found to be 0.16m OD. When this height is compared to the height of the natural encountered during the 1988-9 excavations, which was 0.9-1.1m OD, and taking into account that the slab thickness and modern make-up layers are likely to extend to at least 0.50m in thickness, it is considered very unlikely that any archaeological deposits survive below the current basement area unless they are within very deep features or channels.
- 10.3 The archaeological evaluation found natural deposits at a level 1.06m OD, sealed by a sequence of archaeological deposits spanning from the Roman period to the 20th century.
- 10.4 Evidence of a continuation of the Roman clay and timber buildings that were seen during the excavations of the southern portion of site in 1988-9 was seen in TP 2. This comprised a floor slab truncated by a regular pattern of 6 stakeholes. The clay and timber structure lay atop a sequence of Roman ground raising deposits at 2.06m OD. A medieval soil horizon was recorded sealing the Roman deposits in this test pit.
- 10.5 The location of TP 2 lies just to the north of the proposed basement area. But the location of the clay and timber structure, on the southern edge of the test pit, and the fact that it extended beyond the eastern, western and southern trench limits, suggests a high probability that this structure continues into the proposed basement area.
- 10.6 A Roman make-up layer was seen in TP 1 overlain by a sequence of post-medieval and later 19th century made ground deposits. The height of this layer, 1.56m OD, suggests it may have been truncated by an unidentified post-medieval cut.
- 10.7 Post-medieval dumped deposits pre-dating the 19th century were noted in both test pits sealing the medieval/Roman material.
- 10.8 A sequence of demolition and made ground deposits dating from the 19th century completed the upper part of the sequence. These and the wall encountered in TP 1 are likely associated with the construction of the property currently occupying the site. The wall may be associated with a basement or other below ground structure belonging to this building.
- 10.9 There is a high likelihood that a complete stratigraphic sequence of archaeological deposits dating from the Roman period to the 20th century survives across the proposed basement area of no. 14. It is highly unlikely that any archaeological deposits survive under the basement that currently occupies the southern portion of the site.

11 CONTENTS OF THE ARCHIVE

11.1 Paper Archive

Context Sheets		36 Sheets
Plans	2	2 Sheets
Sections	2	2 Sheets

11.2 Finds

Pottery		Box
CBM		
Bone		
Class		
CTP		

11.3 Photographic archive

Digital shots		36
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Figure 2
Location of Test Pits
1:400 at A4

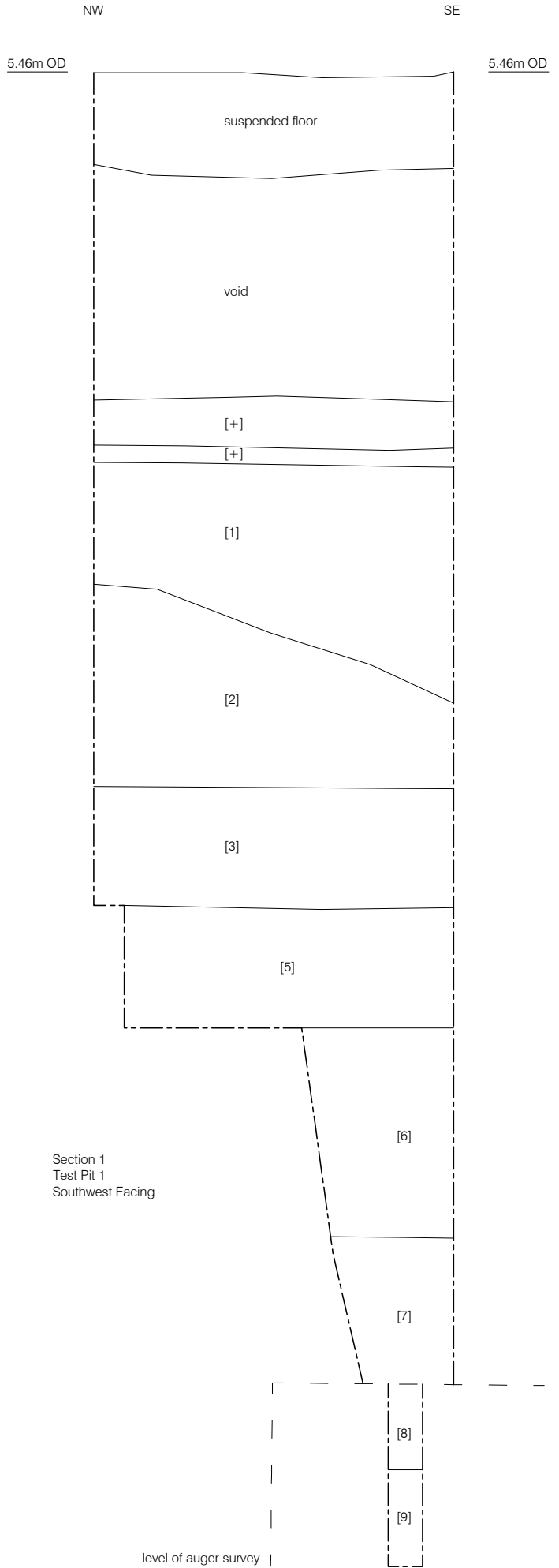
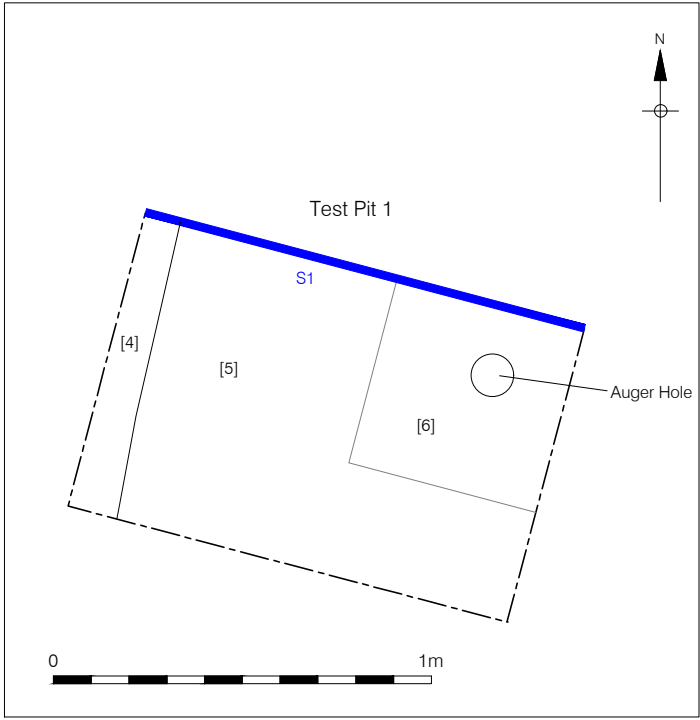
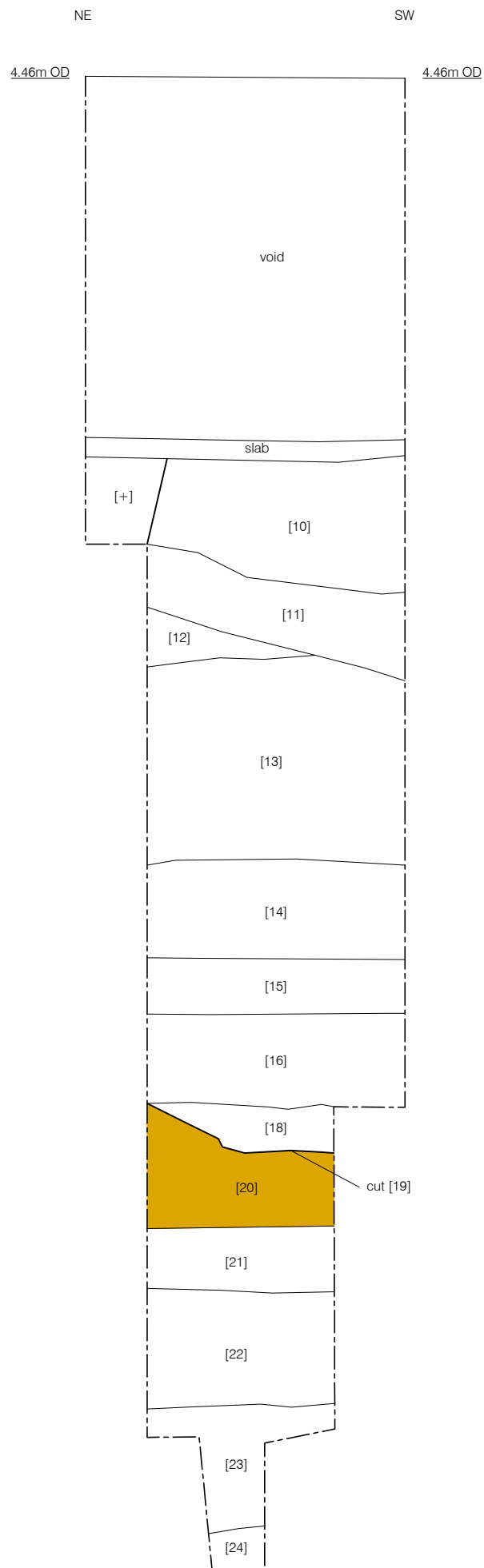
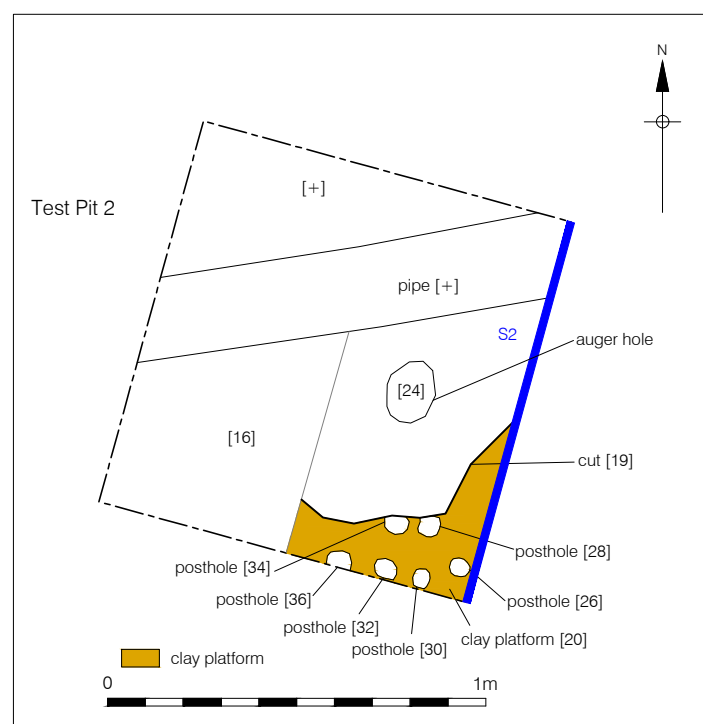


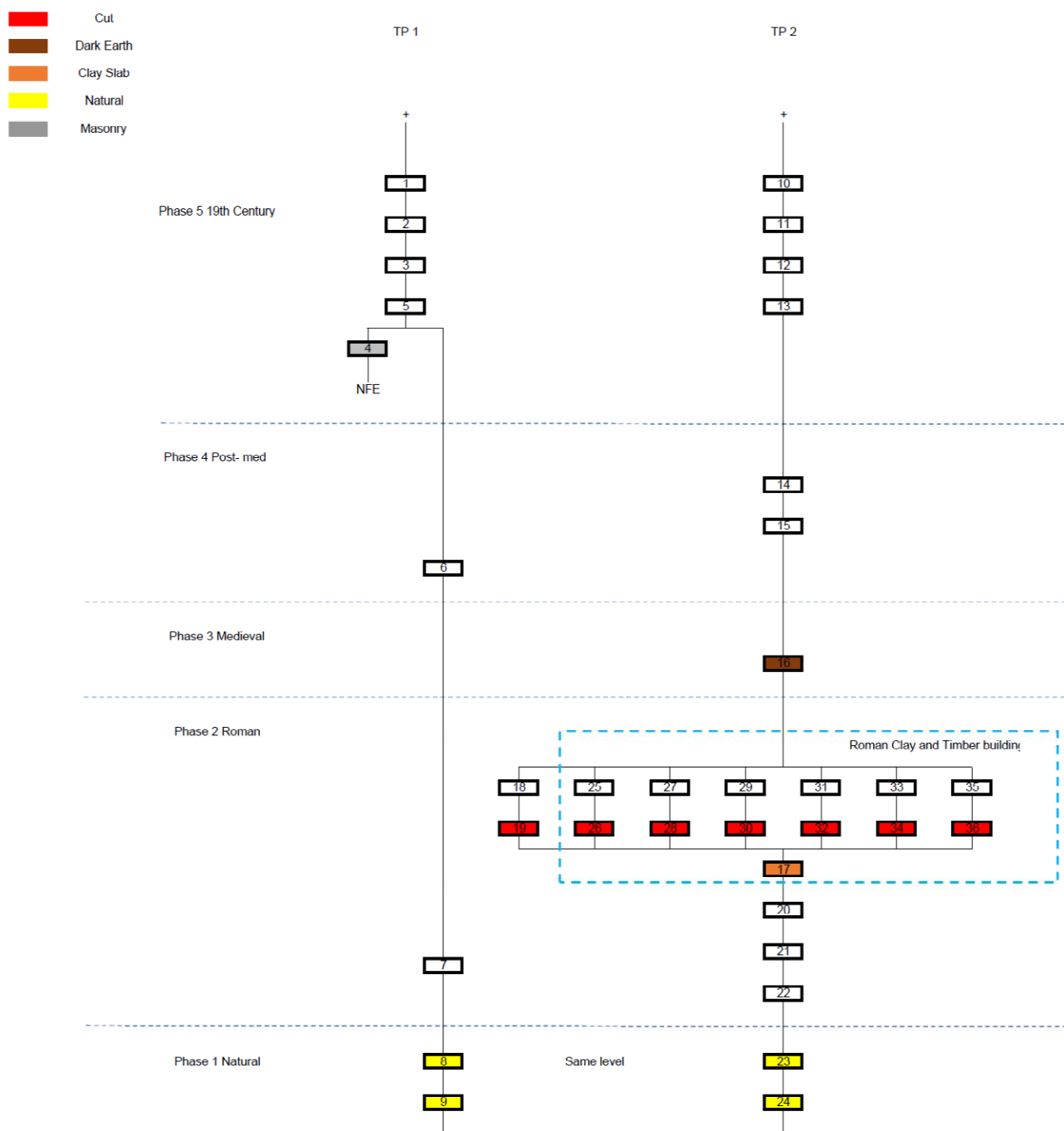
Figure 3
Plan and Section of Test Pit 1
1:20 at A4



APPENDIX 1: CONTEXT INDEX

Context	CTX_Type	Trench	CTX_Interpretation	CTX_Category	CTX_Levels_high	CTX_Levels_low	Phase
1 Layer	TP1		19th century dumped deposit	Dump	4.16		5
2 Layer	TP1		19th century dumped deposit. Deposit slopes to the east	Dump	3.76	3.36	5
3 Layer	TP1		deposit of brick rubble demolition material	Dump	3.06		5
4 Masonry	TP1		N-S aligned brick wall, extends beyond test pit limits. Also height is greater than 0.5m	Wall	2.66		5
5 Layer	TP1		19th century material dumped against wall [4]	Dump	2.66		5
6 Layer	TP1		Post-med dump deposit	Dump	2.76		4
7 Layer	TP1		Possible Roman deposit	Dump	1.56		2
8 Layer	TP1		Probable upper natural silty clay layer		1.06		1
9 Layer	TP1		Natural clayey sands. Water was encountered at -0.34m OD		0.76		1
10 Layer	TP2		Levelling material	Dump	4.21		5
11 Layer	TP2		Deposit of leveling material. Descends in level to the south	Dump	3.92	3.76	5
12 Layer	TP2		layer of 19th century demolition material	Dump	3.7	3.56	5
13 Layer	TP2		Mortary demolition material, containing mortar, brick etc.	Dump	3.56	3.51	5
14 Layer	TP2		Deposit of material predating 19th century	Dump	2.86		4
15 Layer	TP2		Dark grey brown clayey silt deposit	Dump	2.56		4
16 Layer	TP2		Deposit of dark grey brown sandy silty material.	Dump	2.36		3
17 Layer	TP2		Possible Roman clay floor slab with stakeholes [26], [28], [30], [32], [34], [36] cut into it. Also cut [19] truncated it	Floor (Internal)	2.06		2
18 Fill	TP2		Fill of cut [19]	Backfill	2.06		2
19 Cut	TP2		Cut for unknown purpose	Other	2.06		2
20 Layer	TP2		Light greeny grey silty sand with charcoal flecks and mortar chunks	Dump	2.06		2
21 Layer	TP2		Dark grey brown sandy clayey silt deposit. Roman	Dump	1.66		2
22 Layer	TP2		Light greenish yellow brown silty sand with occasional charcoal flecks	Dump	1.46		2
23 Layer	TP2		Layer of natural sandy clay at same level as [8]		1.06		1
24 Layer	TP2		Natural compact light yellow brown sandy gravels		0.66		1
25 Fill	TP2		Roman stakehole fill	Accumulation	2.06		2
26 Cut	TP2		Roman stakehole cut, part of clay and timber building	stake-hole	2.06		2
27 Fill	TP2		Roman stakehole fill	Accumulation	2.06		2
28 Cut	TP2		Roman stakehole cut	stake-hole	2.06		2
29 Fill	TP2		Roman stakehole fill	Accumulation	2.06		2
30 Cut	TP2		Roman stakehole cut, part of clay and timber building	stake-hole	2.06		2
31 Fill	TP2		Roman stakehole fill	Accumulation	2.06		2
32 Cut	TP2		Roman stakehole cut, part of clay and timber building	stake-hole	2.06		2
33 Fill	TP2		Roman stakehole fill	Accumulation	2.06		2
34 Cut	TP2		Roman stakehole, part of a clay and timber building	stake-hole	2.06		2
35 Fill	TP2		Roman stakehole fill	Accumulation	2.06		2
36 Cut	TP2		Roman stakehole cut, part of a clay and timber building	stake-hole	2.06		2

APPENDIX 2: SITE MATRIX



APPENDIX 3: POST-ROMAN POTTERY ASSESSMENT

Chris Jarrett

By Chris Jarrett

INTRODUCTION

A small sized assemblage of pottery was recovered from the site (one box). The pottery dates from the Roman, medieval and post-medieval periods. The Roman pottery has been logged, although a separate assessment report was produced (see , Appendix 5) and this material largely appears to be residual. A small quantity of the post-Roman pottery appears to be intrusive. Despite this, very little of the pottery demonstrates evidence for abrasion and indicates that the material was fairly rapidly deposited after breakage and deposited mostly under secondary circumstances. The assemblage comprises mostly sherd material and only one vessel has a complete vessel profile. The pottery was quantified by sherd count (SC) and estimated number of vessels (ENV's), besides weight. The sizes of the groups of pottery are all small (fewer than 30 sherds) and the assemblage was recovered from thirteen contexts.

In total the assemblage consists of 75 sherds, 71 ENV, 1.305kg (of which four sherds, 4 ENV, 141g was unstratified). The assemblage was examined macroscopically and microscopically using a binocular microscope (x20), and entered into a database format, by fabric, form and decoration. The classification of the pottery types follows the Museum of London Archaeology (Museum of London Archaeology 2014) typology (form and fabric series). The pottery is discussed by types and its distribution.

THE POTTERY TYPES AND THEIR FORMS

The quantification of the pottery by chronological period is as follows:

Roman: 23 sherds, 23 ENV, 257g

Medieval: 16 sherds, 16 ENV, 226g

Post-medieval: 36 sherds, 32 ENV, 822g

Roman

For a description of the Roman pottery types see Hudak, Appendix 5

Medieval

Coarse Surrey-Hampshire border ware plain conical jug (CBW CON), 1340-1500, 1 sherd, 1 ENV, 72g

Cheam whiteware (CHEA), 1350-1500, 1 sherd, 1 ENV, 54g, form: jug, rounded

Early medieval shell-tempered ware (EMSH), 1050-1150, 1 sherd, 1 ENV, 4g, form: unidentified

Kingston-type ware (KING), 1240-1400, 5 sherds, 5 ENV, 43g, form: jug, cooking pots/jar

Kingston-type ware in the highly decorated style (KING HD), 1240-1300, 1 sherd, 1 ENV, 6 g, form: jug

Coarse London-type ware with gritty inclusions (LCOAR GRIT), 1080-1200, 1 sherd, 1 ENV, 4g, form: unidentified

London-type ware (LOND), 1080-1350, 5 sherds, 5 ENV, 26 g, form: jug

Coarse medieval sandy ware (MCS), 1140-1300, 1 sherd, 1 ENV, 17g, form: jug

Post medieval

Surrey-Hampshire border whiteware with clear (yellow) glaze (BORDY), 1550-1700, 1 sherd, 1 ENV, 24 g, form: unidentified

Creamware (CREA), 1740-1830, 4 sherd, 1 ENV, 15g, form: unidentified

Frechen stoneware (FREC), 1550-1700, 3 sherds, 2 ENV, 30g, form: jug, rounded

Unsourced German stoneware (GERST), 1480-1900, 1 sherd, 1 ENV, 4g, form: jug

London stoneware (LONS), 1670-1926, 3 sherds, 3 ENV, 164g, form: bottle or jar, saggar:

Miscellaneous unsourced medieval/post-medieval pottery (MISC), 900-1500, 2 sherds, 2 ENV, 7g, form: unidentified

Midlands purple ware (MPUR), 1400-1750, 1 sherd, 1 ENV, 15g, form: butter pot

London-area post-medieval redware (PMR), 1580-1900, 4 sherds, 4 ENV, 59g, form: chafing dish

London-area early post-medieval redware (PMRE), 1480-1600, 4 sherds, 4 ENV, 210g, form: pitcher

London-area post-medieval slip-decorated redware (PMSL), 1480-1600, 1 sherd, 1 ENV, 8g, form: unidentified

London-area post-medieval slipped redware with clear (yellow) glaze (PMSRY), 1480-1650, 1 sherd, 1 ENV, 4 g, form: unidentified

Raeren stoneware (RAER), 1480-1610, 1 sherd, 1 ENV, 119 g, form: drinking jug, rounded

Surrey-Hampshire border redware (RBOR), 1550-1900, 4 sherds, 4 ENV, 121 g, form: cauldron or pipkin, chamber pot (type 2)

Siegburg salt-glazed stoneware (SIEGS), 1500-1630, 2 sherds, 2 ENV, 21 g, form: drinking form

White salt-glazed stoneware (SWSG), 1720-1780, 1 sherd, 1 ENV, 1 g, form: tea bowl

English tin-glazed ware (TGW), 1570-1846, 1 sherd, 1 ENV, 2g, form: plate, Frank Britton type I

London tin-glazed ware with pale blue glaze and dark blue decoration (TGW H), 1680-1800, 2 sherds, 2 ENV, 18 g, form: plate, Frank Britton type I, saucer

DISTRIBUTION

Table 1 shows the contexts containing pottery, the phases they occur in, the size/number of sherds, ENV and weight, the earliest and latest date of the most recent pottery type (Context ED/LD) and a considered (spot) date for the group. The pottery was recovered from Phases 2-5 dated deposits.

Context	Phase	Size	SC	ENV	Context		Wt (g)	ED	LD	Fabrics (and forms)	Spot date
1	5	S	9	5			67	1740	1830	CREA, FREC (jug, bartmannen), RBOR, TGW H (saucer)	1740–1800
2	5	S	7	7			250	1670	1923	BORDY, LOND (jug), LONS (bottle or jar), LONS (saggar), RBOR (cauldron or pipkin), Roman pottery	1670–1700+
3	5	S	3	3			59	1720	1780	RBOR (chamber pot, type 2), SWSG (tea bowl), TGW H (Plate, type I)	1720–1780
5	5	S	6	6			61	1580	1900	MISC, MPUR (butter pot), PMR (chafing dish), TGW (plate, type I)	1680–1700/1800
6	4	S	1	1			22	1670	1900	LONS (saggar)	1670–1923
7	2	S	1	1			8	50	400	Roman pottery	50–400
11	5	S	1	1			4	1480	1650	PMSRY	1480–1600
13	5	S	1	1			15	1550	1900	RBOR	1550–1700
14	4	S	12	12			301	1580	1900	LCOAR GRIT, MISC, PMR, PMRE (pitcher), PMSL, Roman pot	1580–1600
15	4	S	10	10			139	1480	1610	GERST (jug), LOND (jug), RAER (drinking jug), Roman pottery	1480–1500
16	3	S	13	13			98	1240	1400	EMSH, KING (cooking pot/jar), KING HD (jug), LOND (jug), MCS (jar), Roman pottery	1240–1300
18	4	S	6	6			49	50	400	Roman pottery. Intrusive: KING (cooking pot/jar), LOND (jug), SIEGS (drinking form),	50–400
21	2	S	1	1			91	50	400	Roman pottery	50–400

Table 1. UNI17. Distribution of pottery showing individual contexts containing pottery, what phase the context occurs in, the number of sherds (SC), ENV's and weight, the date range of the latest pottery type (Context ED/LD), the pottery types and forms, besides a suggested deposition (spot) date.

SIGNIFICANCE OF THE COLLECTION

The assemblage of pottery recovered from UNI17 is of some significance at a local level. The importance, etc. of the Roman pottery is commented upon by Hudak (see Appendix 5). The post-Roman pottery occurs as typical types that would be expected to be found in Southwark. A good sequence of post-Roman pottery is indicated with mid-late 13th-century pottery noted in context [16], Phase 3, while the occurrence of the unstratified Coarse Surrey-Hampshire border ware plain conical jug and the Cheam ware rounded jug indicates late medieval activity on the study area or close by. Early post-medieval wares are also noted and include local redwares (PMRE) and its slipware variants (PMSL and PMSRY), while German stonewares in the form of drinking shapes are noted and include items from Raeren and Siegburg, besides later Frechen stoneware. A late 16th-early 17th century PMR chafing dish (context [5]) is a rare form in the repertoire of this pottery type. Of note are two sherds of London stoneware saggars (contexts [2] and [6]) dating to after c. 1670 and this represents production waste from pot houses located mostly to the north on the Southwark bank of the Thames. There are numerable pottery assemblages from other archaeological excavations close to the study area for comparison, e.g. 56 Southwark Bridge Road (SBK03: Sudds 20006) and the Wolfson Wing, Borough High Street (BHB00: Jarrett 2002).

POTENTIAL OF THE ASSEMBLAGE

The pottery has the potential to date the features in which it was found in and to provide a sequence for them. The assemblage provides evidence for activities associated with the study area or its immediate environs.

RECOMMENDATIONS FOR FURTHER WORK

There are no recommendations for further work on the assemblage at this stage and its importance should be reviewed in the event of new material being excavated resulting from further archaeological work on the study area.

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APPENDIX 4: CLAY TOBACCO PIPES ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (less than one box). Most fragments are in a good condition and none of the material is residual, indicating that the majority of the material was deposited soon after breakage. Clay tobacco pipes were found in four contexts, in small sized (fewer than 30 fragments) groups.

All of the clay tobacco pipes (seventeen fragments and none are unstratified) were entered in to a database format file and classified using Atkinson and Oswald's (1969) typology (AO). The pipes are further coded by decoration and are quantified by fragment count. The tobacco pipes have been discussed by their types and distribution.

THE CLAY TOBACCO PIPE TYPES

The clay tobacco pipe assemblage from the site comprises three bowl fragments and fourteen stems. The pipe bowls range in date between c. 1660 and the 18th century. All of the bowls show evidence for smoking tobacco.

1660-1660

AO15: a single, spurred angled bowl with a bulbous profile is recorded and it has three quarters milling of the stem and an average state of burnishing. Context [1]

Other bowl fragments and the stems

The heel of a mid 17th-century bowl was noted in context [1], whilst an 18th-century bowl fragment was recovered from context [2]. The stems recorded tend to be of medium thickness and have mainly wide to medium sized bores and these could only be broadly dated to the period c. 1580–1740.

Distribution

The tobacco pipes were found in Phases 4–5 dated deposits and their distribution is shown in Table 1.

Context	Phase	No. of frags	Size	Context ED	Context LD	Bowl types, etc.	Spot date
1	5	11	S	1660	1680	x1 AO15, x1 unidentified mid 17th	1640–1680

Context	Phase	No. of frags	Size	Context ED	Context LD	Bowl types, etc.	Spot date
2	5	3	S	1580	1910	century heel, x9 stems	18th century
3	5	1	S	1580	1910	X1 18th-century bowl fragment, x2 stems	1580–1740
6	4	2	S	1580	1910	x1 stem X2 stems	1580–1740

Table 1. UNI17. Distribution of the tobacco pipes showing, the phase, the number of fragments, the date of the latest clay tobacco pipe bowl (Context ED and LD), the range of bowl types *etc.* and a deposition spot date (context considered date) for each context.

Significance

It is assumed that the assemblage is derived from use on the site. However, the clay tobacco pipes have little significance at a local level as the material is largely fragmentary and the only diagnostic item is an AO15 type. This bowl shape is usually an unremarkable form and was very popular with mid 17th-century Southwark tobacco smokers as evinced by its frequent recording in the borough. There is no evidence for clay tobacco pipe production at the site, despite known pipe kilns and makers being recorded to the north of the site and more so to the south of the site and at the northern end of present day Great Dover Street.

Potential

The only potential for the clay tobacco pipes is as a dating tool for the contexts in which they were found and to provide a sequence for them.

Recommendations for further work

There are no recommendations for further work on the assemblage.

Bibliography

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APPENDIX 5: ROMAN POTTERY

Eniko Hudak

A very small assemblage of Romano-British pottery was found during the evaluation at Union Street, Southwark (UNI17) totalling at 25 sherds (245g, 0.13 EVEs). The pottery was fully quantified and catalogued using the standard measures of sherd count, weight, and Estimated Vessel Equivalents (EVEs). The assemblage was recorded using standard Museum of London fabric codes (Symonds 2002) into an MS Access database.

The pottery was recovered from seven individually numbered contexts. Individual context assemblages are all small (less than 30 sherds), two containing a single sherd only. The assemblage is largely residual in medieval and post-medieval phases; in fact only four sherds come from Roman contexts. Despite the degree of residuality suggesting redeposition, only a few sherds were noted having signs of abrasion.

The assemblage is mixed in date with a limited range of fabrics represented. It includes both late Roman fabrics such as the late fabric of the Alice Holt potteries (AHFA), Portchester D (PORD), and Nene Valley colour-coated wares (NVCC), as well as early fabrics including Highgate Wood C ware (HWC), Fine Micaceous ware (FMIC) and a single sherd of Hoo ware (HOO). Diagnostic sherds were scarce, representing only three different vessels: an AHFA 2F type jar, a HWC 3F type beaker and a 4F type bowl. There were only two sherds of amphorae in the assemblage, but no Samian or *mortaria*.

The small size of the assemblage and the high degree of residuality limit the discussion and potential of the assemblage beyond dating. There are no recommendations for further work on the assemblage at this stage.

Symonds, R. (2002) Recording Roman Pottery: a description of the methodology used at Museum of London Specialist Services (MoLSS) and Museum of London Archaeology Service (MoLAS), unpublished document available from MoLAS.

Context	SC	Wt(g)	EVEs	Spotdate	Notes
2	3	29		AD120-250	all residual
7	1	7		AD50-120	single sherd
14	3	17		AD250-300	all residual
15	8	35	0.04	AD250-300	all residual
16	7	50	0.09	AD350-400	all residual
18	2	21		AD250-400	
21	1	86		AD50-300	single sherd
TOTAL	25	245	0.13		

Table 1 – Quantification and spotdates for all pottery by context

Fabric	SC	Wt(g)	EVEs
AHFA	7	65	0.04
BAET	2	89	
BB2	2	6	
BBS	1	5	
FMIC	1	7	
HOO	1	4	
HWC	2	11	0.09
LOMI?	2	2	
LOXI	1	2	
NVCC	2	4	
PORD	1	8	
SAND	2	39	
TSK	1	3	
TOTAL	25	245	0.13

Table 2 – Quantification by fabric

APPENDIX 6: SMALL FIND

Märit Gaimster

A pinner's bone was retrieved from context [14]. Carved from a cattle metatarsal, with the proximal end coarsely faceted, here at around one third of the length of the bone, this represents a simple and long-standing tool for pin making. All four sides of the working end are furnished with vertical grooves to facilitate holding the pins when filing their points. Pinner's bones reflect the manual production of fine copper-alloy pins from the late medieval period and until the mechanisation of pin manufacture in the late 18th century (MacGregor 1985, 171). The example from Union Street was recovered with pottery dating from the end of the 16th century (see Jarrett, this volume)

Significance and further recommendations

Pinner's bones are not uncommon finds on late medieval and post-medieval sites, and reflect the laborious and manual production of small pins of drawn copper-alloy wire. In the late medieval and early modern periods, small pins were hugely in demand, not least to fasten fashionable clothing such as ruffs and headdresses (Margeson 1993, 11). The vast majority of pins used in the 15th and 16th centuries appears to have been imported from the Netherlands (Egan and Forsyth 1997, 222), but domestic pin manufacture remained a small-scale industry even into the 19th century with much of the work, such as sharpening and heading of the pins, would have been outsourced as cottage industry (cf. Peaucelle and Manin 2006, 14).

No further work is recommended for this object, which should be retained with the rest of the site archive.

Catalogue

Context [14]: pinner's bone of cattle metatarsus, approx. one third of full-length bone; working end with sparse vertical grooves on all sides; L 165mm; pot date: c. 1580–1600.

References

MacGregor, A. 1985. *Bone, Antler, Ivory and Horn. The Technology of Skeletal Materials Since the Roman Period*, London & Sydney: Croom Helm.

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Peaucelle, J. L. and Manin, S. 2006. 'Billettes and the economic viability of pin-making in 1700', in: *Eleventh World Congress of Accounting Historians, July 2006, Nantes*

APPENDIX 7: ANIMAL BONE

Kevin Rielly

Introduction

This site was situated on the former South Island within the Roman settlement, as shown by sites in this immediate locality as 10-18 Union Street (USA88/USB88 described in Cowan et al 2009, 262). Following the evidence of other sites in this area it appears to have been somewhat to the west of the medieval occupation (along Borough High Street), thus the Roman levels tend to be followed by some late medieval activity followed by eventual redevelopment in the early post-medieval era (as noted at the previous excavation on this part of Union Street in Thompson et al 1998, 220). While there is some evidence for Roman and medieval activity at this site, the bulk of finds and indeed the majority of the bones were taken from post-medieval deposits. Despite the limited nature of the excavation, just two evaluation trenches, the bone collection is relatively large, clearly denoting the remains of a notable concentration of waste materials. All of these bones were in very good condition, no doubt determined by the alluvial (riverside) nature of the site deposits.

Methodology

The bone was recorded to species or taxonomic category and skeletal part with notes taken concerning age, size and modifications, in particular referring to butchery marks. This rapid recording technique was aimed at determining the value of this collection in terms of the information it can impart concerning animal usage in this area and, by extension, and assuming a representative sample, the potential value of additional collections following further excavation.

Description of faunal assemblage

A total of 134 fragments were recovered from 12 contexts dating to the Roman, medieval and post-medieval eras, the majority taken from later deposits (see Tables 1 and 2). The Roman collections, taken from [18] and [21], comprised a few small fragments with just one identifiable piece, a cattle pelvis. While certainly in good condition, the level of fragmentation would suggest they are residual. There is a somewhat larger amount of bone from the single medieval context [16], here including a cattle scapula, a pig radius and a sheep/goat pelvis, all forming more than 50% of their respective elements. This clearly denotes a probable in situ collection of medieval food waste. The later deposits have been divided into early and late post-medieval, the former providing the major part of the site assemblage, taken from [2], [11] and [13], although in particular from [14] and [15]. Within the latest assemblage, most of the bones were taken from [5], with additional fragments from [1], [3] and [6].

The post-medieval collections were principally composed of cattle, sheep/goat and pig, the former best represented (as no doubt also shown by the number of cattle-size bones). All three species comprise a mix of skeletal parts denoting both processing and food waste, although there would appear to be a greater proportion of cattle head and foot bones within the late post-medieval collection from [5]. These include 2 skull pieces, 6 metapodials and 3 phalanges, which is 11 out of 13 cattle fragments, the remainder including a radius and a pelvis. Also of interest in this deposit is a wealth of bones from one or more young calves (possibly veal) including 6 of the head/foot parts as well as the radius. Otherwise there is a general mix of ages (pre-adult and adult) within the post-medieval collections, these amongst the cattle, sheep/goat and pig remains. There are several butchered bones, including a number of axially split cattle- and sheep-size vertebrae, as well as many measureable items. The latter include two complete cattle metapodials (a metacarpus and a metatarsus) from [5] and a whole sheep/goat radius from [14]. Such measurements will certainly aid the recognition of the various ‘types’ of animals brought into Southwark at this time, as indeed will the near complete cattle horncore from [5] and the sheep skull from [14]. The latter item is polled and clearly represents a hornless sheep variety. Finally there is some indication of other food species, here including rabbit from [15], each of the main poultry species (chicken, goose and duck) from [14] and a single fish bone from the late post-medieval level [1].

Context:	Roman	Medieval	EPM	LPM
Date:	1-4	13-14	16-17	18-19
Species				
Cattle	2	1	17	14
Cattle-size	4	2	32	8
Sheep/Goat		1	8	6
Pig		1	3	8
Sheep-size		1	17	5
Rabbit			1	
Chicken			1	
Goose			1	
Mallard			1	
Fish				1
Total	6	6	81	41
N.Contexts	2	1	6	4

Table 1. Distribution of hand collected bones by pottery phase with dates in centuries AD and where EPM is early post-medieval dated 16th and 17th centuries, and LPM is late post-medieval dated 18th and 19th centuries; N refers to the number of contexts within each pottery phase.

Context:	5	14	15
Date:	L17-18	L16	L15-m16
Species			
Cattle	13	13	2
Cattle-size	4	17	9
Sheep/Goat	5	6	2
Pig	7	1	2
Sheep-size	3	5	7
Rabbit			1
Chicken		1	
Goose		1	
Mallard		1	
Total	32	45	23

Table 2. Distribution of hand collected bones showing species representation amongst the larger context assemblages.

Conclusions

The Roman and medieval collections are rather small and with the probably residual nature of the earliest collections, it can be proposed that there is a rather poor potential for the recovery and then study of bones from the earlier occupation levels at this site. In contrast, the post-medieval evidence is much larger and considering the size of the excavation, perhaps indicative of a major concentration of faunal material. This in combination with the very good condition of the bones and the well defined dating evidence would suggest that further excavation should produce an assemblage capable of providing copious information concerning animal usage in this area during this period. The possibility of butchers waste is certainly of interest concerning evidence for redistribution, while of course there is a high potential for age and size data, here providing information relevant to exploitation practices and 'type' studies.

Comparisons are available from contemporary sites within this general area, many of which provided substantial collections and therefore sufficient data to allow detailed comparative studies. Of particular interest to the stated potential of this site, a large collection of post-medieval bones, both from early and late date have been recorded from the Thameslink sites (Rielly in prep a). In addition, though contrary to the present evidence, notable Roman and medieval collections have been unearthed in this general area, many of which have also provided large bone collections (see Ainsley 2002, Liddle et al 2009, Rielly 2015 and again Rielly in prep a).

Finally, the good condition of this collection bodes well for the survival of bones from smaller species, as small rodents, bird and fish, and it is recommended that further excavation should include a thorough sampling programme.

References

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Cowan, C, Seeley, F, Wardle, A, Westman, A, and Wheeler, L, 2009 *Roman Southwark settlement and economy: Excavations in Southwark 1973-1991*. MoLA monograph 42. Museum of London Archaeology.

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APPENDIX 8: BUILDING MATERIAL

Kevin Hayward

Introduction and Methods

This small building material assemblage (102 examples 18.2kg) from the evaluation at 10-18 Union Street, Southwark was reviewed to determine its overall character, and to provide a list of spot dates.

The application of a 1kg masons hammer and sharp chisel to each example ensured that a small fresh fabric surface was exposed. The fabric was examined at x20 magnification using a long arm stereomicroscope or hand lens (Gowland x10). . Matches then made with the London fabric collection.

Fabrics and Forms

The assemblage is largely intermixed with most contexts consisting of an element of Roman residual tile and building stone rubble, some medieval roofing and floor tile and the largest proportion by far is later post medieval brick (1700-1900).

Roman 66 examples 4kg

Medieval 18 examples 1.1kg

Early Post Medieval 19 examples 9.1kg

Late Post Medieval 17 examples 11.1 kg

Roman

The small Roman assemblage is distributed throughout the site, nearly all of it highly fragmentary and burnt meaning that very few definable forms can be identified. Most consists of Roofing tile in the early sandy fabric group 2815, with a surprising amount of cream Eccles (AD50-80) suggesting a dump containing early material. There are also several lumps of daub perhaps attesting to timber framed wattle and daub structures. There are none of the high quality bath house materials seen elsewhere at Union Street (Gerrard 2009, 130-134). There is some Opus caementatum at [20] and bleached ragtone.

Medieval

Medieval Peg tile is occasionally found at [14] [15] [16] although none is glazed. There was one example of a locally produced glazed floor tile from [1].

Early Post Medieval

Elements of Tudor-Stuart building material turn up, mainly as broken red brick reused or re-pointed in

19th century mortar and some peg tile.

Late Post Medieval

A large group of late 18th to 20th century brick and mortar turn up at [1] – [4] and [13], including the wall [4]. Many of the post great fire purple bricks are small and narrow (c100mm) thus confirming in size to the brick regulation tax brought in after 1780 and 1850. The mortar types (Type 1 a brick shell mortar and Type 2 a clinker mortar) are typical of 19th century builds. The only item of intrinsic interest is part of a large hone made from York stone from [5]. These green micaceous sandstones, from the Upper Carboniferous of Yorkshire are typical of later post medieval use in London and may relate to industrial or craft activity from the 18th and 19th century

Distribution

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
1	3046; 2586; 2504	Locally made floor tile glazed medieval, early post medieval brick and pan tile T2 clinker mortar	5	1350	1850	1630	1850	1700-1900	1780-1900
2	2279; 2815; 3022;; 3035; 3063; 3106; 3116; 3101	Pan Tile; Flemish floor tile, yellow Medway brick, Ragstone and chalk rubble sandy brick and Eccles tile chunks of Ragstone and chalk ragstone with opus caementatum	7	50	1940	1780	1940	1780-1940	50-400 residual attached to ragstone fragment

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date with mortar
3	3032R; 3039; 3046	Narrow post great fire brick pointed in T1 mortar brick shell mortar; reused early post medieval brick	3	1450	1900	1664	1900	1780-1900	1750-1900
4	3032R; 3101	Frogged well made post great fire brick brick shell mortar T1	1	1664	1900	1750	1900	1825-1900	1750-1900
5	3006; 3022; 3108	Eccles and early sandy tile, York stone hone	3	50	1900	1700	1900	1700-1900	No mortar
6	2279	Pan Tile	1	1630	1850	1630	1850	1700-1850	No mortar
13	3035; 3032R; 2586; 2271; 2276	Medway Frogged Brick; Narrow post great fire brick T2 clinker mortar Early post medieval peg tile and pan tile	9	1180	1940	1780	1940	1800-1940	1780-1900
14	2815; 2271; 2587; 3205	Medieval peg tile and Roman Tile Fragment	13	50	1800	1180	1800	1300-1600	No mortar
15	2815; 3022; 2586; 2587; 2271; 2276	Roman Tile and medieval to early post medieval peg tile	15	50	1900	1480	1900	1480-1700	No mortar
16	2459a; 3105; 2271; 3102; 3022; 2815	Mixture of Roman tile and imbrex, daub, bleached ragstone prob ROMAN and medieval peg tile no glaze	19	1500 bc	1800	1180	1800	1180-1450+	No mortar
17	3101	Fired Clay	2	50	1600	50	1600	50-400??+	No mortar
18	3102; 3105; 2815	Daub, bleached ragstone and Roman Tile	9	1500 bc	1600	1500bc	1600	50-400	No mortar
20	3101	Opus Caementatum	10	50	400	50	400	50-400+	No mortar
21	3102; 2815; 3105	Daub, bleached ragstone and Roman	3	1500 bc	1600	1500bc	1600	50-400	No mortar

Context	Fabric	Form	Size	Date range of material	Latest dated material	Spot date	Spot date with mortar
		Tile					

Review

The value of this small building material assemblage (102 examples 18.2kg) from the evaluation at 10-18 Union Street, Southwark lies in its ability to date the early Roman, medieval and post medieval layers. It is largely intermixed with a lot of background/residual fragmentary Roman material, which is not surprising as large dumps have been uncovered at Union Street (Gerrard 2009). However, there are several lumps of daub perhaps attesting to timber framed wattle and daub structures. The medieval fingerprint is small perhaps due to cellar truncation, but it is the expansive group of later Regency/Victorian post medieval brick and roofing tile that characterises the site, including wall [4], this is to be expected given London's exponential growth at this time.

Recommendations

The building material assemblage very much reflects the later post medieval early modern industrial development of this part of Southwark. There is one item of interest part of a large York stone hone from [5] relating to trade/industrial use in the 19th century. . The value of the assemblage therefore lies in its ability to date the Victorian and Early 20th century structural development of this part of Southwark. Further investigation including beneath the possible Roman clay layer [17] and opus caementatum mortar [20] will no doubt reveal extensive Roman dumps/structures including possible timber framed wattle structures given the prevalence of daub. .Most of this group should be discarded as full recording was undertaken.

Bibliography

Gerrard, J. (2009). Dumps and tesserae: High-status building materials from 33 Union Street, Southwark. *London Archaeologist*. 12 (5), 130-4.

APPENDIX 9: OASIS FORM

OASIS ID: preconst1-274678

Project details

Project name	10-18 Union Street, Southwark, SE1 1SZ
Short description of the project	An archaeological evaluation comprising 2 test pits was undertaken by Pre-Construct Archaeology LTD between 17th and 20th January 2017. Test Pit 1 measured 0.8m x 1.2m and had an excavated depth of 4.7m. Test Pit 2 measured 1.05m x 1.0m and had an excavated depth of 3.74m. Natural alluvial sands, silts, gravels and clays were seen at the bottom of the stratigraphic sequence. The first phase of human activity was Roman in nature and comprised layers of made ground. On top of these a section of a Roman clay and timber building comprising a clay floor slab truncated by a pattern of 6 stakeholes, was encountered in Test Pit 2. A medieval soil horizon was noted overlying the Roman deposits in Test Pit 2. A series of post-medieval deposits that pre-dated the 19th century were recorded in both Test pits. A N-S orientated 19th century wall was encountered in Test Pit 1. Deposits of 19th century demolition material and made ground sealed both test pits.
Project dates	Start: 17-01-2017 End: 20-01-2017
Previous/future work	Yes / Not known
Any associated project reference codes	UNI 17 - Sitecode
Type of project	Field evaluation
Site status	Local Authority Designated Archaeological Area
Current Land use	Industry and Commerce 2 - Offices
Monument type	WALL Post Medieval
Monument type	STAKEHOLES Roman
Monument type	LAYERS Roman

Monument type	FLOOR Roman
Monument type	LAYER Medieval
Monument type	LAYERS Post Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	POTTERY Medieval
Significant Finds	POTTERY Roman
Significant Finds	BONE Post Medieval
Significant Finds	BONE Medieval
Significant Finds	CBM Roman
Significant Finds	CBM Medieval
Significant Finds	CBM Post Medieval
Methods & techniques	"Test Pits"
Development type	Urban commercial (e.g. offices, shops, banks, etc.)
Prompt	National Planning Policy Framework - NPPF
Position in the planning process	Pre-application

Project location

Country	England
Site location	GREATER LONDON SOUTHWARK SOUTHWARK 10-18 Union Street, Southwark
Postcode	SE1 1SZ
Study area	193.75 Square metres
Site coordinates	TQ 32490 80018 51.503047640542 -0.090881592738 51 30 10 N 000 05 27 W Point

Height OD / Depth Min: 0.66m Max: 1.06m

Project creators

Name of Organisation Pre-Construct Archaeology Ltd

Project brief originator CgMs Consulting

Project design originator CgMs Consulting

Project director/manager Tim Bradley

Project supervisor Shane Maher

Type of sponsor/funding body Developer

Project archives

Physical Archive recipient LAARC

Physical Contents "Animal Bones", "Ceramics", "Glass", "Metal", "Worked stone/lithics"

Digital Archive recipient LAARC

Digital Media available "Database", "Images raster / digital photography", "Survey", "Text", "Spreadsheets"

Paper Archive recipient LAARC

Paper Media available "Context sheet", "Drawing", "Plan", "Report", "Section", "Unpublished Text"

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