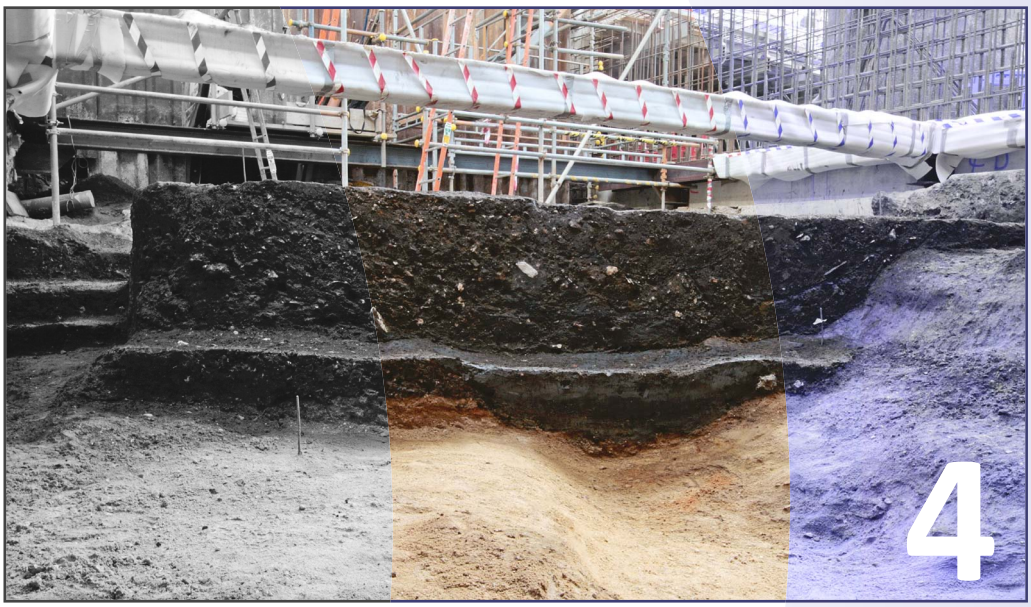
2-4 BEDALE STREET LONDON BOROUGH OF SOUTHWARK



Post-Excavation Assessment

April 2013

THAMESLINK ARCHAEOLOGICAL ASSESSMENT

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PCA
PRE-CONSTRUCT ARCHAEOLOGY

Network Rail

Client: Network Rail

Thameslink Archaeological Assessment 4: Archaeological Excavations at 2-4 Bedale Street, London Borough of Southwark

Site Code:	**BVG10 (with reference to BVA08 & BVV09)**
National Grid Reference:	**Centre - TQ 32652 80219**
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CONTENTS

1	Abstract	5
2	Introduction	7
3	Planning Background	13
4	Geology & Topography	16
5	Archaeological & Historical Background	17
6	Archaeological Methodology	33
7	Archaeological Sequence	39
8	Phased Discussion	70
9	Research Objectives	75
10	Contents of the Archive	85
11	Importance of Results, Further Work & Publication Proposal	86
12	Acknowledgements	93
13	Bibliography	94

Appendices

Appendix 1	Context Index	98
Appendix 2	Documentary Research by Julian Munby	129
Appendix 3	Roman Pottery by Katie Anderson	131
Appendix 4	Post Roman Pottery by Chris Jarrett	142
Appendix 5	Lithics by Michael Donnelly	160
Appendix 6	Clay Tobacco Pipe by Chris Jarrett	164
Appendix 7	Glass by Ian Scott	169
Appendix 8	Roman Small Finds by Ian Scott	178
Appendix 9	Post Roman Small Finds Märit Gaimster	183
Appendix 10	Coins by Paul Booth	190
Appendix 11	Slag & Other High Temperature Debris by Lynne Keys	192
Appendix 12	Building Materials by Kevin Hayward	197
Appendix 13	Wall Plaster by Berni Sudds	238
Appendix 14	Animal Bone by Kevin Rielly	242
Appendix 15	Fish Bone by Rebecca Nicholson	252
Appendix 16	Leather by Kevin Trott	256
Appendix 17	Charcoal and Charred & Mineralised Plant Remains by Sheila Boardman	260

Appendix 18	Waterlogged Plant Remains by Kath Hunter	290
Appendix 19	Pollen by Sylvia Peglar	301
Appendix 20	Diatoms by Nigel Cameron	307
Appendix 21	Insects by David Smith	317
Appendix 22	Shells by Rebecca Nicholson & E.C. Stafford	324
Appendix 23	Radiocarbon Dating by SUERC	330
Appendix 24	OSL Dating by Jean-Luc Schwenninger	336
Appendix 25	Oasis Form	339

Figures

Figure 1	Site Location	10
Figure 2	Detailed Site Location	11
Figure 3	Detail of Underpinning Holes	12
Figure 4	Location of Sites Mentioned in the Text	32
Figure 5	Plan of Phase 2b – Roman	55
Figure 6	Plan of Phase 2c and 3 – Roman	56
Figure 7	Plan of Phase 4 – Medieval pre-AD1200	57
Figure 8	Plan of Phase 5a – Medieval post-AD1200	58
Figure 9	Plan of Phase 5b – Medieval post-AD1200	59
Figure 10	Plan of Phase 6 – Post-Medieval	60
Figure 11	Section 14 Underpinning Trenches	61
Figure 12	Sections 4, 111 & 20 Underpinning Trenches	62
Figure 13	Sections 48 & 110 Underpinning Trenches	63
Figure 14	Sections 21, 106 & 150, Medieval Ditch and Re-cut	64
Figure 15	Section 153, Across Pits [869], [879] & [832]	65

Plates

Plate 1	General View of 2010 Excavation Area, South-east Facing	66
Plate 2	General View of 2011 Excavation Area, North-west Facing	66
Plate 3	View of Truncated Roman Deposits, East Facing	67
Plate 4	Section through Medieval Ditch & Ditch Re-cut, South-east Facing	67
Plate 5	Section through Medieval Ditch & Ditch Re-cut, North-west Facing	68
Plate 6	Timbers within Medieval Ditch [72]/[91]/[153]/[837], East Facing	68

Plate 7	Wattle-lined Pit [870], South Facing	69
Plate 8	Chalk Wall Foundation [629], North-west Facing	69

1 ABSTRACT

1.1 This assessment details the results and working methods of archaeological investigations conducted at 2-4 Bedale Street, London Borough of Southwark. The archaeological work was funded by Network Rail and was undertaken to discharge conditions attached to the planning permission granted for the development for which provision was included in the 'Network Rail (Thameslink 2000) Order 2006' (TWA 2006), as detailed in the 'Written Scheme of Investigation for Archaeological works at Borough Viaduct and London Bridge Station' (NWR 2009a; 2009b).

1.2 The archaeological investigations detailed in this document were centred at National Grid Reference TQ 32652 80219 and constitute 'Thameslink Archaeological Assessment 4 - 2-4 Bedale Street'. A Standing Building Survey and archaeological test pitting were conducted by Museum of London Archaeology (MOLA) in 2009 (site codes BVA08 & BVV09), whilst the main archaeological excavations were conducted by Oxford Archaeology and Pre-Construct Archaeology (OA-PCA) during 2010 and 2011 (site code BVG10). The main archaeological works were conducted at 2-3 Bedale Street between July and November 2010, whilst excavation of 3-4 Bedale Street was conducted between August and November 2011.

1.3 The archaeological investigations encountered the uppermost archaeological horizon at *c.*3.28m OD and demonstrated the presence of a stratified archaeological sequence measuring *c.*3m thick.

1.4 The archaeological sequence comprised heavily truncated natural sands and gravels succeeded by well-defined, if truncated, phases of Roman occupation, which included a clay and timber building along with episodes of pitting and exterior gravel surfaces. The clay and timber building was associated with a gravel surface, which may represent either a yard or an alley/road and indicated a continuation of similar properties seen at an earlier archaeological excavation in 1985 at 1a Bedale Street and fronting Roman Road 1.

1.5 These early deposits had been cut into by a substantial, late 12th century ditch and its later re-cut, which may have run along the same course as Roman or Saxon boundary ditches. The medieval boundary defined by this ditch may be reflected in the modern street pattern, in particular the location and alignment of parts of Montague Close, Bedale Street, St Thomas Street and Joiner Street. The boundary delineated by these roads could have enclosed Southwark's medieval settlement, a settlement and boundary that could have extended back into the Saxon and Roman periods

1.6 A series of medieval cess and rubbish pits were seen to have been excavated and filled prior to, during and after the use of the ditch and its re-cut during the medieval period. One of these contained a large fragment of fairly poorly preserved wattle lining.

1.7 Following the disuse of the ditch re-cut a wall foundation dated to 1300-1700 composed of chalk ashlar blocks had been constructed on the site, it was interpreted as being part of a small room that continued to the south of the site.

1.8 A variety of post-medieval features were revealed during the archaeological investigation, including pits, brick-ined cess pits, walls and a potential floor and two soakaways, which were recorded for the most part truncating the uppermost fills of the ditch re-cut. The wall foundations and floor related to the post-medieval properties that were extant on Bedale Street prior to their modern replacements

2 INTRODUCTION

2.1 This assessment details the results and working methods of archaeological investigations conducted at 2-4 Bedale Street, London Borough of Southwark. The archaeological work was funded by Network Rail and was undertaken to discharge conditions attached to the planning permission granted for the development for which provision was included in the 'Network Rail (Thameslink 2000) Order 2006' (TWA 2006), as detailed in the 'Written Scheme of Investigation for Archaeological works at Borough Viaduct and London Bridge Station' (NWR 2009a; 2009b).

2.2 The principal objectives of Thameslink are: to reduce crowding on Thameslink and other London commuter services; reduce overcrowding in the underground; reduce the need for interchange between mainline and underground services; to provide new cross-London services, and; to facilitate dispersal of passengers from St Pancras following the completion of HS1. To achieve this, the Thameslink Programme included proposals for substantial construction works in London at Blackfriars Station, Farringdon Station, London Bridge Station and also between Metropolitan Junction and London Bridge Station. The latter includes a new structure comprising a twin-track railway on raised structures between Metropolitan Junction, (Southwark Street), and London Bridge Station. This consists of the following elements: the Park Street & Hop Exchange Viaduct; the Borough Market Viaduct; the Borough High Street Bridge; the Railway Approach Viaduct; and the Station Approach Viaduct. (Fig. 1)

2.3 The archaeological investigations of the Thameslink project have been divided into 9 areas, each of which is the subject of a separate assessment report. Eight of the areas are in Southwark along the course of the new Borough Viaduct (Assessments 1-7 & 9; Fig. 1), whilst the remaining one is at Blackfriars Station, City of London (Assessment 8). The Assessments incorporate the results of the following archaeological investigations.

Assessment	**Site Name**	**Site Code**
Assessment 1	Vaults 2, 5 & 9, Railway Approach	BVL10
Assessment 2	11-15 Borough High St	BVK11
Assessment 3	Pile Cap P, Green Dragon Court	BVJ10
	Pile Caps 1-6 & P, 16-26 Borough High St, Pile Cap 7 1-7 Green Dragon Court; Test Pit 5 (Borough High St); Test Pits 6 & 21 (7 Bedale St)	BVX09
	Pile Caps N1 & N2	BVW09
Assessment 4	2-4 Bedale St	BVG10

Assessment 5	Borough Market Pile Caps K1, K2, L1, L2, M1 & M2 Borough Market	BVF 10 BVU 09
Assessment 6	The Wheatsheaf Rear of 6-7 Stoney St & Test Pits 1-2, 8-9, 13, Stoney St & The Wheatsheaf	BVE 11 BVT 09
Assessment 7	Arches 12-16 Park St Pile Caps A-H rear of Southwark St & Park St; Test Pits 14 & 17 Redcross Way & Test Pits 10-12, 15-16 Park Street	BVB 10 BVQ 09
Assessment 8	Blackfriars Station, New Bridge St, Queen Victoria St & Blackfriars North	THB09
Assessment 9	Western Approach Viaduct (formerly Station Approach Viaduct)	BVC12

2.2 The archaeological investigations detailed in this document were centred at National Grid Reference TQ 32652 80219 and constitute 'Thameslink Archaeological Assessment 4: 2-4 Bedale Street' (hereafter 'The Site'). The site is bound by extant properties at 1 Bedale Street to the south-east and 5 Bedale Street to the north-west, whilst Bedale Street itself runs along the north-east boundary (Fig. 2). 'Thameslink Archaeological Assessment 3 - Green Dragon Court' is located on the opposite side of Bedale Street (see OA-PCA-TAA3) whilst the south-west boundary of the site is formed by 'Thameslink Archaeological Assessment 5 - Borough Market' (see OA-PCA-TAA5).

2.3 Two early 20th century and a late 19th century building occupying 2, 3 & 4 Bedale Street respectively were demolished during 2009/2010 to allow construction of the Borough Market section of the Borough Viaduct. No viaduct foundations were located within the site, and on completion of the new railway a replacement 2-storey office/retail buildings was constructed in accordance with the relevant planning permission.

2.4 The design of the replacement building entailed the removal of all 'made ground' beneath the pre-existing basements to the top of the natural horizon and required archaeological excavation to a commensurate depth within the site footprint (NWR 2009b). In addition, underpinning of party walls shared with 1 Bedale Street, 5 Bedale Street and the Bedale Street frontage required the isolated removal of similar deposits to the same horizon. This was monitored under archaeological watching brief conditions (NWR 2009b). As the natural horizon was present at *c*.2.50m below modern basement level the archaeological excavation and the underpinning were undertaken in 'stages' to allow the installation of specialist temporary works.

2.5 The archaeological investigations conducted on site comprised (Figs. 2 & 3):

BVA08 2-4 Bedale Street MOLA: February 2009

- Standing Building Survey

BVV09 2-4 Bedale Street MOLA: June - September 2009

- Test pits

BVG10 2-3 Bedale Street OA-PCA: July - November 2010

- Stage 1 underpinning
- Stage 1 ground reduction
- Stage 2 underpinning
- Stage 2 excavation

BVG10 3-4 Bedale Street OA-PCA: August - November 2011

- Stage 1 underpinning
- Stage 1 excavation
- Stage 2 underpinning
- Stage 2 excavation

2.6 The OA-PCA archaeological site work was supervised by James Langthorne, under the project supervision of Joanna Taylor and the project management of Peter Moore and Dan Poore. Chris Place (Network Rail Project Archaeologist) acted as archaeological advisor to Network Rail and the progress of the archaeological investigations were monitored by Dr Chris Constable (Senior Archaeology Officer, Southwark Council).

2.7 This document presents a post-excavation assessment of the stratigraphic record, finds and environmental data from the fieldwork. Further definition of research priorities, schemes of analysis and reporting of the present datasets are detailed in the 'Thameslink Archaeological Assessment: Updated Project Design' (OA-PCA forthcoming).

2.8 The completed archive for 'Thameslink Archaeological Assessment #4' will be deposited at the London Archaeological Archive and Research Centre (LAARC) under site codes BVA08, BVV09 and BVG10. The deposited archives will comprise artefactual material and written, drawn and photographic records.

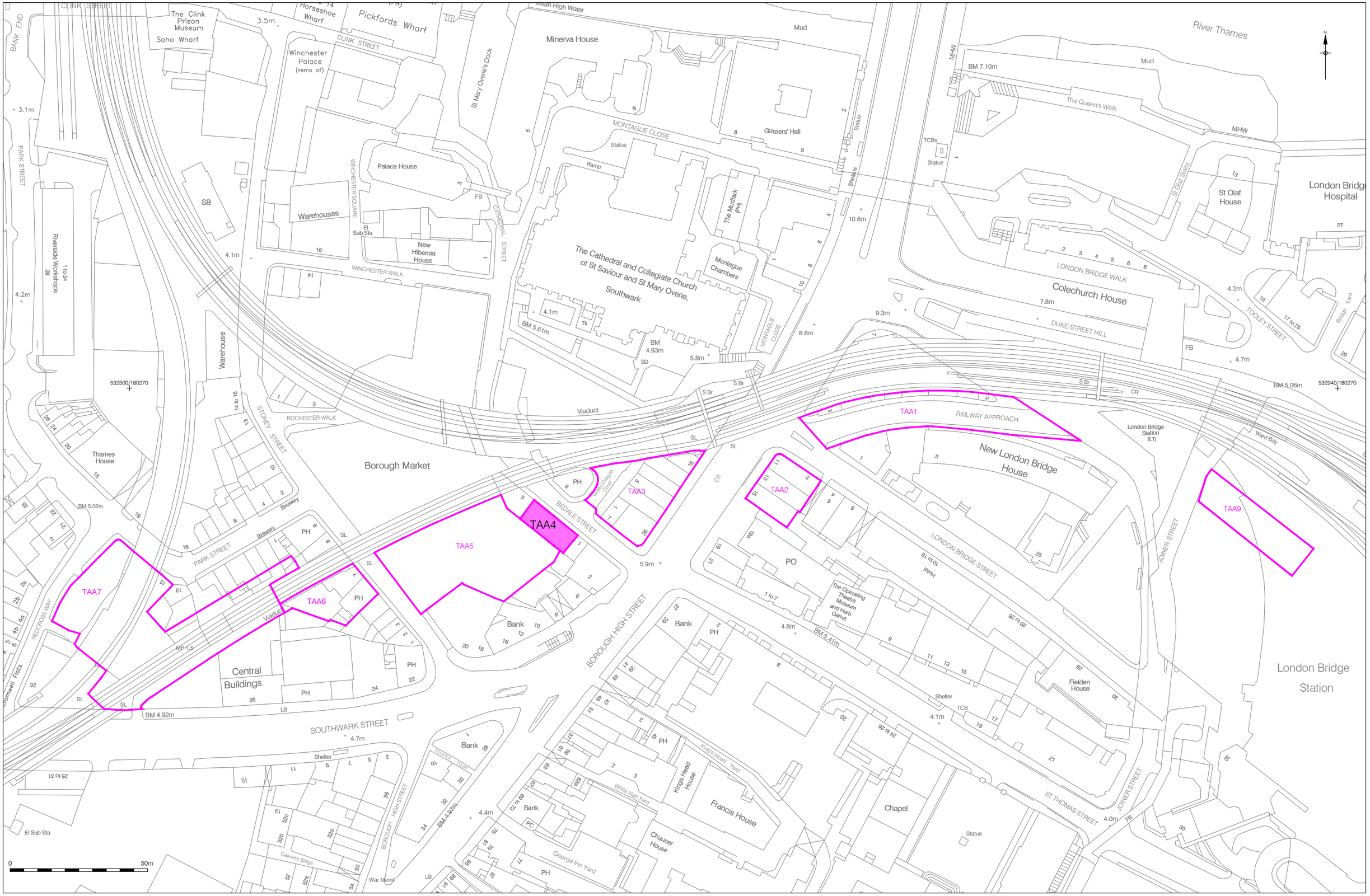

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Figure 1
Site Location
1:1,250 at A3

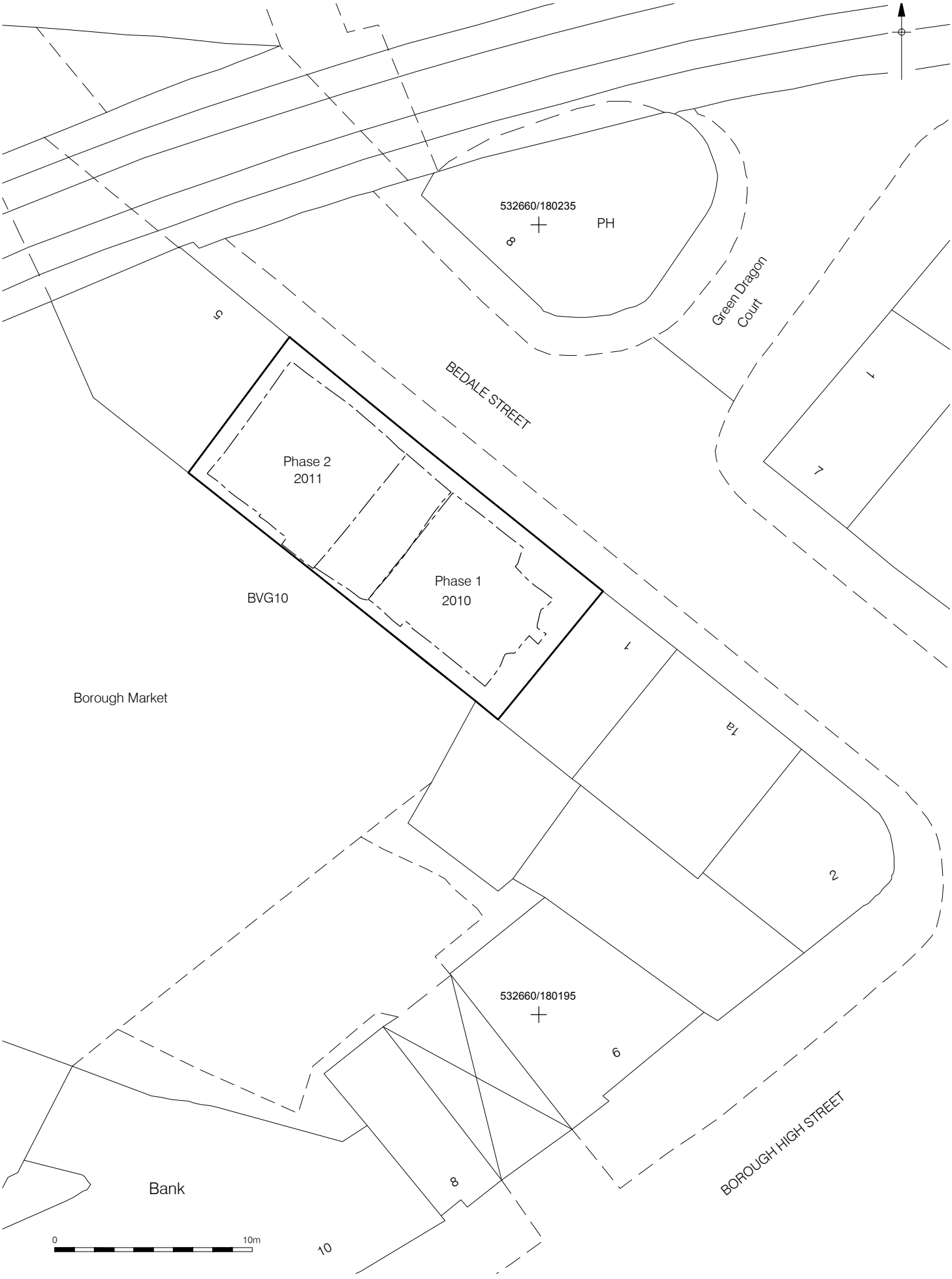

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Figure 2
BVG10 Detailed site location
1:250 at A4

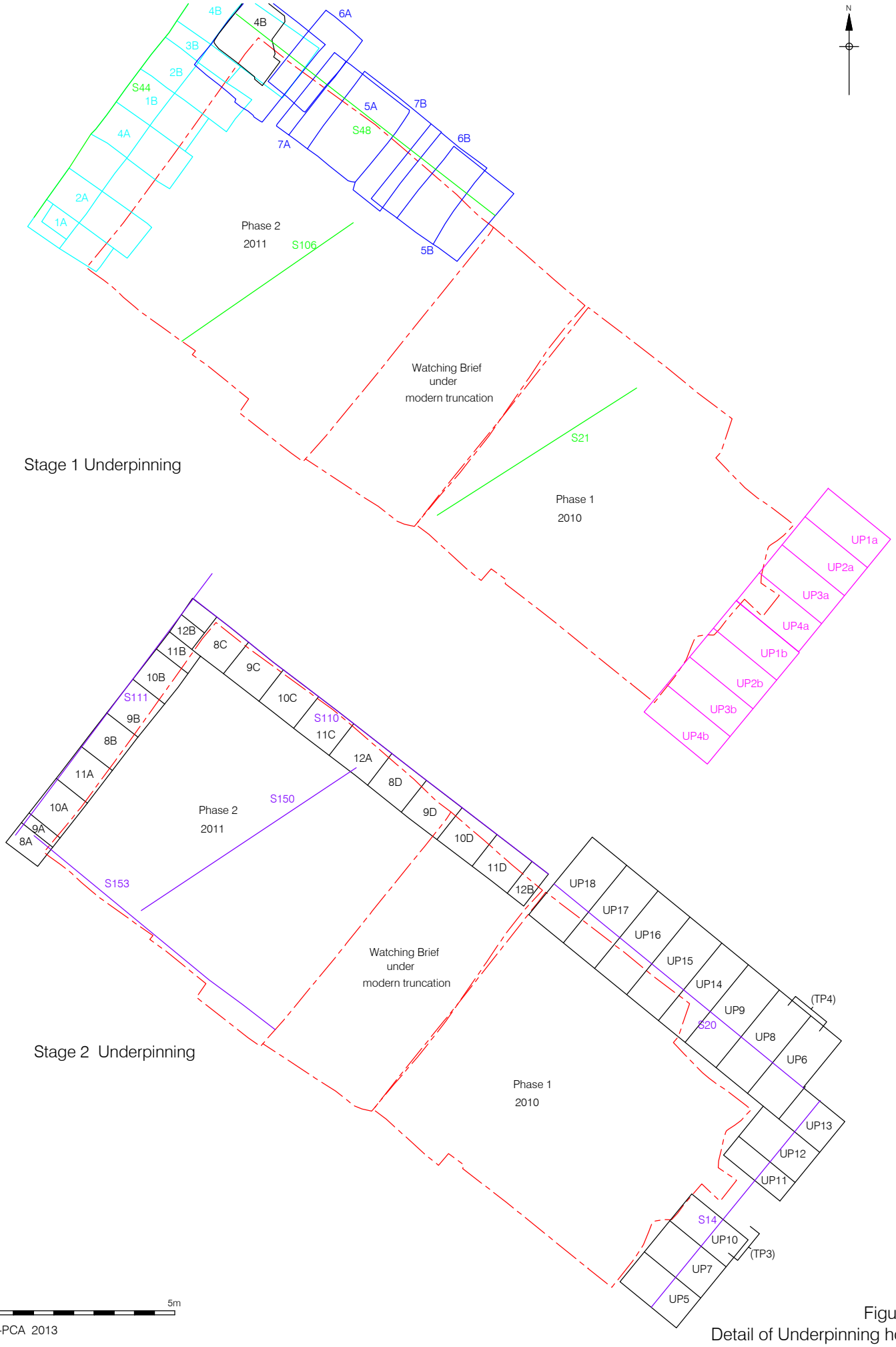

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Figure 3
Detail of Underpinning holes
and location of sections included in the report
1:125 at A4

3 PLANNING BACKGROUND

3.1 The Thameslink Transport & Works Act Order, 2006

3.1.1 Provision for construction of Thameslink was included in the Network Rail (Thameslink 2000) Order 2006 made by the Secretary of State for Transport (17th October 2006). The Secretary of State also directed (22nd November 2006) that planning permission be deemed to be granted for the development provided for in the Order subject to certain conditions. Conditions 25 and 26 required that:

25. No development shall take place in respect of Borough Viaduct until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority.

26. No development shall begin in respect of Borough Viaduct until a detailed scheme showing the scope and arrangement of foundation design and all new groundworks and providing for a regime for monitoring the works has been submitted to, an approved in writing by, the local planning authority. The development shall be carried out and monitored in accordance with the approved scheme.

3.1.2 Separate conditions applied to development where planning permission was granted jointly by the Secretaries of State for Transport and Communities and Local Government (17th October 2006). These applied to any archaeological work undertaken in respect of 2-4 Bedale Street, 11-15 Borough High Street and Blackfriars Station. The relevant conditions for 2-4 Bedale street are:

17. No development shall take place until the applicant, or their agents or successors in title, has secured the implementation of a programme of archaeological work in accordance with a written scheme of investigation which has been submitted by the applicant and approved in writing by the local planning authority.

18. No development shall take place until a detailed scheme showing the scope and arrangement of foundation design and all new groundwork, which may have an impact on archaeological remains, has been submitted to and approved in writing by the local planning authority and all works hereby approved must be carried out to the satisfaction of the local planning authortity.

3.1.3 Only standing building recording was undertaken pursuant to conditions attached to listed building consent and conservation area consent granted by the Secretary of State for Communities and Local Government alone (17th October 2006).

3.1.4 Permission for the alterations and extension to The Wheatsheaf Public House, 6 Stoney Street, was granted on 26th August, 2009 under the Town and Country Planning Act 1990. Provision for archaeological work was contained in condition 5, which required that:

5. The programme of archaeological works detailed in the Written Scheme of Investigation submitted as part of the application, document reference N232/01000/NRT/REP/000007/01 and hereby approved, shall be carried out following the demolition of any of the existing structures currently occupying the site, including the existing single storey rear extension or the upper floor, and prior to the commencement of any development works on site.

3.1.5 At some locations (e.g. 7 Stoney Street, 16-26 Borough High Street) it was shown that the proposed development would not impact archaeological deposits and conditions were discharged without archaeological field work.

3.2 Thameslink, Borough Viaduct & the London Borough of Southwark

3.2.1 Some archaeological work for the Thameslink project in Southwark was undertaken prior to the granting of planning consent and included the compilation of an archaeological desk based assessment (DBA) (MoLAS 2003a), watching briefs on geotechnical investigations (MoLAS 2003b) and an additional DBA compiled for inclusion in the 'Thameslink 2000: Environmental Assessment' (NWR 2004a). Following the acceptance of the planning application a 'Scope of Works' outlining the 'archaeological baseline and proposed archaeological works' was submitted to the London Borough of Southwark in 2007 (NWR 2007).

3.2.2 The 2007 document formed the basis for the:

- Written Scheme of Investigation for Archaeological Works at Park Street & Hop Exchange Viaduct; Borough Market Viaduct; Borough High Street Bridge; Railway Approach Viaduct (NWR 2009a).

- Written Scheme of Investigation for Archaeological Works at Borough Viaduct & London Bridge Station, London Borough of Southwark (NWR 2009b).

3.2.3 Following approval from Southwark Council, the archaeological mitigation of the Borough Viaduct sites began in 2009 and Dr. Chris Constable, Senior Archaeology Officer at Southwark Council monitored the archaeological works throughout.

3.3 2, 3 & 4 Bedale Street

3.3.1 The construction of Borough Viaduct required the demolition and replacement of 2, 3 & 4 Bedale Street. The buildings were listed and were located within the Borough High Street Conservation Area, opposite the Grade II listed Globe public house and adjacent to Borough Market (NWR 2005).

3.3.2 Proposals for the replacement of 2, 3 & 4 Bedale Street comprised the construction of a 2-storey retail/office building, which included a walkway through to Borough Market.. The frontage was designed as three separate units, with the interior to function as a single building (NWR 2004a). The planning permission for 2-4 Bedale Street was given the reference number TL4 by the Secretaries of State.

3.3.3 With planning permission granted, the 2009 'Written Scheme of Investigation' (NWR 2009b) defined the archaeological impact of the Thameslink Programme at 2-4 Bedale Street as:

> *'The works comprise the demolition of buildings Nos. 2-4 Bedale Street and replacement with a 2-storey retail/office building, plus basement (proposed basement finished floor level at 2.77m AOD). All made ground will be removed to the surface of the Terrace Gravel (subject to ensuring the integrity/stability of the adjacent structures) and replaced with suitable material prior to casting the reinforced basement slab. Party walls with Nos. 1 and 5 Bedale Street and the market basement to the rear will probably be underpinned with mass concrete.*

3.3.4 The agreed scope, sequence and method of archaeological works were defined as (NWR 2009b):

- *Principal Contractor to demolish buildings and other structures as required following completion of historic building survey*
- *Principal Contractor to underpin party walls under continuous archaeological supervision by Archaeological Supplier*
- *Principal Contractor to break out modern foundations retain exterior basement wall - and remove non-significant deposits under continuous archaeological supervision by Archaeological Supplier*
- *Excavation of archaeologically significant deposits to be undertaken by the Archaeological Supplier (NWR 2009b)*

4 GEOLOGY AND TOPOGRAPHY

4.1 Geology

4.1.1 London is located within the Thames Basin, a broad syncline of chalk filled by Tertiary sands and clays, which is overlain by the Pleistocene (Quarternary) gravel terraces of the River Thames. The low-lying area to the south of the Thames was characterised as largely marshland, with ground level being *c.*14m lower than the north-bank (MoLAS 2003a).

4.1.2 The original river was shallower, slower and wider then its modern manifestation and flowed through braided channels which surrounded the low-lying gravel eyots located beneath modern Southwark. Archaeological excavations and geotechnical work have established that there were two principle gravel eyots, covering an area of *c.*16 hectares (MoLAS 2003a).

4.1.3 Thameslink Borough Viaduct is located within the boundaries of the northern eyot, which is variably known as the 'Bridgehead Island' (MoLAS 2003a) or 'Northern Island'. The island extends between Joiner Street to the east and Southwark Bridge Road to the west, Union Street and Southwark Street to the south and the River Thames to the north.

4.1.4 The Borough Viaduct sites are generally located within areas of high-ground, with the natural sands and gravels occurring between 1.00m-1.20m OD and the land set back from the tidal channels, at a distance removed from the surrounding foreshores. When untruncated natural deposits occur below these heights, it is generally an indication that the land surface is 'dropping' towards a channel edge and it can be assumed that the land would have been susceptible to flooding, especially during high-tides.

4.2 Topography

4.2.1 Natural deposits revealed at 2-4 Bedale Street were heavily truncated by archaeological interventions, particularly a large medieval ditch and its later re-cut. The natural sand and gravel encountered across the excavation area appeared to be relatively flat, varying, at its highest levels, between 1.07m OD in the western half of the site and 1.06m OD in the eastern part of the site. Higher levels were encountered in the underpinning trenches in the eastern part of the site up to a level of 1.30m OD.

4.2.2 The nearest water source is the river Thames which lay approximately 200m to the north of the Bedale Street excavation.

5 ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

5.1 Introduction

5.1.1 The archaeological and historical background for the Borough Viaduct sites has been compiled largely through reference to site excavations in the vicinity. However, a wealth of publications discussing the archaeology of Southwark, some of which are occasionally referenced in this text, do exist and will require full consideration and incorporation during the post-assessment process.

5.2 Prehistoric

5.2.1 During the prehistoric periods the area of land now occupied by Southwark was typified as a series of variably sized, sandy islands separated by a network of channels. The tidal nature of the River Thames and its associated channels would have ensured that during high tide the land remaining above sea level was significantly reduced, a limiting factor for defined prehistoric occupation and settlement. However, the marshland environment created within the tidal range would have provided significant economic attractions and it is probable that prehistoric communities exploited the island landscape at low tide (Sidell *et al.* 2002, 7).

5.2.2 The 350m length of the Borough Viaduct covered by Assessments 1-7 and 9 is located within the boundaries of the northern island. Within this area there is a relatively small amount of evidence for in situ prehistoric activity and that which exists is largely clustered to the north-east and west. This distribution of prehistoric findspots is not entirely unexpected as these parts would have been more closely located to the economically attractive and opportunistically exploited island foreshore.

5.2.3 At the north-east extent of Borough Viaduct to the east of Borough High Street, i.e. relatively close to the north-east edges of the island, prehistoric findspots have been made around London Bridge (Fig. 4; Site 1/LBD95; Site 2/LBE95), London Bridge Street (Fig. 4; Site 3/LBB95; Site 4/LWE07; Site 5/LBN08) and St Thomas Street (Fig. 4; Site 6/4STS82; Site 7/11STS77). The corpus of evidence consists of occasional prehistoric peat and silt horizons, a small number of ephemeral cut features, quantities of burnt flint and a small assemblage of largely undated struck flint, some of it residual. A Bronze Age loomweight was amongst the finds assemblage from the London Bridge Street excavations, whilst Iron Age pottery has been found along St Thomas Street; dateable finds which may give an indication of when the eastern foreshore was being exploited. The presence of Iron Age pottery at Kings Head Yard may further support an assumption that the eastern foreshore was being exploited during the late prehistoric period.

5.2.4 A relative dearth of prehistoric findspots have been made to the west of Borough High Street, and indeed the only evidence of the prehistoric period is limited to the presence of flood deposits at 22 Borough High Street (Fig. 4; Site 9/22BHS88) and 15 Winchester Walk (Fig. 4; Site 10/BYI03). There are many possibilities for this lack of evidence, not least that any evidence of prehistoric activity may have been destroyed by subsequent development or even that the protected nature of the modern landscape has resulted in a lack of archaeological excavation in the vicinity. Alternatively, it is perhaps more probable that this part of the island landscape was not economically attractive and the lack of prehistoric material from areas of higher ground, i.e. the central parts of the island, simply reflects a lack of prehistoric activity.

5.2.5 Close to the western extent of Borough Viaduct, i.e. the south-west of the island, evidence of early prehistoric activity has been found on excavations at the former Courage Brewery, Park Street (Fig. 4; Site 11/CO87 & CO88; Site 12/CO89; Site 13/CSW85; Site 14/COSE84). Neolithic tools and fire pits, silts containing a leaf-shaped arrowhead and Late Bronze Age flints and a peat horizon were recorded, suggesting that opportunistic fishing, hunting and/or foraging occurred along the foreshore during the earlier prehistoric periods (Sidell *et al.* 2002, 60).

5.2.6 The Courage Brewery site also produced evidence of a Late Iron Age boundary ditch, a possible roundhouse and a fenceline; later prehistoric activity suggesting that management of the economic resources was being undertaken. Evidence of channel revetting further south on Redcross Way (Fig. 4; Site15/REW92) could also relate to late prehistoric land management, whilst a Late Iron Age boundary ditch and possible fenceline at the former Calverts Buildings on Southwark Street (Fig. 4; Site16/SKS80) may form a continuation of those recorded at Courage Brewery (Beard & Cowan 1988, 376).

5.3 Roman (AD 43-AD 410)

5.3.1 Despite the evidence for Late Iron Age exploitation of the Southwark landscape, it seems that the London area lay on the periphery of occupation areas at the end of the prehistoric period. Whilst many Roman towns were founded in centres of Iron Age power it is possible that the peripheral nature of the London area may have ensured it was essentially neutral and, whether by chance or through planning, this may have ultimately contributed to Roman London's subsequent importance within the province.

5.3.2 For many years studies of Roman London have focused on the importance of the north-bank settlement, treating the contemporary settlement at Southwark simply as a suburb. However, preconceptions and assumptions regarding the role, status and integration of Southwark

within Londinium have been addressed over the past decade and the most recent map of Roman London (MOLA 2011b) shows Roman Southwark as an integral part of Roman London.

5.3.3 Roman occupation in Southwark is currently accepted as beginning around AD 50. By this time a number of military roads leading from the south coast had been established, i.e. Watling Street and Stane Street, whilst a north/south orientated precursor of Borough High Street, i.e. Road 1, connected the convergence of these roads with the River Thames. A military involvement in constructing this road network is little doubted and it has been argued that a major fort would have existed in the area (Sheldon 1978, 28), however no definite evidence of a military presence has as yet been identified. Instead, rather than being military in origin, early settlement in Southwark most probably occurred as a mixture of both military and civilian endeavour, prompted by the strategic and economic importance that an established river crossing bought to the area (Yule 2005, 86; Cowan 2003, 81).

5.3.4 Broadly speaking initial development during the mid 1st century comprised the construction of timber buildings adjacent to the new roads, with the remainder of the island existing as intertidal mudflats bound by the naturally formed river channels (MoLAS/EH 2000, 127, 147). By the time of the Boudican revolt in AD 60/61 a bridge crossing the Thames would probably have connected the south-bank and the north-bank settlements and it is highly probable that both would have suffered during the rebellion (Drummond-Murray *et al.* 2002, 40, 46, 51).

5.3.5 Regardless of the impact that Southwark may or may not have suffered during the Boudican revolt, the subsequent decades were characterised by an intensification and expansion of occupation within the settlement. From the late 1st century, land between the islands was steadily reclaimed (MoLAS/EH 2000, 127, 147), channels were revetted, a second main road (Road 2) leading in a NE/SW direction from the bridgehead was established and the settlement expanded across the previously tidal mudflats (MoLAS/EH 2000, 133; Drummond-Murray *et al.* 2002, 54). Evidence indicates that the settlement was comprised of a mixture of timber and masonry buildings from the late 1st century through to the 3rd century and it seems that a diverse population resided within the south-bank settlement throughout this time (Drummond-Murray *et al.* 2002, 149; Hammer 2003, 13). As well as being places of residence, many of the buildings served a commercial or industrial purposes, whilst at least some of the masonry buildings may have served a civic or public function (Yule 2005, 86).

5.3.6 The Thameslink archaeological investigations of Borough Viaduct essentially transect the northern island of Roman Southwark and to enable a more coherent discussion of the available excavation data it has been necessary to identify ‘zones’ within the settlement, each of which is discussed below.

Road 1

5.3.7 The importance of Road 1 to the emergence of a Roman settlement at Southwark should not be underestimated, for as a vital connection between the important roads leading from the south coast to the river crossing the subsequent emergence of a road-side settlement was perhaps inevitable. Whilst the alignment and location of Road 1 roughly correlates with modern Borough High Street, the original Roman road was considerably narrower and was, for the most part, situated beneath and within land adjacent to the western part of the modern thoroughfare.

5.3.8 The archaeological remains of Road 1 have been exposed during watching briefs within Borough High Street (Fig. 4; Site 27 BSE94), excavations at 1a Bedale Street/2 Southwark Street (Fig. 4; Site 17/2SSBS85), Southwark Cathedral (Fig. 4; Site18/MTA99; Divers *et al*. 2009, 12) and also during archaeological excavations associated with the Jubilee Line Extension (Fig. 4; Site 19/ STU92; Site 20/JSS92). Collectively, these have demonstrated that Road 1 was constructed on *c.*2 layers of timber, overlain by *c.*1.5m of road gravels representing numerous episodes of make-up and metalling. The road was flanked by road-side ditches/box drains.

The eastern frontage of Road 1 and its surround

5.3.9 As part of the Jubilee Line Extension, an excavation was conducted within Borough High Street at the junction with Bedale Street and St Thomas Street. The excavations demonstrated that the earliest Roman activity on site consisted of quarrying, most probably in association with the construction of Road 1. Archaeological evidence indicated that the eastern frontage of Road 1 was soon developed with timber strip buildings; however, these were destroyed before AD 70, possibly during the Boudican revolt. The timber buildings were rebuilt during the late 1st century and served a mixture of residential, commercial and industrial purposes and possibly included a 'market hall'. At the same time a colonnade was constructed between the buildings and Road 1 whilst during the 2nd century some of the buildings were rebuilt in stone, of which at least some were adorned with mosaic floors (Fig. 4; Site 21/BGH95).

5.3.10 To the east and north-east, evidence is coming to light which suggests that land set back from Road 1, i.e. in the London Bridge Street area and to the north of St Thomas Street, was extensively developed with high-status masonry buildings. Recent excavations at 25 London Bridge Street (Fig. 4; Site 5/LBN08) have recorded evidence of 'several' 2nd century masonry buildings, some with tessellated floors and one with a hypocaust. Elsewhere along London Bridge Street, 1st and 2nd century timber and masonry buildings have been recorded at No.8 (Fig. 4; Site 22/LOB98), whilst a 2nd century drain and postholes have been recorded at Nos.10-18 (Fig. 4; Site 23/LNB97). Excavations at No.32 (Fig. 4; Site 4/LWE07) recorded only alluvial and dumping deposits, however the presence of box flue tile within the dumped

deposits were thought to indicate the existence of a bathhouse in the vicinity (Wylie 2009; 2010).

5.3.11 The archaeological evidence along St Thomas Street is less extensive, however excavations conducted at Nos.1-7 in 1974 (Fig. 4; Site 24/1STS74) and Nos.11-19 in 1977 (Fig. 4; Site 7/11STS77) have demonstrated that Roman masonry buildings are present, whilst a more recent watching brief at St Thomas's Church (Fig. 4; Site 25/TAS08) found possible evidence of timber buildings. Further to the west at the junction of St Thomas Street and Borough High Street, a 1994 watching brief (Fig. 4; Site 27/BSE94) found evidence of multiple phases of mid-late 1st and 2nd century timber buildings, a late 1st/early 2nd century masonry structure and an opus signinum floor. A number of findspots have also been made at the junction of St Thomas Street and Borough High Street, including a tessellated pavement discovered 10ft below ground in 1819, a Roman stone and brick building found in 1840 and reference to Roman buildings, a ditch and a well in 1920 (Fig. 4; Site 28/GLSMR090223). In addition, a number of chance Roman finds have also been attributed to the junction of St Thomas Street and Borough High Street, including a Roman armlet, hairpins and a jet spindlewhorl (Fig. 4; Site 26/GLSMR090375/6/7).

5.3.12 Additional evidence of multiple phases of mid-late 1st century and 2nd century timber buildings along the eastern frontage of Road 1 have also been found during watching briefs further south along Borough High Street (Fig. 4; Site 29/BUG94; Site 30/BTJ93). In addition, a short distance to the east of these, 1st century timber buildings with 2nd century masonry additions were recorded to the rear of 4-26 St Thomas Street (Fig. 4; Site 6/4STS82). Further evidence of masonry buildings set back from the main street frontage were recorded at King's Head Yard in 1879-81, 1945 and 1982 (Fig. 4; Site 8/KHYST82) whilst further evidence of buildings were recorded at White Hart Yard in 1985 (Fig. 4; Site 31/WHY85).

The north-east marshland & waterways

5.3.13 The north-east is defined as the area of land situated behind the Road 1 frontages and its extended surround (see above), being bound to the north by the Thames foreshore and to the east by Guy's channel. This area of land was naturally marshy and as a consequence it is unsurprising that Roman waterlain deposits and drainage features have been encountered on numerous excavations along the eastern parts of London Bridge Street (Fig. 4; Site 4/LWE07; Site 32/LBJ95; Site 33/LBA95; Site 35/NLB91) and St Thomas Street (Fig. 4; Site 36/TOM95), as well as the Joiner Street (Fig. 4; Site 34/LBH94; Site 37/MSA92) and London Bridge Station (Fig. 4; Site 1/LBD95; Site 2/LBE95) areas.

5.3.14 Beyond the marshy land, archaeological evidence indicates that parts of the southern frontage to the Thames and the western frontage of Guy's channel were developed with buildings. Along Tooley Street the remains of timber and masonry buildings fronting onto the

Thames have been recorded (Fig. 4; Site 38/DHS75), whilst at the northern extent of Guy's channel the remains of a 1st century timber structure and a 2nd century masonry building with mosaic floor have been recorded at Joiner Street (Fig. 4; Site 37/MSA92). Further to the south, a 2nd century masonry building, was recorded at London Bridge Street (Fig. 4; Site2/LBE95) and additional evidence of a masonry building close to Guy's channel was found during excavations at 25 London Bridge Street (Fig. 4; Site 35/NLB91). Excavations at 20-26 London Bridge Street exposed the remains of a robbed-out mid/late 1st century masonry building, with subsequent late 1st century and 2nd century timber buildings (Fig. 4; Site 39/LBI95).

5.3.15 The river and its channels undoubtedly served an important role as a trade and communication supply, well demonstrated by the existence of the abandoned barge within Guy's channel and preserved in situ beneath Guy's Hospital (Fig. 4; Site 40/GYH10). The 1st and 2nd century development of the river and channel frontages was most probably associated with the use of the waterways for trade and it is unsurprising that at least one of the buildings has been interpreted as a warehouse (Fig. 4; Site 39/LBI95).

The western frontage of Road 1

5.3.16 Development along the western frontage of Road 1 is poorly understood, for the proximity of Southwark Cathedral, Borough Market and the listed status of many of the buildings in the area have resulted in an inevitable lack of archaeological investigation. Nonetheless a number of excavations were conducted before 1990, whilst more recently archaeological excavations have been undertaken at Southwark Cathedral (Fig. 4; Site 18/MTA99; Divers *et al.* 2009) and a number of archaeological watching briefs have been carried out in the general area.

5.3.17 Excavations at the northern extent of the western street-side frontage in the Southwark Cathedral area have revealed evidence of 1st century timber buildings (Fig. 4; Site 42/SCC77) and a Roman burnt horizon (Fig. 4; Site 41/GM437), as well as a tessellated pavement recorded in 1833 and painted wall plaster recorded in 1911 (MoLAS 2003a). Nearby in the Montague Close area, archaeological evidence of early Roman quarrying and timber buildings fronting Road 1 have been found (Fig. 4; Site 43/BWMC74; Site 44/MON90). These excavations, and also the recently published excavations at Southwark Cathedral (Fig. 4; Site 18/MTA99; Divers *et al.* 2009), have demonstrated that a second intra-mural road, Road 2, led from the bridgehead in an NE-SW direction (discussed below) and land situated to the south-east of Road 2 may have also fronted onto the western frontage of Road 1.

5.3.18 Further to the south, a 1988 excavation at 22 Borough High Street provides a useful indication of development to the west of the road, with evidence for timber buildings recorded at *c.*2.5m distance from the edge of Road 1 and five phases of timber building recognised.

Likewise, the 1985 excavations at 1a Bedale Street/2 Southwark Street (Fig. 4; Site 17/2SSBS85) allude to the nature of western street-side development with two phases of late 1st-2nd century timber building recorded. Timber buildings associated with either the western frontage of Road 1 or the Southwark Street channel have also been recorded during watching briefs at 52 Borough High Street (Fig. 4; Site 45/BRQ08) and 10-16 Southwark Street (Fig. 4; Site 46/10SS81).

The frontages of Road 2, Bankside channel & Southwark Street channel

5.3.19 Archaeological excavations at Montague Close (Fig. 4; Site 43/BWMC74) and Southwark Cathedral (Fig. 4; Site 18/MTA99; Divers *et al.* 2009) found that a second main road, Road 2, led NE/SW from the bridgehead and had been established prior to AD 60, with multiple episodes of subsequent resurfacing in evidence. Amongst the many important sites associated with Road 2 are the remains of a high-status masonry building complex at Winchester Palace, which was located adjacent to the north-east extent of the road and close to the Thames foreshore (Fig. 4; Site 47; Yule 2003).

5.3.20 The south-west extent of Road 2 may be implied by the location and alignment of a NNW/SSE aligned side road and timber buildings encountered during excavations at Courage Brewery. A short distance to the north, excavations at 18 Park Street (Fig. 4; Site 48/PRK90) found evidence of mid/late 1st century ditches, including a possible palisade trench, and later 1st and 2nd century timber buildings, whilst at 28 Park Street (Fig. 4; Site 49/PKZ07; Site 50/28PS84) buildings and the remains of a channel-side jetty/landing were found. Further evidence suggestive of the continuation of Road 2 was found during excavations at 51 Southwark Street where timber piles may represent the remains of a bridge crossing Bankside Channel (Bird & Graham 1978, 517-26). Collectively, these excavations suggest a concentration of development close to Road 2 and the frontage to Bankside channel, i.e. adjacent to two potentially important trade and communication routes.

5.3.21 Excavations were conducted at 15-23 Southwark Street in 1980 (Fig. 4; Site 16/SKS80) with further investigation conducted in 2005 (Fig. 4; Site 51/RXW05) and demonstrated that the remains of a high-status late 1st-4th century masonry building, built above an earlier burnt timber building, was present. In addition, two phases of late 1st/early 2nd century timber buildings, an early 2nd century masonry building and late 2nd century masonry associated with a tessellated floor was recorded at a nearby site on Redcross Way (Fig. 4; Site 53/RWT93). Additional excavations along Redcross Way (Fig. 4; Site 52/RWG94) recorded evidence of a pre-2nd century building and a late 2nd century hexagonal masonry building, whilst a timber building was recorded at O'Meara Street (Fig. 4; Site 54/OMS94). Evidence of robbed out Roman masonry has also been found at 52-54 Southwark Street (Fig. 4; Site 55/52SOS89) and the remains of a demolished masonry building has been recorded at 51-53 Southwark Street (Fig. 4; Site 56/FSS96) (Killock 2005).

5.3.22 Some of this evidence may relate to standard buildings fronting the southern edge of Road 2, however there is little doubt that some of the masonry represents part of a high-status building, possibly a mansio, located to the southeast of Road 2, adjacent to the Southwark Street channel and close to the southern extent of Road 1 (Fig. 4; Site 16; Cowan 2002).

5.3.23 With regards to the southern frontage of Road 2, it should not be discounted that evidence of buildings thought to be associated with the western frontage of Road 1 (see above) could also be associated with the southern frontage of Road 2. The 'multiple Roman finds' discovered in Stoney Street during the 19th century (Fig. 4; Site 57/GLSMR090378) seem likely to relate to a building fronting the southern edge of Road 2.

The Late Roman settlement

5.3.24 Following the development, prosperity and stability of the earlier Roman periods, the late Roman period within Southwark, i.e. the late 3rd-early 5th century, is characterised by the fragmentation and contraction of the settlement south towards a religious landscape situated close to the mainland (Fig. 4; Site 58; Killock & Shepherdl in prep) and north towards the bridgehead (MoLAS/EH 2000, 147). One possible reason for the contraction of the settlement may be that whilst the north-bank settlement was encircled by a defensive wall and ditch, in contrast Southwark appears to been left largely undefended, which may have required that the focal points of the earlier settlement had to be more contained.

5.3.25 Archaeological evidence suggests that the settlement also contracted towards the main roads, for late Roman dark earth has been recorded on previously developed sites in locations set back from the frontage of Road 1 (Fig. 4; Site 5/LBN08; Site 7/11STS77; Site 43/BWMC74). There is also evidence of late 3rd/4th century robbing of masonry buildings to the east (Fig. 4; Site 2/LBE95) and west of the road (Yule 2005). Late Roman burials cut into the masonry building at 25 London Bridge Street (Fig. 4; Site 5/LBN08) further indicate the retraction of the settlement.

5.3.26 To the south, further evidence of 3rd/4th century robbing of masonry buildings has been found at Kings Head Yard (MoLAS 2003a). Further to the south-west, 3rd century demolition deposits (Fig. 4; Site 53/RWT93), late Roman dark earth horizons (Fig. 4; Site 48/PRK90; Site 50/28PS84; Site 52/RWG94; Site 53/RWT93; Site 59/38BHS79), late Roman masonry robber cuts (Fig. 4; Site 52/RWG94; Site 55/52SOS89) and late Roman burials (Fig. 4; Site 15/REW92; Site 16/SKS80; Site 51/RXW05; Site 52/RWG94) have been recorded within land close to the south-west extent of Road 2. The presence of this type of archaeological evidence suggests that the high-status masonry buildings were no longer in use and that much of the land had reverted to ‘open spaces’ at the end of the Roman period (MoLAS/EH 2000, 146).

5.4 Saxon (AD 410-1066)

5.4.1 Archaeological evidence for activity dating between the early 5th-mid 9th century is largely absent within Southwark, with the previously settled area seemingly abandoned during this time (MoLAS/EH 2000, 191). However, some structural vestiges of the Roman settlement seem to have remained standing throughout this period, in particular the masonry building at Winchester Palace (Fig. 4; Site 47; Watson *et al.* 2001, 56; Yule 2005, 78). In addition, there is evidence to suggest that elements of the buildings to the east of Road 1 around London Bridge Street (Fig. 4; Site 5/LBN08; Site 22/LOB98) and St Thomas Street (Fig. 4; Site 24/1STS74) also remained standing throughout this time.

5.4.2 The Burghal Hidage (*c.*AD 911-919) details a burh named 'Suthringa geweorche', (variously translated as 'the southern work' or 'the work of the southern people' or the '[defence] of the men of Surrey'), which may refer to Southwark (Sheldon 1978, 48; MOLAS/EH 2000, 191; Watson *et al.* 2001, 53). The location of the Southwark burh is largely hypothesised, however it is probable that the bridgehead area, adjacent to the river frontage and close to Road 1, was reoccupied during the Late Saxon period. The first record of a market in the area dates to 1014 when it is recorded that fish, grain, vegetables and cattle were being sold on the bridge (MoLAS 2003a).

5.4.3 It is probable that an attack on London in AD 994 may have initiated a rebuilding of the bridge and, in turn, the fortification of Southwark (Watson *et al.* 2001, 53). These works may have utlised pre-existing Alfredian burghal defences. Southwark's Late Saxon defences are detailed in Snorre Sturlason's 13th century description of an 11th century attack on Danish-held London Bridge. A translation reads:

> *'...They steered first to London, and sailed into the Thames with their fleet; but the Danes had a castle within. On the other side of the river is a great trading place, which is called Sudvirke. There the Danes had raised a great work, dug large ditches, and within had built a bulwark of stone, timber, and turf, where they had stationed a strong army. King Ethelred ordered a great assault; but the Danes defended themselves bravely, and King Ethelred could make nothing of it. Between the castle and Southwark (Sudvirke) there was a bridge, so broad that two wagons could pass each other upon it. On the bridge were raised barricades, both towers and wooden parapets, in the direction of the river, which were nearly breast high; and under the bridge were piles driven into the bottom of the river. Now when the attack was made the troops stood on the bridge everywhere, and defended themselves. King Ethelred was very anxious to get possession of the bridge, and he called together all the chiefs*

to consult how they should get the bridge broken down...' (Sturlason *c.*1225 - Para.11. 'Death of King Svein Forked Beard'*)*

The account continues:

'... The piles were thus shaken in the bottom, and were loosened under the bridge. Now as the armed troops stood thick of men upon the bridge, and there were likewise many heaps of stones and other weapons upon it, and the piles under it being loosened and broken, the bridge gave way; and a great part of the men upon it fell into the river, and all the ethers fled, some into the castle, some into Southwark. Thereafter Southwark was stormed and taken...' (Sturlason *c.*1225 - Para.12. 'The Sixth Battle'*)*

5.4.4 The location, extent and orientation of these defences has caused much debate in recent years (Dawson 2011; 2012a; 2012b; Watson 2009; 2011/2), with one theory suggesting that the alignment of Montague Close and St Mary Overy Dock could represent the approximate location and orientation of the defences (Watson 2009). The location and alignment of any defensive earthworks on the eastern side of the settlement are also unknown; however, it is possible that St Thomas Street and the historic extent of Joiner Street could reflect their continuation.

5.4.5 The evidence of late 9th/early 10th century occupation in Southwark is by no means extensive, however, that which does exist is largely located within the proposed boundaries on the bridgehead settlement as discussed above (Watson *et al.* 2001, 53, 56). Elements of the masonry buildings located at Winchester Palace, London Bridge Street and St Thomas Street seem to have stood throughout the Saxon period and evidence of Late Saxon occupation/exploitation has been recorded around these areas. A Late Saxon pit, bone comb and loom weight were discovered at 8 London Bridge Street (Fig. 4; Site 22/LOB98) and possible Late Saxon gullies, pottery and an Alfredian coin have been recorded along St Thomas Street (Fig. 4; Site 7/11STS77).

5.4.6 In addition, Late Saxon robbing of Roman buildings has been recorded at London Bridge Street (Fig. 4; Site 5/LBN08; Site 22/LOB98) and at Winchester Palace (Fig. 4; Site 47; Yule 2005) which may suggest that the building material was being removed for construction elsewhere within the bridgehead settlement. The presence of post-Roman silt horizons, dumps and dark earth deposits elsewhere within the proposed Late Saxon boundaries (Fig. 4; Site 9/22BHS88; Site 33/LBA95; Site 60/20LBS75) suggests that areas of the settlement remained unoccupied open land. Beyond the proposed boundaries of the bridgehead settlement there is a general absence of evidence for Late Saxon activity.

5.5 Medieval (1066-1485)

5.5.1 Reference to Southwark in the Domesday Book (1086) suggests it was an un-manoralised settlement without a direct lord. At the beginning of the medieval period the settlement is described as comprising 'several dozen houses, a trading shore, a dock, a fishery and a 'Monesterium', the latter of which is thought to be the site of the Priory of St Mary Overy, present day Southwark Cathedral (MoLAS 2003a).

5.5.2 It is possible that the medieval boundaries may be reflected in the modern street pattern, in particular the location and alignment of parts of Montague Close, Bedale Street, St Thomas Street and Joiner Street (see above). An E/W aligned ditch recorded at 1a Bedale Street (Fig. 4; Site17/2SSBS85) and a channel recorded at 32 London Bridge Street (Fig. 4; Site 4/LWE07) may represent part of the same medieval earthwork. The location of Winchester Palace (residence of the Bishops of Westminster) immediately to the west of the proposed boundary may suggest that secondary settlement boundaries existed, the location and alignment of which could again be reflected in the modern street pattern, i.e. the parallel 'curves' of Stoney Street and Park Street. With this as a consideration, it may be of interest that medieval channels, some of them revetted, have been recorded at 28 Park Street (Fig. 4; Site 50/28PS94).

5.5.3 During the medieval period the development of Southwark was dictated by the important trade routes into London from the south and south-east, with the main medieval settlement inevitably focused around the High Street leading up to the bridgehead (Carlin 1998, 18). Medieval London Bridge was constructed during the 12th century and prior to the construction of Westminster Bridge during the 18th century, the nearest river crossing was located at Kingston. Southwark's many inns benefitted from the numerous passing travellers and traders, and the population developed an eclectic demographic with numerous occupational groups and residents from all over Europe (MOLAS/EH 2000, 212; Carlin 1998, 169-171, 191, 209; Knight 2002, 12).

5.5.4 Documentary sources indicate that the 14th century townhouse of Lady Cobham was located at Green Dragon Court which after being bequeathed to the Priory of St Mary Overy in 1370, became an inn known as 'Cobham's Inn' and later as 'Green Dragon Tavern' (MoLAS 2003a). The late medieval 'The Swan Inn' (originally known as 'The Swan with Two Necks') stood just to the north of St Thomas's Hospital, structural evidence of which has been found on excavations to the north of London Bridge Street (Fig. 4; Site 3/LBB95; Site 33/LBA95).

5.5.5 Religious institutions played an important role in Southwark's development, being responsible for 'religious activity, promoters of learning and culture, administrators of local charity, purchasers and employers of local goods and landlords to hundreds of local residents' (Carlin 1998, 67). The major religious institutions of medieval Southwark were located within the

proposed boundary of the bridgehead settlement and include the Priory of St Mary Overy (Southwark Cathedral) to the west of Borough High Street, with St Olave's church and St Thomas's Hospital to the east.

5.5.6 St Thomas's Hospital was originally founded in 1106 on the western side of Borough High Street by the Bishops of Winchester and within the grounds of the Priory of St Mary Overy, however, the hospital was relocated to the eastern side of Borough High Street at the beginning of the 13th century (MoLAS 2003a). The stone walls of a cellar/undercroft, a relieving arch and buttresses were recorded at 11-19 St Thomas Street (Fig. 4; Site 7/11STS77) and are thought to represent part of the medieval hospital precinct. Likewise, 13th century pits and part of a medieval building recorded at 4-26 St Thomas Street (Fig. 4; Site 6/4STS82) are also thought to be related to the hospital. A short distance to the north, pits and medieval masonry recorded at 10-18 London Bridge Street (Fig. 4; Site 23/LNB97) and an 'arched foundation' at 20-26 London Bridge Street (Fig. 4; Site 32/LBJ95) may also be associated with the medieval hospital. Further evidence of medieval masonry (Fig. 4; Site 19/STU92; Site 25/TAS08; Site 28/GLSMR090223; Site 34/LBH94) and evidence of occupation (Fig. 4; Site 2/LBE95; Site 5/LBN08; Site 22/LOB98; Site 36/TOM95) have also been found at multiple other locations around the London Bridge Street/St Thomas Street area and once again may also be associated with the hospital precinct. Medieval chalk masonry found at Joiner Street (Fig. 4; Site 37/MSA92) could potentially be associated, or alternatively, may represent part of a building located close to the north-east extent of the bridgehead settlement.

5.5.7 It would appear that the settlement extended south of the immediate bridgehead during the later medieval period. To the west of Borough High Street and south of Bedale Street, excavations at 15-23 Southwark Street (Fig. 4; Site16/SKS80) have produced evidence of medieval pitting. To the east of Borough High Street, south of St Thomas Street, chalk masonry (Fig. 4; Site 31/WHY85), late medieval ditches (Fig. 4; Site 21/BGH95) and evidence of medieval property boundaries (Fig. 4; Site 29/BUG94) have also been recorded, indicating settlement expansion to the south occurred on both sides of the High Street.

5.6 Post-medieval (1485-20th century)

5.6.1 London Bridge remained of economic importance to the development of Southwark during the post-medieval period, with the bridge providing direct access to the important markets of the City of London (MoLAS 2003a). Cartographic sources indicate that tenements lined the eastern frontage of the high street, with St Thomas's Hospital occupying the land immediately to the east. Below ground elements of the post-medieval hospital have been recorded along St Thomas Street at Nos.4-26 (Fig. 4; Site 6/4STS82), Nos.11-19 (Fig. 4; Site 7/11STS77), at St Thomas's Church (Fig. 4; Site 25/TAS08) and also at 8 London Bridge Street (Fig. 4; Site

22/LOB98). A stone well recorded as part of the Jubilee Line Extension excavations (Fig. 4; Site 21/BGH95) may also be associated with the hospital. Evidence of post-medieval buildings elsewhere along London Bridge Street at Nos.20-26 (Fig. 4; Site 32/LBJ95), No.32 (Fig. 4; Site 4/LWE07), No.25 (Fig. 4; Site 5/LBN08) and within watching brief trenches (Fig. 4; Site 21/BGH95; Site 27/BSE94) may be associated with the post-medieval hospital or perhaps nearby buildings of contemporary date. In situ human burials at 25 London Bridge Street (Fig. 4; Site 35/NLB91), 20-26 London Bridge Street (Fig. 4; Site 39/LBI95) and London Bridge Station (Fig. 4; Site 1/LBD95) probably form part of St Thomas's Hospital burial ground/the Flemish churchyard of St Olaves (NWR 2009a).

5.6.2 To the west of the high street, elements of late 15th-early 19th century buildings have been recorded during investigations at Bedale Street (Fig. 4; Site 17/2SSBS85), Borough Market (Fig. 4; Site 61/BKT01), Stoney Street (Fig. 4; Site 62/MKY08) and Borough High Street (Fig. 4; Site 45/BRQ08). Of specific relevance to Green Dragon Court (TAA3) is a 1560 lease for the 'Green Dragon Tavern' (see above), which was granted to the wardens of St Saviour's Church with St Saviour's Grammar School opened in 1562 (MoLAS 2003a).

5.6.3 The accessibility of the city, yet Southwark's geographical separation from it, encouraged the growth of industrial trades, with the area increasingly exploited for industrial uses. Land to the west of the High Street seems to have been particularly well utilised, with Delftware kilns recorded at Southwark Cathedral (Fig. 4; Site 18/MTA99; Site 41/GM437; Divers *et al.* 2009), which are possibly associated with sizable quantities of delft pottery found at Montague Close (Fig. 4; Site 43/BWMC74; Site 44/MON90). Evidence for glass making and molasses refining has also been recorded around Winchester Walk (Fig. 4; Site 10/BYI03; Site 63/WIE02), whilst further to the south a clay pipe kiln has been recorded at 15-23 Southwark Street (Fig. 4; Site 16/SKS80).

5.6.4 On May 26th 1676 *c.*500 of Southwark's dwellings and inns were destroyed when a fire started in an oil shop on the high street. An article of the time described the aftermath of the fire as:

> *'Three Crown Court (relates to TAA5) is rubbish and ashes, the Meal Market standing in the middle of the street is consumed, and no sign is left to know where it stood. ...Fronting south to the east and west the church was enveloped in flames. All Foul Lane (relates to TAA3 & TAA4), the churchyard buildings, several alleys, one side of the street over to St Mary Overies Dock are gone. Twenty or more people are killed and many wounded' (cited in MoLAS 2003a)*

5.6.5 An Act of 1754 identified the High Street market as a serious obstruction to trade and commerce and from 25th March 1756 the street market was banned. At the same time,

commissioners were appointed to acquire land within which to set out a new market, this being a block of land called 'Rochester Yard' (TAA5) which was described as:

> *'A convenient place in a spot called the Triangle, abutting on a place called the Turnstile, on the backside of Three Crowns Square, on Fowle Lane, on buildings in Rochester Yard and Dirty Lane, and towards Deadman's Place'* (cited in MoLAS 2003a)

5.6.6 The trade in hops bought in from Kent inevitably led to Southwark being heavily involved in the brewing industry (MoLAS 2003a), with much of the produce presumably sold in the many inns which lined the high street, side streets and streets surrounding the new market. Two hop merchants are listed on Stoney Street during the 18th century and two public houses, the 'Harrow' on 'Harrow Corner' and a public house at 6 Stoney Street, which may have been connected via an alley named the 'Whores Nest', were licensed during this period. The alley is no longer present in the modern street plan and the two public houses are now respectively known as 'The Market Porter' and 'The Wheatsheaf' (TAA6).

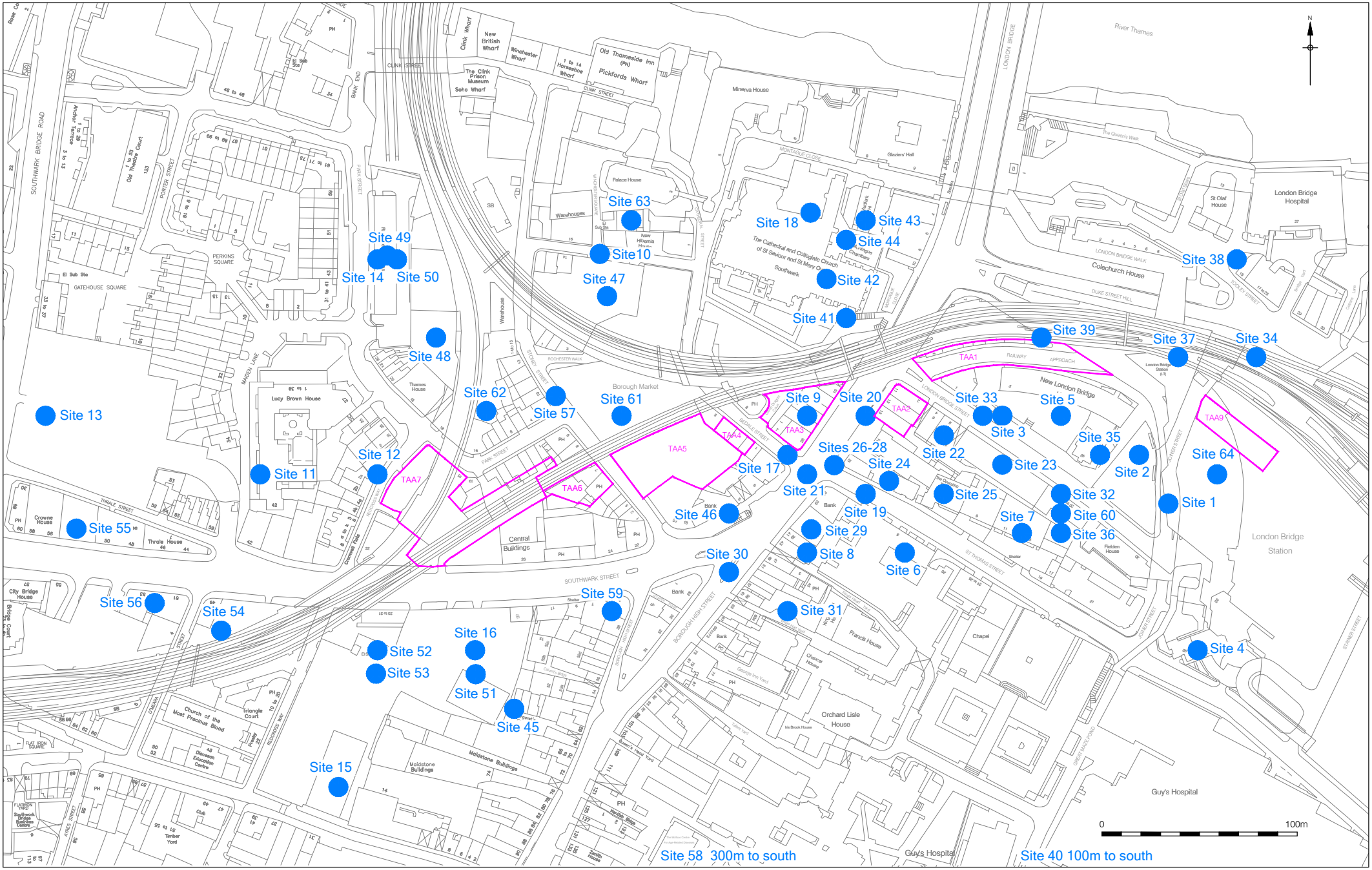
5.6.7 In 1584 the Abbot of Waverley's town house was acquired by Thomas Cure, saddler to the queen, who constructed almshouses for 16 poor parishioners (Malden 1912). A burial ground was subsequently established in the late 18th century and during the early 19th century were known as 'St Saviours Almshouse' and 'St Saviours-Almshouse-Burial Ground' (MoLAS 2003a; TAA7).

5.6.8 The 19th century bought significant changes to Southwark, with London Bridge rebuilt in the early 19th century and Borough High Street widened and realigned at a contemporary date. Large parts of St Thomas's Hospital were also demolished and only the southern buildings/wing were retained, with new tenement buildings fronting onto the realigned high street and side streets built in other parts of the former hospital precinct.

5.6.9 During the mid 19th century, large tracts of land were compulsorily purchased throughout Southwark for the construction of the South Eastern Railway, London Bridge-Cannon Street/London Bridge-Charing Cross line (MoLAS 2003a). Further alteration of the street pattern was undertaken to the east of Borough High Street, whilst to the west a new thoroughfare, Southwark Street, was established in 1864. The Hop Exchange, the commercial centre of the English hop trade, was built on the northern side of Southwark Street in 1866 (MoLAS 2003a).

5.6.10 Post-medieval masonry recorded at Joiner Street (Fig. 4; Site 37/MSA92) and around London Bridge Station (Fig. 4; Site 1/LBD95; Site 2/LBE95, Site 64/JNE99; Site 35/NLB91), as well as that recorded during recent Thameslink excavations around London Bridge Station

(BVC12; BVM12) represent the remains of post-medieval buildings which were compulsory purchased and demolished prior to the construction of the new railways. Further evidence of 19th century railway construction has been recorded elsewhere along the length of Borough Viaduct.



JB 29/01/13

Figure 4
Sites mentioned in the text
1:2,500 at A4

6 ARCHAEOLOGICAL METHODOLOGY

6.1 Introduction

6.1.1 With the exception of four 'pre-start' test pits excavated on site in early 2009 (MOLA 2011a), the remainder of the archaeological works at 2-4 Bedale Street formed part of the agreed scope, sequence and method of archaeological works defined in the 2009 WSI. The programme of works agreed between Network Rail and the London Borough of Southwark (NWR 2009b) comprised:

- Principal Contractor to demolish buildings and other structures as required following completion of historic building survey
- Principal Contractor to underpin party walls under continuous archaeological supervision by Archaeological Supplier
- Principal Contractor to break out modern foundations retain exterior basement wall - and remove non-significant deposits under continuous archaeological supervision by Archaeological Supplier
- Excavation of archaeologically significant deposits to be undertaken by the Archaeological Supplier

6.1.2 The pre-start test pits (BVV09) and the standing building survey (BVA08) have been previously described (MOLA 2010; 2011) and as a consequence the methodologies of these investigations are not detailed further in this report. Instead the methodologies described herein concentrate on the extended programme of archaeological work undertaken by OA-PCA at 2-4 Bedale Street during 2010 and 2011 (Table 1).

Area	Stage	Investigation	Methodology	Start Date	Finish Date
2-3 Bedale Street	Stage 1	Underpinning	Watching Brief	27/10/2010	09/08/2010
2-3 Bedale Street	Stage 1	Ground reduction	Watching Brief	10/08/2010	06/09/2010
2-3 Bedale Street	Stage 2	Underpinning	Watching Brief	07/09/2010	01/10/2010
2-3 Bedale Street	Stage 2	Archaeological excavation	Excavation	04/10/2010	02/11/2010
3-4 Bedale Street	Stage 1	Underpinning	Watching Brief	05/08/2011	30/08/2011
3-4 Bedale Street	Stage 1	Ground reduction	Watching Brief	30/08/2011	03/09/2011
3-4 Bedale Street	Stage 1	Archaeological excavation	Excavation	05/09/2011	30/09/2011
3-4 Bedale Street	Stage 2	Underpinning	Watching Brief	07/10/2011	24/10/2011
3-4 Bedale Street	Stage 2	Archaeological excavation	Excavation	24/10/2011	14/11/2011

Table 1: Archaeological works at 2-4 Bedale Street

6.1.3 The necessity of maintaining construction access to 3 Crowns Square required that 2-4 Bedale Street be split into two areas, with archaeological work at 2-3 Bedale Street

undertaken from July to November 2010 and archaeological work at 3-4 Bedale Street undertaken from August to November 2011 ('Phase 1 and 'Phase 2' respectively on Fig. 2). In addition, engineering and Health & Safety restrictions required that each of these areas was further sub-divided into two stages by excavation depth, referred to as 'Stage 1' and 'Stage 2' in the following sections. Episodes of structural underpinning, ground reduction of low grade deposits, temporary works installation and controlled excavation of archaeological deposits were undertaken during each of these two stages, (Figs 2 & 3).

6.2 Watching Briefs - Underpinning

6.2.1 The restricted depth of extant foundations beneath 1 Bedale Street, 5 Bedale Street and the Bedale Street frontage dictated that up to 2.5m depth of mass-concrete underpinning was required beneath these party walls. Whilst the main impetus during these works was the safe and efficient strengthening of the party walls, the underpinning also provided a valuable opportunity to investigate the archaeological sequence beneath the adjacent properties. The entirety of the underpinning was monitored under archaeological watching brief conditions.

6.2.2 The starting level for underpinning was dependent on the presence/absence of structurally sound foundations beneath the basement depth party walls (Table 2). For example, foundations to the street frontage wall of properties 2 and 3 Bedale Street were of sufficient depth that they did not require Stage 1 underpinning (i.e. to approximately 1.2m below existing basement floor level), whereas the foundation of the 4 Bedale Street frontage was relatively shallow and therefore required underpinning during both stages of work. In all cases underpinning extended to the surface of the natural sand and gravel. No underpinning was required at the rear of 2-4 Bedale Street.

Underpinned Wall	No. of pits Stage 1	No. of pits Stage 2	Total pits
1 Bedale Street	8	9	17
Frontage of 2 Bedale Street	n/a	6	6
Frontage of 3 Bedale Street	n/a	5	5
Frontage of 4 Bedale Street	6	7	13
5 Bedale Street	8	9	17

Table 2: Underpinning works

6.2.3 The underpinning entailed:

1. Engineers measured out 1m sections along the wall requiring underpinning and these were then numbered with the sequential order in which they were to be excavated. To ensure the integrity of the wall only 25% of the underpinning pits could be open at any one time, i.e. 2 pits along an 8m long wall, and open underpinning pits could not be

located adjacent to each other. The excavation of each 25% set of underpinning pits required completion in approximately half a day.

2. Once the sequence of underpinning had been established, the attendant archaeologist would watch as a *c.*1m x 1m x 1.20m deep pit, or occasionally a 0.5m x 1m x 1.20m deep pit, was rapidly hand-excavated adjacent to the wall being underpinned. In general, the attendant archaeologist did not enter the underpinning pit during this process; however, limited access was permissible in exceptional circumstances. The arisings were monitored throughout, and where possible finds were collected by context or the underpinning pit number.

3. Once the base depth of the underpinning pit had been reached the attendant archaeologist was given access to the trench to compile location plans and to record sections. The section immediately beneath the underpinned wall was recorded in all instances so that a single composite section could be compiled after all stages of underpinning were completed. Additional sections and detailed plans were compiled when the complexity of the archaeology required.

4. Having completed the rapid recording, the attendant archaeologist then watched as the pit was hand-excavated beneath the width of the standing wall. In some cases, parts of the standing wall were already supported by isolated concrete piles and when present these were left in situ as incorporations into the underpinning.

5. No archaeological access to the underpinning pit was permissible once excavation had proceeded beneath the standing wall, however once again the arisings were monitored and finds were either collected by context or the underpinning pit number. Location plans for the underpinning pits beneath the extant walls were extrapolated from measurements and were recorded through digital photography.

6. Timber shuttering and iron rebar was then installed beneath the exposed foundation and filled with wet concrete. Once the concrete had fully set (*c.*2-3 days), the pit adjacent to the wall was backfilled and the excavation of the next 25% of underpinning pits was carried out. This process was repeated until the entire stage of underpinning, i.e. Stage 1, had been completed.

7. The next stage of underpinning, i.e. Stage 2, was not undertaken until low-grade and/or archaeological deposits had been excavated to the base depth of the previous stage of underpinning and until a temporary works brace frame had been installed. Once the

temporary works had been signed off as safe, the Stage 2 underpinning process was repeated in the same manner as detailed above.

6.3 Watching Briefs - Ground Reduction

6.3.1 Watching briefs were conducted on the removal of modern and low grade deposits such as the modern concrete basement floor slab, homogenous made-ground, modern backfill etc. The material was either hand-removed by labourers or, if space permitted, through the use of 360° mechanical excavator fitted with a flat bladed ditching bucket.

6.3.2 The low grade material was generally reduced in *c.*200mm horizontal spits under the observation of an attendant archaeologist and ceased once the top of the first significant archaeological horizon was defined.

6.4 The Archaeological Excavation

6.4.1 Archaeological excavation commenced once significant archaeological deposits were encountered and continued until stage depth or project depth/natural deposits were reached. The upper level of each stage of archaeological excavation, the base level of each stage of excavation, the dimensions in plan of the excavation area (minus the underpinning trenches) and the values of the temporary bench marks (TBM's) are shown in Table 3.

Area	Stage	Upper Level	Base Level	E/W	N/S	TBM
2-3 Bedale Street	Stage 1	2.97m OD	1.39 m OD	8.97m	7.53m	2.83 m OD
2-3 Bedale Street	Stage 2	3.04 m OD	1.75 m OD	8.18m	7.19m	2.96 m OD
3-4 Bedale Street	Stage 1	1.39m OD	0.47 m OD	8.97m	7.53m	2.83 m OD
3-4 Bedale Street	Stage 2	1.75m OD	0.19m OD	8.18m	7.19m	1.66 m OD

Table 3: Dimensions of the excavation area, excavation heights and temporary benchmarks.

6.4.2 A 5m grid was established at the start of each stage of works and was located to the Ordnance Survey National Grid (OSGB36) using a Total Station Theodolite (TST). Excavation of archaeological deposits was by hand, with cleaning, examination and recording both in plan and section. Sections were excavated no deeper then 0.70m without stepping. Environmental samples were taken as both bulk samples (40 litres) and column samples, with the latter located on the appropriate sections. C14 samples and OSL samples were also taken.

6.4.3 Following the completion of Stage 1 excavations, boards were placed above the archaeological horizon as protection during Stage 2 underpinning and these remained in place until the Stage 2 archaeological excavations commenced. With the exception of a deeply cut well, which has been reburied beneath the new basement, all of the archaeological deposits on site had been excavated by the completion of the Stage 2 excavations

6.5 General

6.5.1 No site work took place until the appropriate H&S documentation had been provided and approved by OA-PCA, Skanska and Network Rail. Relevant elements of the H&S policies are incorporated into this section, however a full breakdown of the H&S criteria for archaeological work at 2-4 Bedale Street can be found in project archive documents 'Task Briefing 709' (Skanska 2011) and 'Task Briefing 901' (Skanska 2011).

6.5.2 The depth of the excavation required a qualified scaffolder to install handrails and footboards around the perimeter of the excavations. In addition, ladder/stair access/egress was provided and scaffold platforms were installed as greater excavation depths were attained. Task lighting and gas monitors were provided within the excavations and, if necessary, ventilation and roof covers were also provided. Mechanically operated skips were used to remove spoil from the excavation.

6.5.3 Archaeological recording was undertaken using the single context recording system as specified in the Museum of London Site Manual (MoL 1994) and Pre-Construct Archaeology's Operation Manual I (Taylor & Brown 2009). Plans were drawn at a scale of 1:20 and full or representative sections at a scale of 1:10. Contexts were numbered sequentially and recorded on *pro-forma* context sheets. A full photographic record was maintained throughout the entirety of the archaeological work.

6.5.4 The awkward orientation of the site resulted in a decision to adopt a site north for baselines and grids. The generated paper archive, i.e. plans, sections, context sheets etc, relate to site north and have been re-orientated to Ordnance Survey National Grid north during the post-excavation process.

6.5.5 The archaeological site work was supervised by James Langthorne, under the project supervision of Joanna Taylor and the project management of Peter Moore and Dan Poore. Chris Place (Network Rail Project Archaeologist) acted as archaeological advisor to Network Rail and the progress of the archaeological investigations were monitored by Dr Chris Constable (Senior Archaeology Officer, Southwark Council).

6.5.6 The completed archive comprising artefactual material and written, drawn and photographic records for site codes BVG10, BVV09 & BVA08 will be deposited at the London Archaeological Archive and Research Centre (LAARC) where it will accessible for public consultation.

7 THE ARCHAEOLOGICAL SEQUENCE

7.1 Phase 1: Natural (Figs. 11, 12, 13 & 14)

7.1.1 The earliest deposit found on the site was naturally deposited light yellowish brown coarse sand and gravel. The natural sand and gravel referred to as [15], [23], [37], [45], [59], [79], [278], [711], [732], [740], [766], [772] and [897] extended across the site. The highest level the natural sand was found at was 1.30m OD, in the western half of the site, and the lowest was 0.47m OD in the eastern part of the site and 0.26m OD in the western part of the site.

7.2 Phase 2a: Early Roman - Ground preparation horizon (Figs. 11 & 12)

7.2.1 Evidence of Roman occupation at Bedale Street was restricted due to significant medieval intrusions; particularly a large ditch and its later re-cut that severely truncated the earlier deposits (see Phases 4 and 5).

7.2.2 The earliest archaeological deposits appeared to be the result of ground preparation during the early Roman period undertaken in advance of subsequent activities on the site. These deposits were particularly apparent in the excavation area in the south-eastern half of the site and comprised dumped and levelling layers. The majority of these dumped deposits, [13], [14], [77], [78], [83], [102] and [115], were seen within the underpinning trenches or test pits; only deposits [229], [235], [240] and [282] were found within the excavation area itself. Typically these layers were composed of firm to friable silty sand, which were either mid brown or light yellow grey brown in colour with gravel patches, giving an impression of redeposited natural sands and gravels. The deposits were encountered at levels varying between 1.64m OD, the maximum height of [13], and 0.75m OD, the lowest height of [78] in the eastern part of the site.

7.2.3 Only a small number of finds were recovered from these dumped deposits including redeposited wall plaster, nail fragments and a complete nail fused to an L shaped spike, <SF 78>, from layer [83], and thin pale green glass from a sample taken from layer [240], all of which were early Roman in date. No pottery or other finds were discovered to corroborate this date across all of the dumped/levelling deposits but the character and the stratigraphic positions of the deposits indicated a similar date and function.

7.3 Phase 2b: Early Roman - Clay and timber building (Fig. 5)

7.3.1 This horizon of ground preparation in the south-eastern half of the excavation was superceded by a period of well defined Roman occupation. Principally seen in the northern

part of the excavation this comprised the remains of a clay and timber building which was composed of clay floors [12], [176], [281] and [283], two north-east to south-west aligned brickearth walls, [279] and [280], a beam slot, [70], construction cut, [284], and postholes, [254], [256] and [276]. Whilst in the south of the site roughly gravelled surfaces [228] and [267], which sealed a single earlier posthole [274], were present. The remnant of a small, heavily truncated ditch [239] and a pit [272] were also recorded in the eastern part of the site. The distribution of these deposits suggested the construction of a building extending beyond the northern boundary of the site with an external area to the south.

7.3.2 While the clay and timber building had been severely truncated to the south by the later medieval ditches, and to an extent by a modern concrete foundation to the east, it was clear that the building extended to the north of the excavation. The construction cut [284] for a mid brown yellow brickearth and plaster-faced wall [280] had been backfilled with friable, mid brown grey, silty sand [285] and was sealed by clay floors [281] and [283]. Floors [281] and [283] were encountered at heights between 1.31-1.34m OD as was clay floor [176]. A further clay floor [12] at a height of 1.78m OD was also seen within a test pit and was considered to be a part of the building. Later developments to the structure were a further wall [279] which was seen to overlie floor [281]. Additionally, a posthole [276] was recorded cutting floor [283]. The following table (Table 4) summarises the dimensions and heights of the major elements of the clay and timber building:

Context	Feature	North-South	East-West	Depth	Maximum Height
12	Clay floor	*n/a*	1.10m	0.14m	1.78m OD
70	Beam slot	1.00m	0.35m	0.25m	1.10m OD
176	Clay floor	0.78m	0.80m	0.03m	1.34m OD
254	Posthole	0.12m	0.16m	0.20m	1.50m OD
256	Posthole	0.14m	0.12m	0.28m	1.49m OD
276	Posthole	0.14m	0.26m	0.10m	1.33m OD
279	Brickearth wall	0.40m	0.30m	0.20m	1.50m OD
280	Brickearth wall	0.56m	0.12m	0.09m	1.40m OD
281	Clay floor	1.00m	3.26m	0.07m	1.34m OD
283	Clay floor	0.62m	0.14m	0.07m	1.32m OD
284	Construction cut	1.04m	0.20m	0.40m	1.25m OD

Table 4: Features of clay and timber building

The surviving elements of the Roman building on the site measured more than 1.60m north-east–south-west by 4.53m north-west–south-east.

7.3.3 To the south-west of the building was an associated gravel surface in the southern part of the eastern half of the site. This surface was composed of a 0.10m thick layer of loose dark grey brown silty gravel [228] and a 0.10m thick layer of loose mid green grey sandy gravel [267] to the north-west. These deposits were encountered at heights of 0.71m OD and 1.37m OD respectively and may represent the remains of either a yard surface or possibly a road/alley.

The fragmentary nature of the gravel surface and the varying heights were due to truncation caused by later ditches.

7.3.4 There was a scarcity of finds encountered in Phase 2b; only daub recovered from pit fill [271] and an brick in Eccles fabric dating to AD 50-80 from gravel surface [267]; however, material recovered from later deposits indicated that the building and associated gravel surface, pit and ditch could be attributed to the early Roman period.

7.4 Phase 2c: Early Roman - Further development of the site (Figs. 6, 11 & 13)

7.4.1 Following the establishment of the clay and timber building and its possible exterior yard/alley a variety of features developed in the area. These included occupation layers, burnt horizons and pits related to the building's use.

7.4.2 Burnt horizons, [44], [76] (Fig. 11), [112] and [114] were concentrated in the north-eastern corner of the site in underpinning pits (UPs) 11, 12 and 13 and may suggest the area was subject to a fire or that this area served an industrial purpose, however it is unknown if the area represents an eastern continuation of the Roman building described above or instead represents a separate external work area. There was a paucity of finds from these layers, with the exception of a small amount pottery dated to AD 50-160 and CBM from [44]. These horizons appeared at heights between 1.41m OD and 1.19m OD.

7.4.3 Relating to the clay and timber building itself were several postholes [171], [258] and [265]. Typically these were filled with fairly firm mid grey or dark grey brown sandy silt, [170], [257] and [264] respectively. Finds from these deposits included animal and fish bones and early Roman glass from a window or vessel. The dimensions and heights of these features are summarised in Table 5:

Context	Feature	North-South	East-West	Depth	Maximum Height
171	Posthole	0.16m	0.16m	0.22m	1.56m OD
258	Posthole	0.11m	0.15m	0.11m	1.34m OD
265	Posthole	0.22m	0.18m	0.16m	1.06m OD

Table 5: Dimensions of postholes related to clay and timber building

7.4.4 Two other cut features were apparent in close proximity to the building to the east (Table 6). These were pits [234] and [47]. These features were filled by soft, light pink grey silty clay [233] from which fish bones were recovered and soft, light grey sand [46] from which no finds were recovered.

Context	Feature	North-South	East-West	Depth	Maximum Height
47	Pit	0.26m	0.35m	0.14m	0.82m OD
234	Pit	0.64m	0.50m	0.37m	1.34m OD

Table 6: Dimensions of early Roman pits

7.4.5 The development of the building was marked by occupation layers [175], [227], [236], [250], [261], [263] and [275] and demolition deposit [172]. Notable finds from these layers included two glass gaming pieces, one black <SF 11> and one opaque white <SF 105>, and a plain copper alloy ring <SF 7> in addition to nails, fish bones and CBM.

7.4.6 The earliest archaeological deposits found in the western half of the site were encountered within the northern underpinning trenches (Fig. 13). These deposits comprised a layer of friable, light brown sandy silt [771] encountered at a height of 1.17m OD sealed by a layer of friable, orange mottled mid brown clay silt [770] at a height of 1.89m OD and a fairly firm mixed dark brownish grey, mid yellowish brown and mid reddish brown coarse sandy gravel [710] overlain by loose, mid-dark yellowish brown gravelly clay silt [707]. The gravel deposits were encountered at heights of between 1.21m OD and 1.33m OD respectively. No finds were produced from these layers.

7.5 Phase 3: Late Roman - Abandonment of building (Figs. 6, 12 & 13)

7.5.1 Further episodes of dumped deposits, levelling and potential ploughsoil were recorded in the underpinning trenches in the western part of the site. The more significant of these layers included a weakly cemented gravel surface [729], recorded at a height of 1.05m OD which sealed levelling layers [758], [757] and [731] (Fig. 13). The gravel surface also sealed a 0.22m thick layer of moderately cemented, light brownish grey gravel and mortar [730] from which pottery was extracted that dated to AD 300-400. This suggested the presence of a late Roman exterior yard or alley.

7.5.2 Three consecutive layers of soft, light brownish grey green, sandy silt; [722], [721] and [720] were also seen to seal the natural. Deposit [722] contained pottery dating to AD 50-400. These deposits were subsequently truncated by three pits [716], [717] and [719]; the first of which contained sherds of pottery dating to AD 150-300. A further pit [769], of a similar character, was recorded truncating layer [770] and has been attributed to this period (Fig. 13). The fills of all four of these pits, soft, dark grey brown and dark greyish green, clay silt, indicated that they were the remnants of a series of cess or rubbish pits. The dimensions of the pits are summarised in Table 7 below:

Context	Feature	North-South	East-West	Depth	Maximum Height
716	Pit	0.55m	*n/a*[1]	0.95m	1.60m OD
717	Pit	0.25m	*n/a*[2]	0.60m	1.66m OD
719	Pit	0.30m	0.40m	0.50m	1.66m OD
769	Pit	*n/a*[3]	1.80m	0.90m	1.89m OD

Table 7: Dimensions of late Roman cesspits

7.5.3 Several further dump/levelling deposits, [38], [39], [40], [55], [56], [57], [58] and [64] (Fig. 12), were seen within the northern underpinning pits which either represented a period of abandonment or, conversely, ground preparation for the construction of later buildings, vestiges of which have since been lost during later usage of the site.

7.5.4 Clear evidence of the abandonment of the clay and timber building was then recorded in the north-western corner of the eastern half of the site: a demolition horizon composed of a 0.13m thick layer of firm but friable, light brown yellow sandy silt with frequent plaster inclusions [260] and a 0.40m thick layer of soft, mid green yellow, sandy silt [164] were found at heights of 1.41m OD and 1.59m OD respectively. CBM from layer [164] dated to AD 50-160.

7.5.5 In northern underpinning trench UP16/17 further pits were cut into demolition horizon [260] and a sandy silt dumped layer [81], which contained pottery dated to AD 150-300. Two pits [104] and [270] appeared to denote activity following the demolition of the earlier Roman building. This most significant finds within the fills of these features included a 3rd-4th century coin within the upper fill [268] of pit [270], while fills [106] and [105], both of pit [104], contained pottery dated to AD 125-250 and AD 50-300 respectively. The latter deposit also contained an almost complete North Gaulish whiteware handled 'honeypot' dated to AD 50-150. This excellent level of preservation indicated it was deposited either complete or immediately after breakage, with all the extant sherds collected and deposited into pit [104]. This unusual method of deposition for this vessel contrasted strongly with the remainder of the pottery recovered both from this feature and across the site and it may represent a 'structured deposit', possibly placed in association with the 'closure' of the building. Table 8 below summarises the dimensions of these pits:

Context	Feature	North-South	East-West	Depth	Maximum Height
104	Pit	*n/a*[4]	0.40	1.10	1.62
270	Pit	0.38	0.46	0.37	1.42

Table 8: Dimensions of late Roman pits following demolition of clay and timber building

[1] Only seen in underpinning pit section
[2] *ibid*
[3] *ibid*
[4] *ibid*

7.5.6 A well, recorded as [892] in the excavation area and as [745] and [760] in the underpinning trenches (Fig. 13), was observed in the western half of the site. The well measured 1.70m by 2.30m and continued beyond the northern limit of excavation. It was at least 1.28m deep and was observed at a top height of 1.75m OD within the underpinning holes. The upper part of well was heavily truncated; however it was possible to extract pottery dated to AD 100-120 and AD 200-400, as well as glass, iron nails and CBM from fills [893] and [894]. The well appeared to cut pits in the underpinning trenches which contained two sherds and one sherd of medieval pottery respectively. Conditions within the underpinning trenches, however, were not archaeologically ideal and these artefacts may be intrusive, leading to the feature being placed in a Roman phase.

7.5.7 A large oval shaped pit [179] was observed in the eastern part of the site and measured 0.75m by 1.35m by 0.35m deep with a top height of 1.55m OD. It truncated several layers including a soft, light brown grey, silty sand dump layer [231] which contained a fragment of medieval pottery dating to 970-1100. This is considered to be intrusive as the fills, [190] and [213], of pit [179] contained exclusively Roman pottery dated to AD 100-160.

7.5.8 A severely truncated linear feature [178] was seen to cut pit [179]. This north-west to south-east orientated possible gully or ditch had shallow sides and a gently concave base and measured 0.34m north-south by 1.22m east-west by 0.17m deep. It was encountered at a height of 1.58m OD and was filled by friable, mid green grey, silty sand [177] from which a large amount of pottery dated to AD 150-300, animal bone, glass, lithics and slag were recovered. The feature was subsequently sealed by a layer of soft, mid grey/mid brown green, sandy silt [163] which contained CBM dated to 1180-1450.

7.6 Phase 4: Medieval Pre-AD1200 (Figs. 7, 11, 12, 14 & 15; Plates 3, 4, 5, 6 & 7)

7.6.1 The Roman deposits were sealed or truncated by a series of layers, dumped deposits and pits together with a large north-west to south-east aligned ditch all of which dated from the medieval period prior to AD 1200.

7.6.2 The next major development on site was a ditch cut which ran north-west to south-east across the excavation area and was recorded as [72] and [91] in the eastern underpinning trenches, [153] in the eastern half of the excavation area and [837] in the western excavation area. Later re-cutting of the ditch (see Phase 5a) had destroyed its southern edge, however it was evident that originally it measured in excess of 18.20m in length by 4.70m in width, with a gradually sloping northern edge bottoming out onto a flattish base. The ditch measured 1.50m deep, however it is probable that it was once significantly deeper. The ditch was encountered

at a maximum height of 1.87m OD in the eastern part of the site and 0.71m OD in the western extent.

7.6.3 Due to the severe truncation the feature caused by the later re-cut only the base of the original ditch and small amounts of its five lowest fills, [836], [902], [903], [904] and [905], were still extant in the western part of the site. It was possible to sample and extract pottery from the uppermost of these fills, [836], which dated to 1175-1225 as well as residual Roman pottery dating to AD 240-400 and Roman CBM dated to AD 100-400. Table 9 below summarises the descriptions of the western fills, their relative thicknesses and the heights they were encountered at:

Context	Description	Thickness	Height
905	Soft, mid yellow with dark brown mottling, sand with clay lenses	0.14m	0.80m OD
904	Soft, mid yellow brown-dark grey silty sand	0.04m	0.77m OD
903	Soft, dark black, charcoal rich silty sand	0.07m	0.83m OD
902	Soft, dark greenish grey, cessy sandy silt	0.35m	1.19m OD
836	Firm, mid greyish brown, sandy silt	0.10m	0.99m OD

Table 9: Primary fills of original ditch

7.6.4 Greater survival of the northern part of the ditch was evident in the eastern part of the site Multiple fills were excavated comprising [34], [35], [36] within the underpinning trenches and [225], [224], [216], [215] and [191] within the excavation area. The descriptions, thicknesses and heights of these deposits are summarised in Table 10 below:

Context	Description	Thickness	Height
34	Soft, dark grey and dark grey green, sandy silt	0.40m	1.15m OD
35	Loose, light yellow brown, gravelly sand	0.10m	0.80m OD
36	Soft, dark grey and dark grey green, sandy silt	0.07m	0.68m OD
225	Friable, dark blue grey, sandy silt	0.13m	0.90m OD
224	Friable, mottled mid orange brown and light yellow brown, gravelly sand	0.05m	0.99m OD
216	Fairly firm, dark grey brown, sandy silt	0.10m	1.08m OD
215	Friable, dark blue grey, silty sand	0.07m	1.23m OD
191	Firm, dark blue grey brown, silty clay	0.12m	1.23m OD

Table 10: Later fills of original ditch

7.6.5 The character of these deposits indicated a mixture of cess, waterlain and redeposited natural deposits. Column samples taken through this material contained high levels of herbaceous pollen, which indicated that all woodland had been cleared from the area before the ditch started to fill; a few cereals were present, but the principle vegetation of the surrounding area were grasses.

7.6.6 A larger variety of finds were recovered from the eastern fills than the western ones, including: shell, fish and animal bones, slag, glass, CBM and pottery. Dating evidence from the primary fill, [225], included residual Roman material: specifically pottery dated to AD 70-160, CBM dated to AD 100-160, a Roman copper-alloy brooch pin, four incomplete iron nails and small shards of glass. An attempt was made to fix a more precise date for the original ditch both by radiocarbon dating a waterlogged fruit stone and charred grain recovered from fill [225] and luminescence (OSL) dating of fill [836]. The results of the radiocarbon dating indicated dates of 1043-1104 cal AD (33.9%) and 1118-1216 calAD (61.5%) at 95.4% probability for the fruit stone and 25-129 calAD at 95.4% probability for the grain suggesting that the latter was redeposited within the ditch (see Appendix 23). The OSL results suggested that [836] dated to AD 187 ± 455 years (see Appendix 24). Taking all the straigraphic, radiocarbon, luminescence dating and material cultural evidence into account it was concluded that the original ditch was backfilled in the late 12th century.

7.6.7 Sunk into the top of fill [191] were the degraded remains of numerous timber planks [212] (Fig. 7; Plate 6). The planks were orientated on the same alignment as the ditch and appeared to have 'fallen' into its northern extent, possibly suggesting a 'fence' had once existed along the northern edge of the original ditch or the remnants of a temporary unsecured walkway within it. The dimensions of the timbers and the heights they were discovered at are summarised in Table 11:

Context	Length	Width	Thickness	Height
192	0.64m	0.07m	0.03m	1.05m OD
193	1.58m	0.05m	0.20m	0.94 m OD
194	1.42m	0.07m	0.10m	0.94 m OD
196	0.74m	0.07m	0.10m	0.99 m OD
197	1.86m	0.65m	0.10m	1.10 m OD
198	0.30m	0.07m	0.20m	1.00 m OD
199	1.95m	0.55m	0.01m	0.96 m OD
200	0.72m	0.06m	*n/a*	0.80 m OD
201	0.88m	0.08m	0.05m	1.09 m OD
202	0.12m	*n/a*	0.01m	1.00 m OD
203	0.47m	0.08m	*n/a*	0.90 m OD
204	0.78m	0.05m	0.01m	1.12 m OD
205	0.49m	0.07m	0.01m	1.00 m OD
206	1.36m	0.05m	*n/a*	0.83 m OD
207	1.56m	0.07m	0.02m	0.97 m OD
208	1.37m	0.07m	*n/a*	0.90 m OD
209	2.40m	0.07m	0.01m	1.13 m OD
210	0.52m	0.07m	0.02m	0.80 m OD
211	0.07m	2.38m	0.02m	1.11 m OD
212	*n/a*	*n/a*	*n/a*	*n/a*
219	0.36m	0.08m	*n/a*	0.90 m OD
243	1.01m	0.07mm	0.15m	1.04 m OD
244	1.28m	0.20m	0.07m	1.02m OD
245	0.29m	0.06m	0.01m	0.97 m OD
246	0.81m	0.06m	0.02m	0.97 m OD
247	0.60m	0.14m	0.01m	0.90 m OD

Table 11: Dimensions of timber planks within original ditch

7.6.8 The timbers were covered by two further fills of the ditch, a 0.26m thick deposit of firm, dark green grey, clay silt [185] which was succeeded by a 0.53m thick fill of fairly soft, mottled dark grey and dark brown green, sandy silt [160]. Dating evidence from these fills comprised residual Roman and pre-13th century medieval material, including: a 4th century coin, pottery dating to 1180-1220 from fill [160] and pottery dated 1080-1200 together with CBM dated 1180-1450 from fill [185]. Similar backfilling deposits, [32], [33] and [71], were observed within the eastern underpinning trench.

7.6.9 A series of features were observed on either side of the ditch. To the north of the ditch several pits were revealed within the underpinning trenches along the northern extent of the site. These included [727], [706] and [708] to the west and [11], [60], [66], [68] and [259] to the east. The fills of these pits suggested the presence of cessy material, particularly the soft, dark grey gritty silt with grey green mottling that comprised fills [54] from pit [60] and the soft dark brown grey clay silt from both fills, [726] and [751], in pit [727], and fill [705] in pit [706] respectively. Fill [700] of pit [708] contained pottery dating to 1050-1100 and fill [705] of pit [706] was dated by pottery to 970-1100.

7.6.10 Two small postholes, [166] and [168], truncated the top of layer [163] to the north of the eastern extent of the original ditch. Both were sub-circular in shape, measuring 0.15m north-south by 0.24m east-west, and 0.34m deep. Encountered at a height of 1.46m OD, they contained soft, dark brown grey, sandy clay, [165] and [167], with animal bone fragments; residual Roman pottery was found within pit [166].

7.6.11 A possible cess pit [20]/[66] was observed to the north-east of the original ditch cut containing cessy fills [17], [19] and [65] and the remnants of a potential degraded barrel [18]. Fill [19] contained pottery dated to 1080-1200, whilst layer [16] which capped the cess pit contained pottery dated to 1340-1400. Cess pit [20]/[66] was over 0.89m deep and was encountered at a top height of 1.92m OD.

7.6.12 Situated to the south of the ditch in the western part of the site was a severly truncated pit [891], which cut silty sand layer [889] and small rectangular pit [895]. This pit was irregularly shaped (due to the truncation) and measured 1.20m by 0.84m by 0.53m deep and was encountered at a height of 1.26m OD. It was filled with firm, greenish yellow, silty sand which contained no dateable material.

7.6.13 Also located to the south of the ditch, a series of intercutting rubbish pits along the south-western part of the site were cut into earlier pit [891]. Table 12 summarises the attributes of these features:

Context	Description	North-South	East-West	Depth	Maximum Height
714	Rounded, vertical sides, unseen base	1.38m	*n/a*	*c.*1.2m	1.66m OD
810	Rounded/irregular, steeply sloping sides, flat base	0.66m	0.84m	0.14m	1.66m OD
832	Square, vertical sides, flat base	1.23m	1.20m	0.33m	1.4m OD
869	Rectangular, vertical sides, flat base	1.05m	1.55m	0.82m	1.31m OD
870	Circular, vertical sides, concave base	2.10m	0.82m	0.41m	0.96m OD
873	Linear, unclear sides and base	0.28m	1.14m	*n/a*	1.4m OD
876	Sub-circular, steeply sloping sides, flattish base	1.82m	2.00m	0.70m	1.39m OD
879	Irregular semi-circular, near vertical sides, possible concave base	1.92m	2.44m	*c.*1.11m	1.45m OD
888	Unclear due to truncation, very steep sides, flat base	1.20m	2.00m	1.00m	1.45m OD
895	Sub-circular with near vertical sides and flat base	0.60m	0.80m	0.40m	1.55m OD

Table 12: Dimensions and descriptions of medieval post-AD1200 rubbish pits

7.6.14 The fills of the pits were typically consisted of firm, dark grey brown sandy silt or silty clay with an instance of peaty clay [875] and fairly firm, mid mottled grey and yellow brown clay silt, fills [882] and [884], in pit [879]. Typical finds within the fills included animal bone, glass, iron straps and nails, CBM and pottery dating to both the Roman period and 1140-1200. Two Roman coins, dated to the 1st-2nd century and possibly AD 364-378 respectively, were recovered from the secondary fill [887] of pit [888]. The most interesting rubbish pit was [870]/[714], which contained a large fragment of fairly poorly preserved wattle lining [838] and nine stakeholes -, [878], [854], [840], [842], [844], [846], [848], [850] and [852] - along the edge of the base of the pit. These were spaced at roughly regular intervals and contained the decomposed remains of the stakes that held the wattle lattice (Plate 7). Pit [870] was backfilled with loose, blackish brown silty clay [834] from which residual Roman pottery, medieval pottery dated to 1140-1200, medieval glass, CBM dated to 1240-1450, animal bone, small lithics, slag, fish and animal bone, oyster shells and a lump of corroded iron were recovered.

7.6.15 The pits were sealed by several successive layers of made ground, potential plough or garden soil in the south-western part of the site, [817], [601] and [602], and dumped material in the eastern underpinning trenches, [1] and [2]. In general these were clay silts containing CBM and pottery typically dating to 970-1100, occasionally 1140-1200 and in the case of

layer [2] 1340-50. A substantial amount of residual Roman pottery (typically dating to AD 250-400 although earlier pottery was also present) was also recovered from the same deposits.

7.7 Phase 5a: Medieval Post-AD1200 - Ditch re-cut (Figs. 8, 11, 12, 13 & 14; Plates 4 & 5)

7.7.1 Truncating the bulk of the earlier deposits seen on the site, and in particular the fills of the original ditch [72]/[91]/[153]/[837], was the site's most defining feature: a ditch re-cut, recorded as [31] in the eastern underpinning trenches, [739] in the western underpinning trenches, [603] in the western half of the excavation area and [183] in the eastern half of the excavation area. The ditch re-cut was aligned along the same north-west to south-east course as the original ditch and as it was seen to extend beyond the northern, eastern and western limits of the site it was probable that it had once been significantly wider.

7.7.2 Ditch re-cut [31]/[739]/[603]/[183] was more than 20m long by 6.90m wide and 2.10m deep; It was encountered at a maximum height of 2.51m OD. The profile of the ditch was seen to slope fairly steeply and bottom out onto a gently concave base.

7.7.3 Several fills were evident within the base of the ditch re-cut: [604], [738], [741], [742], [755], [765], [775], [833], [862] and [901] in the western part of the site and [30], [182] and [226] in the eastern half of the site. Table 13 summarises the descriptions, thicknesses and heights of these fills:

Context	Description	Thickness	Height
604	Fairly firm, very dark grey, sandy silty clay	0.49m	2.61m OD
738	Friable, mid greyish green, coarse gravelly sand	0.45m	0.93 m OD
741	Friable, dark greenish brown, silty clay	0.35m	2.00 m OD
742	Firm, mixed brownish grey, silty sand	0.45m	2.03 m OD
755	Firm but friable, mid brownish grey with occasional yellow mottling, sandy silt	0.44m	2.05 m OD
765	Loose, greenish grey, silt and gravel	0.70m	1.34 m OD
775	Soft, grey, sandy silt	0.41m	1.15 m OD
833	Soft, dark grey, silty clay	0.50m	0.98 m OD
862	Soft, mid brown grey, silty sand	0.11m	1.34 m OD
901	Soft, mid brown, silty clay	0.06m	0.76 m OD
30	Soft, dark brown green, silty sand	0.46m	1.10 m OD
182	Loose, light yellow brown, slightly silty sand	0.07m	1.27 m OD
226	Friable, dark mottled grey and green, cessy sandy silt	0.32m	1.10 m OD

Table 13: Basal fills of medieval ditch re-cut

7.7.4 These fills represent a mixture of redeposited natural sand and organic, possibly waterborne, deposits. The finds from these fills included a large amount of domestic waste including glass, animal bones, fish bones, oyster and other shells. Additionally, small amounts of lithics and slag were extracted as well as a residual Roman coin within fill [742], dated to AD 330+, and two fragments of leather turnshoe within fills [226] and [182]. The bulk of the pottery

recovered from the ditch was residual Roman material although there was also medieval pottery dated to 1140-1200.

7.7.5 Multiple overlapping fills successively accumulated within ditch re-cut [31]/[739]/[603]/[183], some of which were notably waterlogged and contained an organic rich content: notably [226], [539], [734], [738], [765], [774], [824], [826], [828], [829], [856] and [899] from which a large amount of pottery, glass, animal and fish bone, shells, CBM and other finds of various descriptions were recovered.

7.7.6 The pottery, excluding the frequent residual sherds, dated largely to between 1240 and 1350 with CBM dated largely to 1180-1450, which indicated that the ditch re-cut [31]/[739]/[603]/[183] was backfilled during the 13th century possibly *c.*1270 (see Appendix 4).

7.7.7 Column samples taken through the fills contained pollen that was characterised by the high numbers of cereal grains and their associated weed flora, especially cornflower, crucifers and specimens of the goosefoot family, indicating the prevalence of arable cultivation during the backfilling of the ditch. Also, a few aquatic taxa, such as hornwort, duckweed and pondweed, were present, which, with the presence of several eggs of the intestinal worm, corroborated that there was standing water and faecal matter present during the accumulation of fills within the ditch re-cut.

7.7.8 Further luminescence dating was performed on primary fill [833] and later fill [827]. The results of this survey indicated fill [833] dated to AD 1005 ± 85 years and, more problematically, fill [827] dated to AD 142 ± 290 years (see Appendix 24).

7.7.9 A widespread homogenous deposit consisting of fairly firm, dark grey, silty sand with occasional clay lenses [154], which contained pottery dated to 1180-1220 and CBM dated 1180-1450, was recorded in the eastern half of the excavation. Initially the homogenous deposit was thought to represent a 'dark earth' horizon commonly found on excavations in Southwark, however subsequent consideration suggests it may in fact represent a deliberate final backfill of this part of ditch re-cut [31]/[739]/[603]/[183], a kind of levelling layer.

7.8 Phase 5b: Medieval Post-AD1200 - Developments following backfilling of ditch re-cut (Figs. 9 & 11; Plate 8)

7.8.1 In the south-eastern corner of the western half of the site the uppermost part of fill [829] of the ditch re-cut [31]/[739]/[603]/[183] was truncated by a construction cut [637] containing a wall constructed of chalk ashlar blocks with a peg tile string course, dated to 1180-1800, and soft light brown Kent rag mortar [629] (Plate 8). The composition of the mortar suggested a date

of 1300-1700. Masonry [629] consisted of a north-east to south-west wall with a north-west to south-east return which formed a small room, measuring 1.10m by approximately 2.80m east-west by 1.17m high. The structure was encountered at a height of 2.87m OD.

7.8.2 Within the northern underpinning trenches a north-west to south-east orientated wall [93] and its foundation [95] were recorded. It was constructed from re-used Roman brick and dark yellow brown sandy mortar and continued beyond the northern site boundary. It was encountered at a height of 2.00m OD. The wall's construction cut [94] truncated a 0.38m thick layer of friable, dark grey, sandy silt that contained pottery dated to 1270-1350.

7.8.3 In the eastern half of the site a number of pits post-dating the infilling of the ditch re-cut were recorded: intercutting pits [26], [85], [90] and [119] in the underpinning trenches and posthole [174] in the south-eastern corner of the excavation area. Table 14 summarises these features:

Context	Description	North-South	East-West	Depth	Maximum Height
26	Shape unknown, sloping sides, base unknown	*n/a*	0.70m	0.70m	1.68 m OD
85	Shape unknown, sloping sides, concave base	0.60m	*n/a*	0.30m	1.77 m OD
90	Shape unknown, irregular sides, concave base	1.05m	*n/a*	1.05m	1.59 m OD
119	Linear, moderately steeply sloping sides, flat base	1.86m	*n/a*	0.40m	1.48 m OD
174	Sub-rectangular, steep concave sides, flat base	0.26m	0.42m	0.23m	1.40m OD

Table 14: Dimensions and descriptions of rubbish pits post-dating the infilling of the ditch re-cut

7.8.4 The fills of the intercutting pits within the northern underpinning trenches were relatively similar, being soft, dark mottled grey green sandy silts, [25], [87], [88] and [89] in pits [26] and [90]; fairly firm, dark grey green sandy gravel [24] in pit [26]; or firm, dark brownish green clay silt [84] and [86] in pits [85] and [90]. The fill of pit [174] was slightly different, a firm-friable, mid yellow greenish grey clay silt [173].

7.8.5 Finds were recovered from only two fills: fill [86] of pit [119] contained residual Roman pottery dated to AD 170-300 and CBM dated to 1180-1450 and fill [87] of pit [90] contained pottery dated to 1240-1350 as well as animal bone and CBM dated to 1135-1220+.

7.9 Phase 6: Post-medieval - Masonry structures (Figs. 10, 12 & 13)

7.9.1 A variety of post-medieval features were recorded in both the eastern and western parts of the site, including pits, brick-lined cess pits, walls and a potential floor and a soakaway, which were recorded for the most part truncating the uppermost fills of the ditch re-cut [31]/[739]/[603]/[183].

7.9.2 Three brick-lined cess pits, one recorded in the underpinning trenches in the north-west corner of site, [510]/[511]/[512]/[523]/[524]/[724]/[801], one towards the centre of the site, [622], and one in close proximity to the south of [622], [623], were all rectangular in shape. The masonry of cess pits [622] and [623] was constructed of bricks dated to 1664-1900 and was bonded with clinker mortar, which suggests a date of 1775-1850. In contrast the north-western cess pit was constructed of unfrogged red bricks dated to 1450-1750 and light yellowish brown sandy mortar dated to the 17th-mid 18th century. The dimensions of these structures are summarised in Table 15:

Context	Length (NE-SW)	Width (NW-SE)	Depth	Height
510/511/512/523/524/724/801	1.20m	2.58m	1.33m	2.99m OD
622	1.50m	2.00m	0.32m	2.9m OD
623	0.60m	1.56m	0.32m	2.48m OD

Table 15: Dimensions of post-medieval brick lined cess pits

7.9.3 The cess pits were filled with a variety of fairly firm, dark greenish grey and brown clay silts, loose brown black sandy ash and friable grey silty sand. Finds included post-medieval and earlier residual pottery, glass, CBM and small finds including a shell button <SF 75> and copper objects such as pins <SF 80>, a finger ring <SF 81>, a copper alloy snuff box <SF 37> and a heavily corroded copper alloy coin <SF 38>.

7.9.4 Cutting fill [808] within cess pit [510]/[511]/[512]/[523]/[524]/[724]/[801], were two square stakeholes, [811] and [813], 0.78m deep and 0.30m deep respectively, and a single circular stakehole, [805], which was 0.30m deep. All three were encountered at a height of 1.48m OD.

7.9.5 Among the latest archaeological features revealed during the archaeological investigation were two soakaways: [4] and [626]. Late medieval chalk wall [629] was truncated by a brick-lined soakaway [626] and its construction cut [628], while soakaway [4] was found within the eastern underpinning trenches; its construction cut [157] truncated layer [154]. Both were constructed of the same type of bricks as cess pits [622] and [623] and dated to 1800-1900, in the case of [626], and 1850-1900 in the case of [4]. Cess pit [626] was backfilled with material that contained pottery dated to 1830-1900. The dimensions of the soakaways are summarised in Table 16:

Context	Diameter	Depth	Height
4	0.90m	1.10m	2.97m OD
626	1.32m	1.65m	2.94m OD

Table 16: Dimensions of post-medieval soakaways

7.9.6 A large, shallow rectangular pit [640] filled with firm, mid brownish grey silty clay [639] containing animal bone, CBM and pottery dated to 1480-1650, was seen to truncate the upper fill of ditch re-cut [31]/[739]/[603]/[183] in the western half of the site. Further pits [252], [117], [99] and [7] were encountered in the northern and eastern underpinning trenches in the eastern half of the site. The fills of [7] and [117] produced pottery dated to 1700-1710 and 1750-1900 respectively. The five pits are summarised in Table 17:

Context	Description	North-South	East-West	Depth	Maximum Height
640	Rectangular, steep sides, flat base	1.40m	0.92m	0.16m	2.8m OD
7	Shape unknown, steep sides, concave base	0.70m	*n/a*	0.70m	2.84m OD
99	Circular, vertical sides, tapered to a blunt point	0.07m	*n/a*	0.33m	*n/a*
117	Linear, shallow sides, concave base	*n/a*	*n/a*	0.40m	*n/a*
252	Rectangular, steep sides, flat base	0.70m	1.50m	0.60m	1.59m OD

Table 17: Dimensions and descriptions of post-medieval pits

7.9.7 Two further remnants of masonry structures were extant in the eastern half of the site truncating layer [154]. The first was a fragment of wall foundation [8] situated in the south-eastern corner of the site and the other a wall foundation [159] associated with a small area of floor [150] towards the northern underpinning trenches. Foundation [8] was constructed of bricks dated 1750-1900 and mortar dated to 1850-1900 while wall foundation [159] and floor [150] were built of bricks dated to 1450-1700 bonded with mortar suggesting a date of *c.*1850. The dimensions of these structures are tabulated below (Table 18):

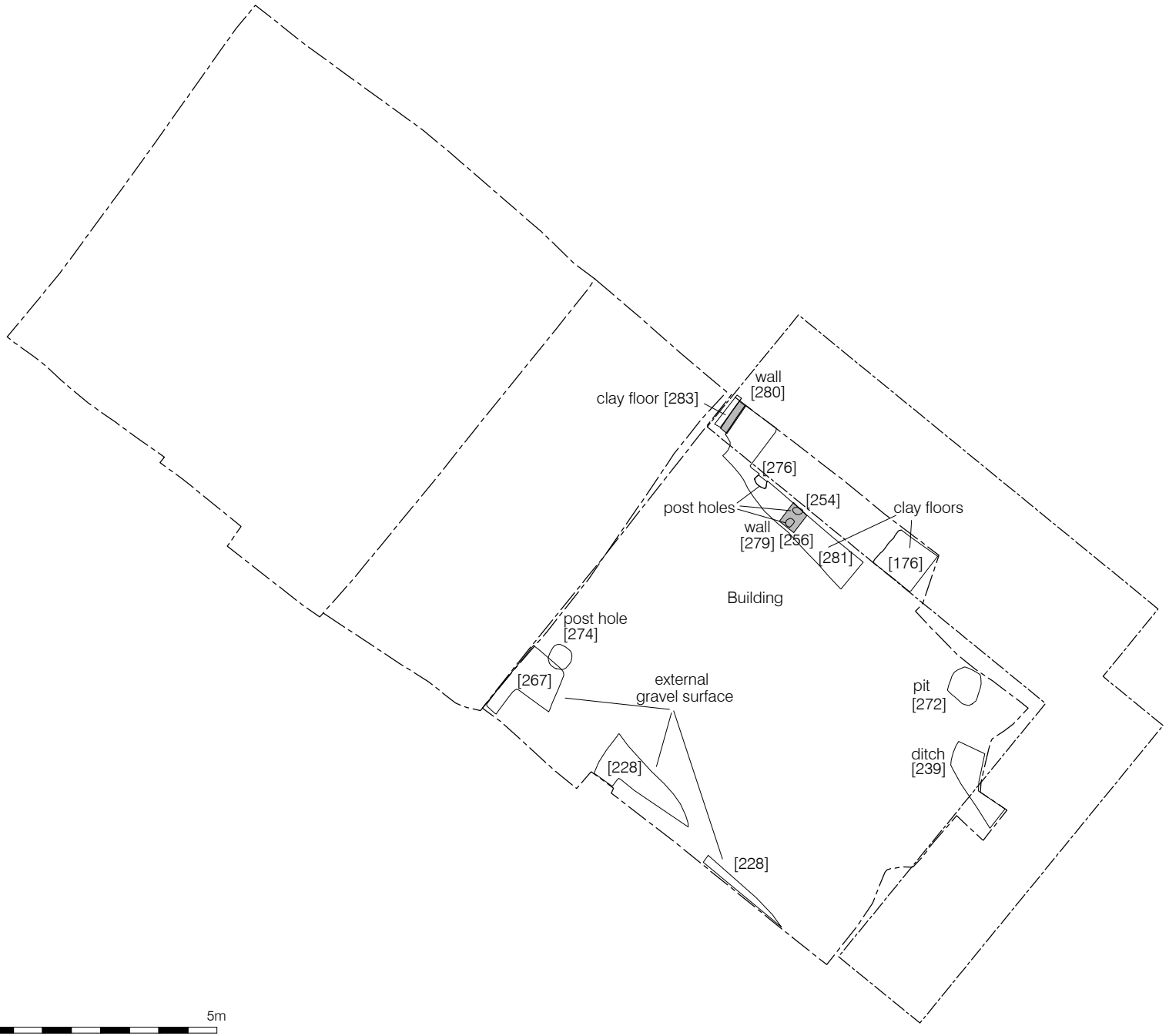
Context	Feature	Length (NE-SW)	Width (NW-SE)	Depth	Height
8	Wall foundation	0.22m	1.32m	0.30m	2.66m OD
150	Floor	1.09m	0.46m	0.20m	1.82m OD
159	Wall foundation	0.40m	1.20m	0.16m	1.92m OD

Table 18: Dimensions of post-medieval wall foundations and floor

7.10 Modern - 2-4 Bedale Street foundations

7.10.1 All archaeological deposits were sealed beneath a variety of layers of made ground and demolition rubble. Truncating the upper archaeological horizon were numerous service

trenches, drains and manholes. Also, the foundations of the northern, eastern and western walls that formed those respective site boundaries and concrete and masonry stanchions were seen to have truncated the upper fills of the ditch re-cut. All of these features were either sealed or abutted by concrete floor slabs and collectively they related to the construction and use of the recently demolished buildings, i.e .2-4 Bedale Street.



0 5m

JB 06/02/13

Figure 5
Phase 2b: Roman
1:100 at A4

JB 05/02/13

Figure 6
Phases 2c and 3
1:100 at A4

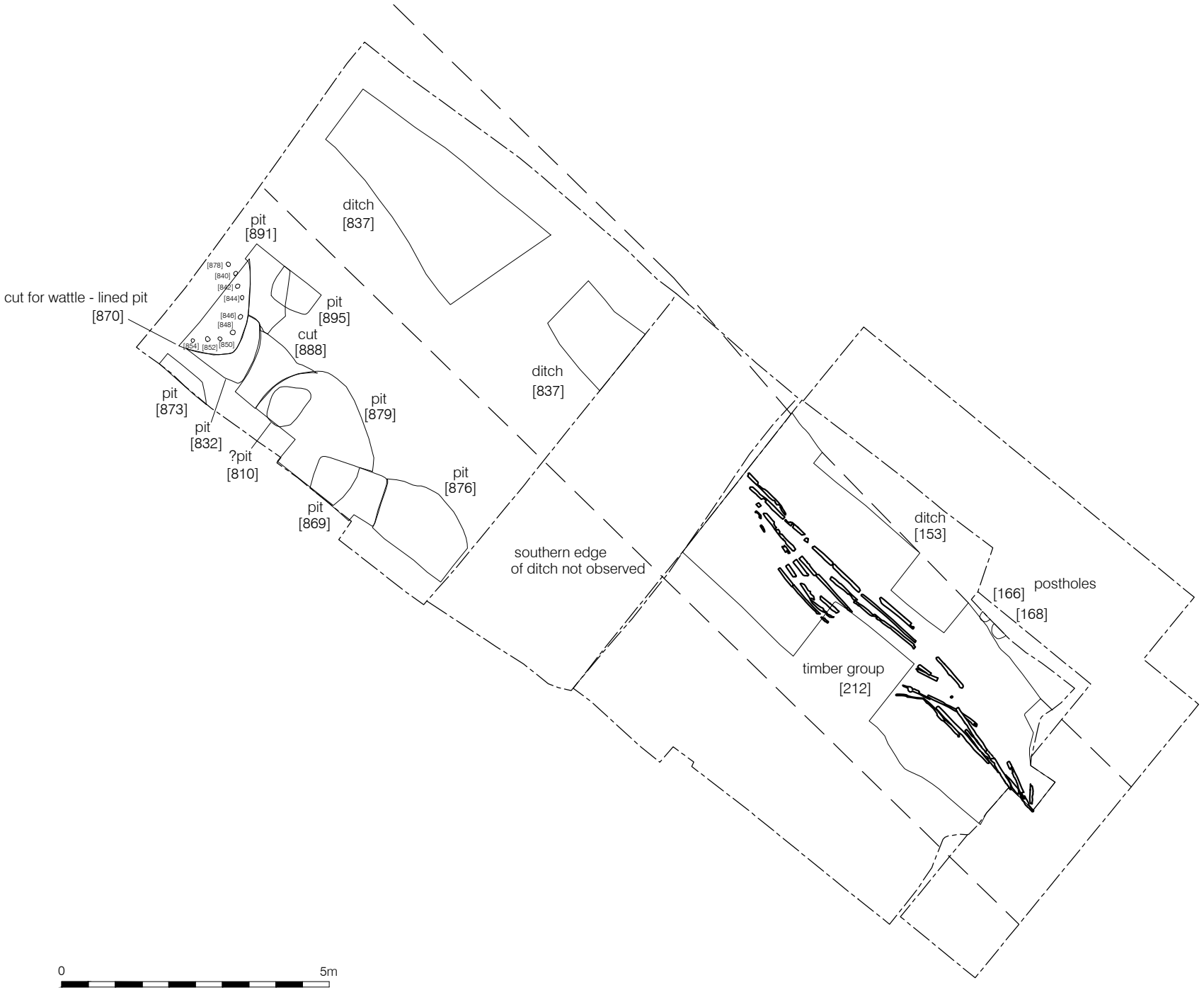


Figure 7
Phase 4: Medieval, pre AD1200
1:100 at A4

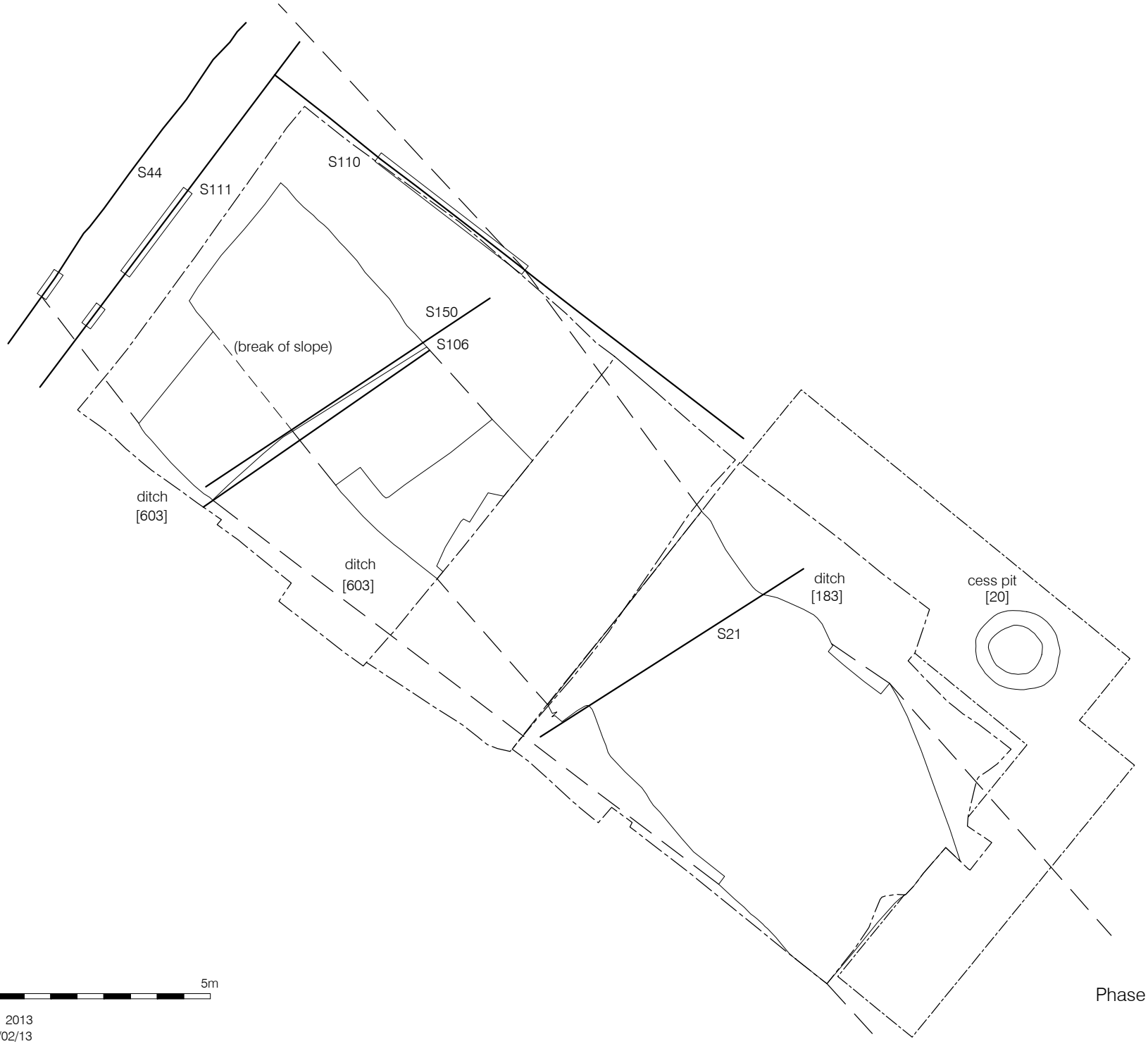


Figure 8
Phase 5a: Medieval, post AD1200
1:100 at A4

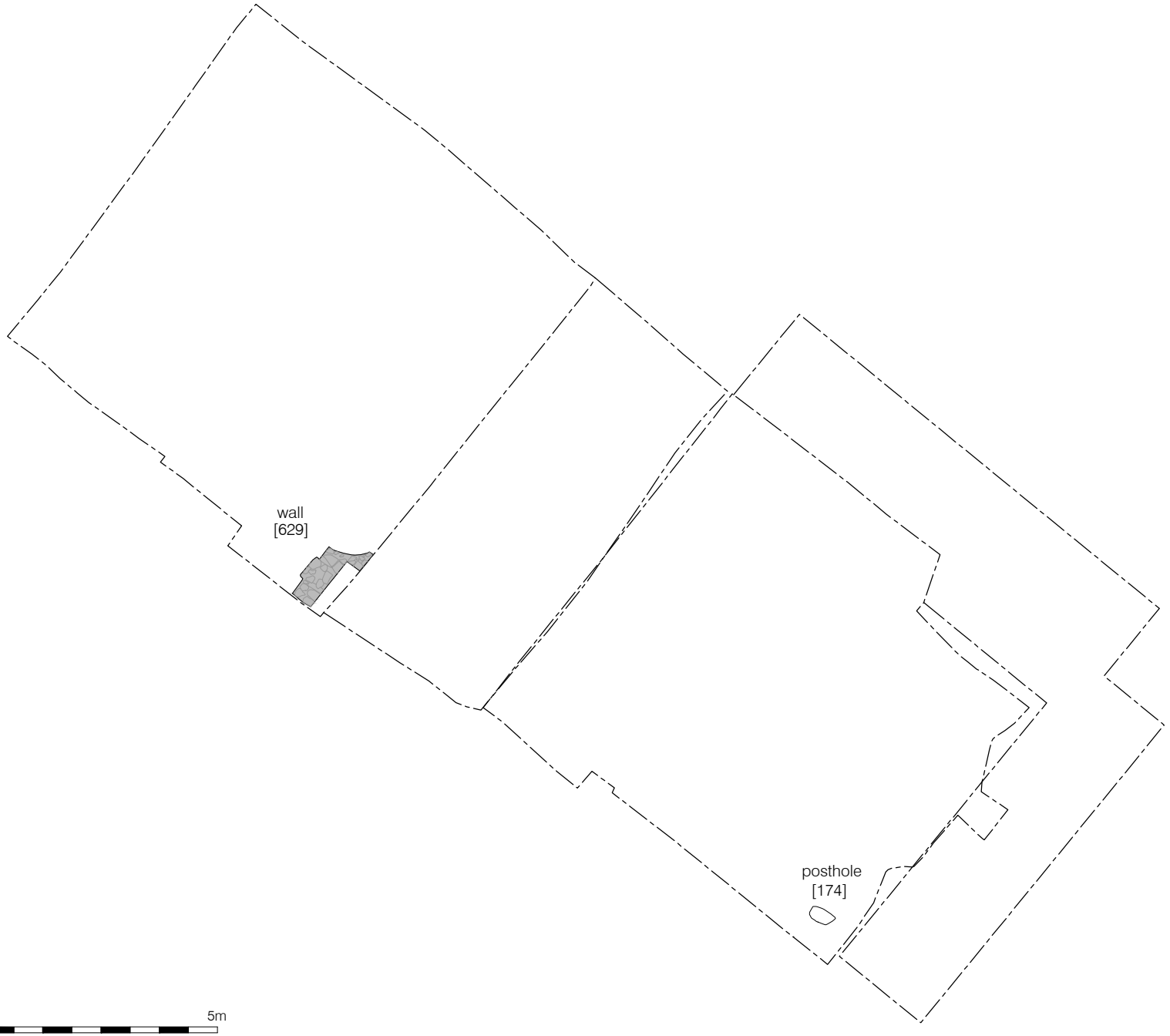


Figure 9
Phase 5b: Medieval, post AD1200
1:100 at A4

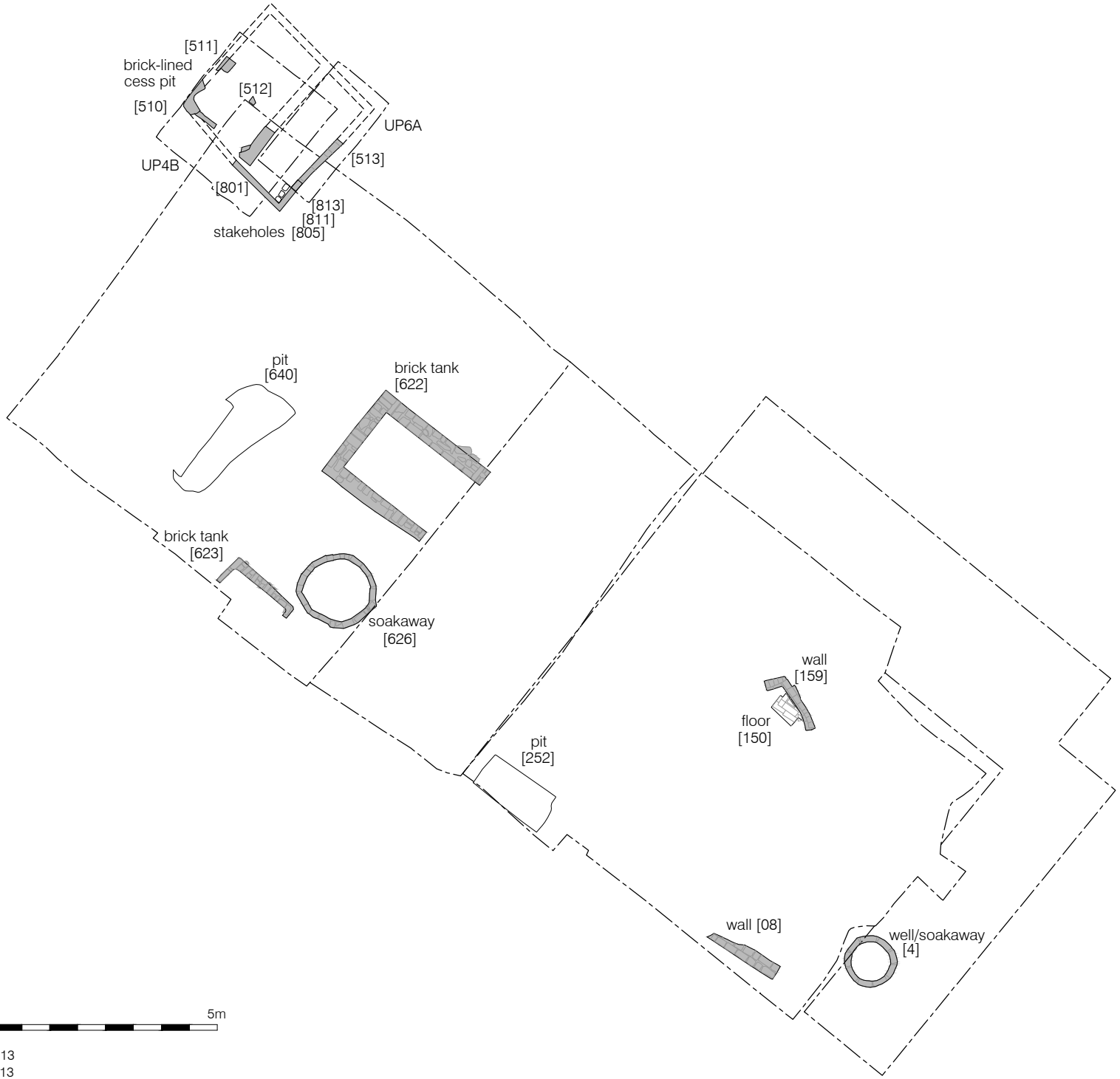
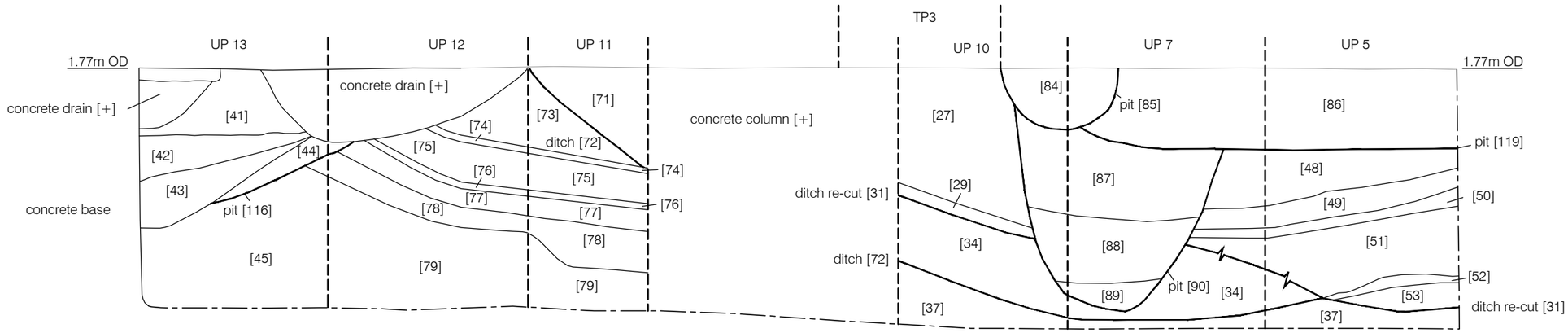


Figure 10
Phase 6: Post-Medieval
1:100 at A4



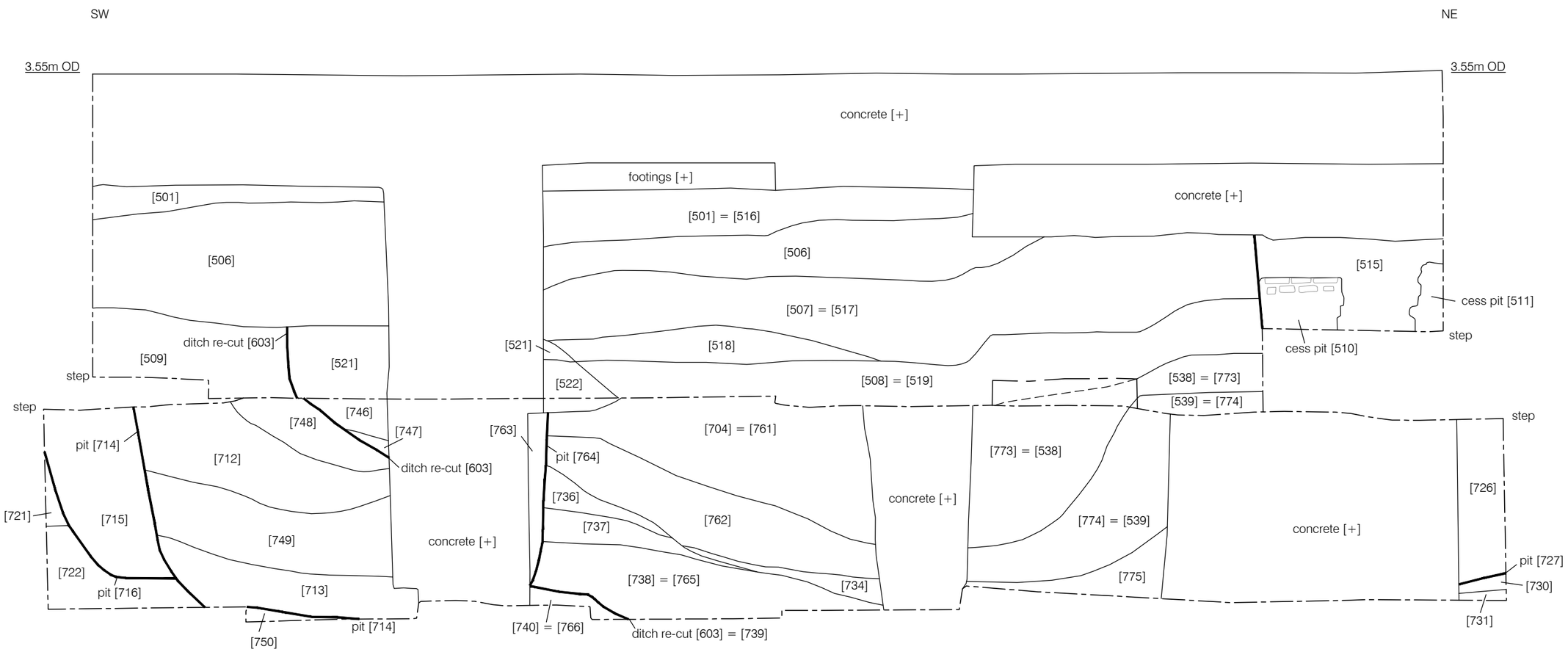
Section 14
Underpinning Trenches
North west facing

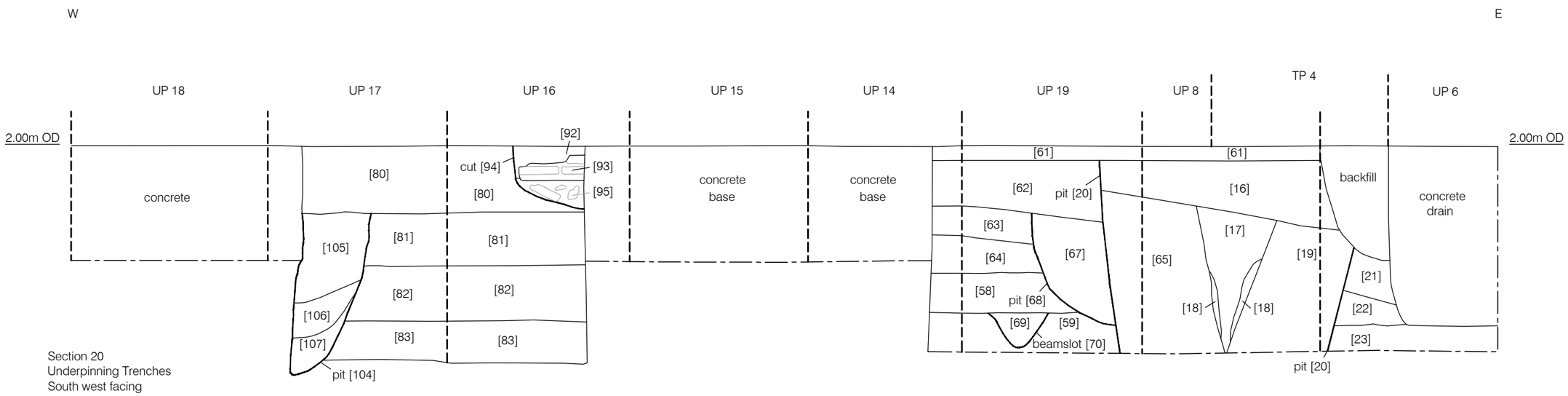
0 2m

JS/JB 06/02/13

Figure 11
Section 14
Underpinning trenches
1:40 at A3

Sections 44 & 111
Underpinning Trench
South east Facing



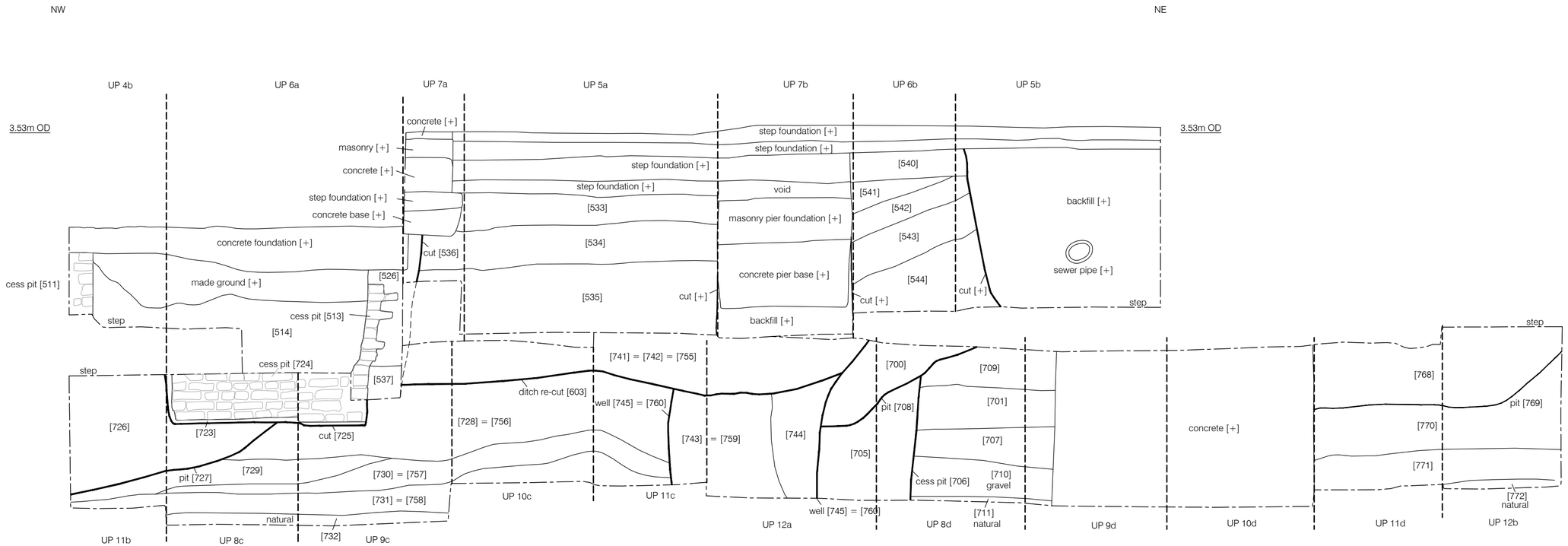


Section 20
Underpinning Trenches
South west facing

0 2m

JS/JB 06/02/13

Figure 12
Sections 44, 111 and 20
Underpinning Trenches
1:25 at A3

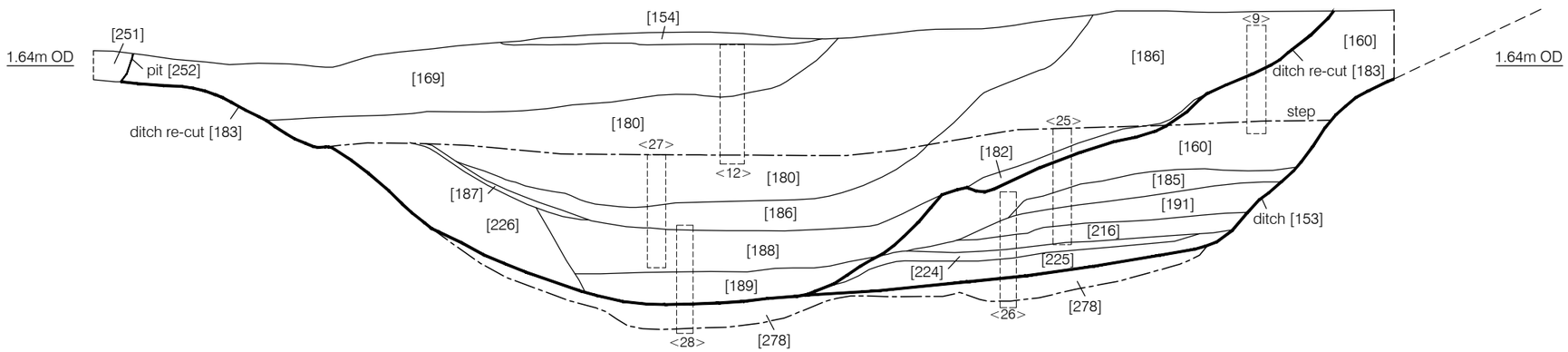


Sections 48 & 110
Underpinning Trench
Southwest Facing

JS/JB 06/02/13

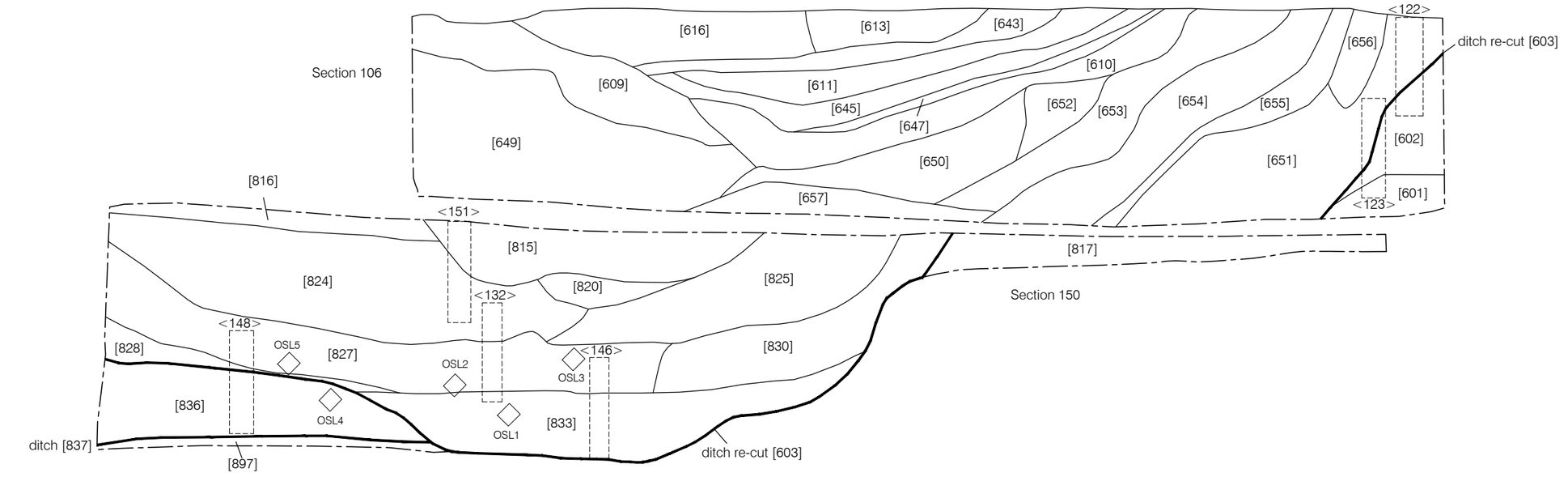
Figure 13
Sections 48 and 110
Underpinning Trenches
1:25 at A3

SW NE



Section 21
Excavation
Southeast Facing

NE SW

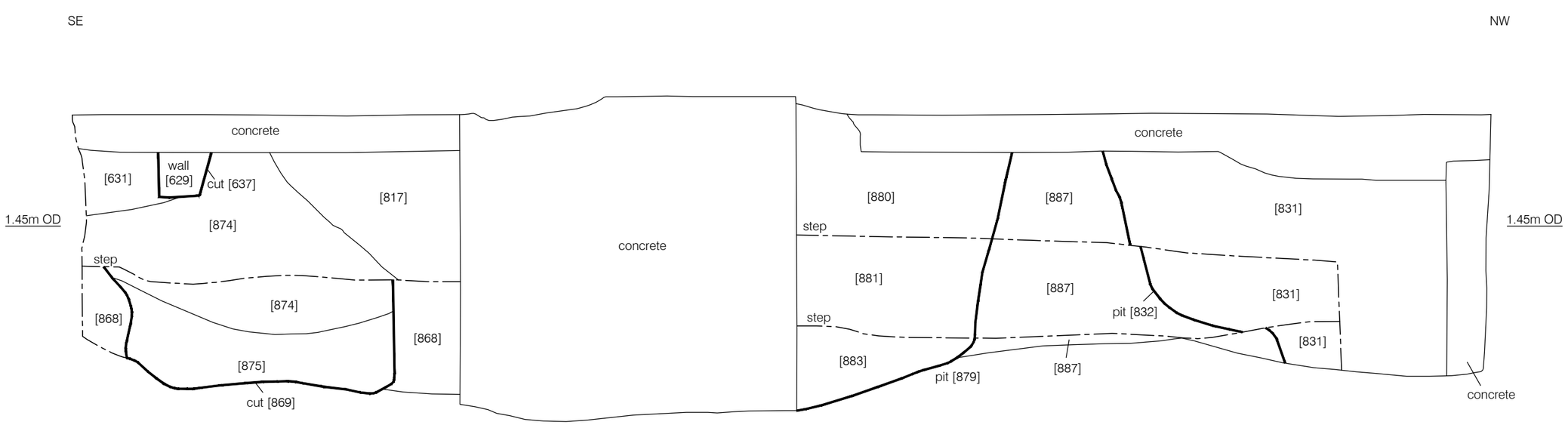


Sections 106 & 150
Excavation
Northwest Facing

0 2m

JS/JB 06/02/13

Figure 14
Sections 21, 106 and 150
Medieval ditch and recut
1:25 at A3



Section 153
Northeast Facing

0 2m

JS/JB 06/02/13

Figure 15
Section 153
Section through pits, 2011 excavation
1:25 at A3

Plate 1: General view of 2010 excavation area, South-east facing

Plate 2: General view of 2011 excavation area, North-west facing

Plate 3: View of truncated Roman deposits, East facing

Plate 4: Section through medieval ditch [72]/[91]/[153]/[837] and ditch re-cut [31]/[739]/[603]/[183], South-east facing

Plate 5: Section through medieval ditch [72]/[91]/[153]/[837] and ditch re-cut [31]/[739]/[603]/[183], North-west facing

Plate 6: Timbers within medieval ditch [72]/[91]/[153]/[837], East facing)

Plate 7: Wattle lined pit [870], South facing)

Plate 8: Chalk wall foundation [629], North-west facing

8 PHASED DISCUSSION

8.1 Phase 1: Natural

8.1.1 The earliest deposit across the site was naturally deposited light yellowish brown coarse sand and gravel which was found at a top height of 1.30m OD in the south-western half of the site, and heights of 0.47m OD in the north-eastern part of the site and 0.26m OD in the western part of the site.

8.2 Phase 2a: Early Roman - Ground preparation horizon

8.2.1 The earliest archaeological deposits were dumped and levelling layers which indicated ground preparation during the early Roman period in advance of subsequent activities on the site, these were particularly apparent in the excavation area in the south-western half of the site. Only a small amount of finds were recovered from these dumped deposits, all of which were early Roman in date. No pottery or other finds were discovered to corroborate this date across all of the dumped/levelling deposits but the character and the stratigraphic positions of the deposits indicated a similar date and function.

8.3 Phase 2b: Early Roman - Clay and timber building

8.3.1 The ground preparation horizon in the south western half of the excavation was superceded by a period of well defined Roman occupation. Principally, this comprised the remains of a clay and timber building, which measured more than 1.60m north-south by 4.53m east-west, and roughly gravelled surfaces. Additionally a single posthole, the remnant of a small, heavily truncated ditch and a pit were recorded. The distribution of these deposits suggested the construction of a building extending beyond the northern and western boundaries of the site with an external area to the south. There was a scarcity of finds encountered within Phase 2b; only daub recovered from the pit fill and a brick dating to AD 50-80 from a gravel surface. However material recovered from later deposits indicated that the building and associated yard, pit and ditch could be attributed to the early Roman period.

8.3.2 An early Roman building constructed from timber baseplates with brickearth floors fronting Roman Road 1 was revealed immediately to the east of the site at 2 Southwark Street/1a Bedale Street (Fig. 4 Site 17). This structure may have been a storehouse or granary and was destroyed in a fire (possibly the Boudican fire of AD 60/61) and it is possible that the building remains from the present site may be a continuation of the same building to the west. Similar gravel surfaces were observed to the east of the building at 1a Bedale Street and were interpreted as a yard or path (Cowan *et al.* 2009, 44-45).

8.4 Phase 2c: Early Roman - Further development of the site

8.4.1 Following the establishment of the clay and timber building and its exterior yard a variety of features were seen to have developed in the area these included occupation layers, burnt horizons and pits related to the building's use.

8.4.2 The burnt horizons in the north-eastern corner of the site potentially may have been the result of a specific industrial or domestic purpose, however there was paucity of finds from these layers both to date them and also ascertain the nature of the activity. However, similar burnt horizons were observed to the south-east of the site at 2 Southwark Street/1a Bedale Street where the early Roman building may have been destroyed in the Boudican fire of AD 60/61 (Cowan *et al.* 2009, 44-45). It is perhaps more likely that the burnt horizons found at 2-4 Bedale Street represent similar deposits to those found at 2 Southwark Street/1a Bedale Street.

8.5 Phase 3: Late Roman - Abandonment of building

8.5.1 Further episodes of dumped deposits, levelling and potential ploughsoil were recorded in the underpinning trenches in the western part of the site, which suggested the presence of a late Roman exterior yard. In the south-western corner of the underpinning trenches these dumped deposits were truncated by four cess or rubbish pits, one of which contained sherds of pottery dating to AD 150-300.

8.5.2 Clear evidence of the abandonment of the clay and timber building was then recorded in the north-western corner of the eastern half of the site: a demolition horizon containing CBM dated to AD 50-160.

8.5.3 Truncating the demolition horizon were two pits which denoted activity following the demolition of the earlier Roman building. The most significant finds within the fills of these pits included a 3rd-4th century coin and an almost complete North Gaulish whiteware handled 'honeypot' dated to AD 50-150. The honeypot's remarkable preservation contrasted strongly with the remainder of the pottery recovered both from this feature and across the site and may have possibly been placed in association with the 'closure' of the building.

8.5.4 There was limited evidence of structures from the late Roman period; however a well in the north-west part of the site may have been associated with later phases of buildings on the site. The north-west to south-east aligned cut feature [178], which was initially interpreted as a ditch, may represent instead the remains of a robber cut. To the south-east of the site at 2 Southwark Street/1a Bedale Street a later phase of Roman masonry building dated to AD120-

160 was mainly represented by robber cuts (Cowan *et al.* 2009, 83-84) and it is possible that the cut at 2-4 Bedale Street is a similar feature.

8.6 Phase 4: Medieval Pre-AD 1200

Original ditch

8.6.1 The next major development on site was a ditch which ran north-west to south-east across the excavation area. Later re-cutting of the ditch (see Phase 5a) had destroyed its southern edge; however it was evident that originally it measured in excess of 18.20m in length by 4.70m in width, with a gradually sloping northern edge bottoming out onto a flattish base. The ditch measured 1.50m in depth, but may have originally been significantly deeper.

8.6.2 The fills of the ditch contained a mixture of cess, waterlain and redeposited material suggesting that it had been used for the disposal of rubbish, Pollen and diatom analysis (Appendices 19 & 20) confirmed that the ditch had at least at times been filled with water from the Thames estuary, with periods of drying out. This was confirmed by analysis of the waterlogged plant remains (Appendix 18).

8.6.3 The presence of degraded timber planks within the fills of the ditch orientated along its alignment might suggest that a fence had once existed along the northern edge of the original ditch or that the remnants of a temporary walkway was present within it.

8.6.4 Relatively little pottery was recovered from the fills of the ditch but it was consistently dated to the late 12th century, which was partially confirmed by a radiocarbon date of 1043-1104 cal AD (33.9%) and 1118-1216 calAD (61.5%) at 95.4% probability (Appendix 23). However, it was not possible to determine when the ditch was originally cut. A couple of sherds of pottery dated to AD 900-1100 were recovered from a well and pits recorded mainly in section in underpinning trenches. These features would appear to provide a terminus post quem for the original cut of the ditch which was seen to have truncated these features, however very few sherds were recovered and the possibility of intrusive finds in the underpinning trenches cannot be discounted and thus at present these features have been placed in a late Roman phase as all the finds recovered in plan were Roman. The backfill of the ditch would suggest that the ditch was at least 12th century in date, but it is possible that it was an old feature that had been subject to periodic recutting especially during periods of unrest. It is possible that the ditch was part of a defensive boundary that protected the Southwark settlement that clustered around the bridgehead. This may have had a Saxon (Watson 2009) or even a Roman origin, with earlier fills having been removed by the periodic re-cutting and cleaning of the feature in the medieval period. The 12th century ditch may have been linked to a period of conflict such as the Anarchy when England was wracked by civil war between Stephen and the Matilda.

8.6.5 The medieval boundary defined by this ditch may be reflected in the modern street pattern, in particular the location and alignment of parts of Montague Close, Bedale Street, St Thomas Street and Joiner Street. A ditch at Montague Close (Watson 2009), an east-west aligned ditch recorded at 1a Bedale Street (22SSDB85; Thompson *et al.* 1998, 191), a boundary ditch or channel recorded at London Bridge Tower (The Shard), 32 London Bridge Street (LWE07; Maloney & Holroyd 2009, 72) and a ditch found at the Western Approach Viaduct (BVC12; Thameslink Assessment 9) may represent part of the same medieval earthwork as this ditch and its later re-cut.

Pitting & other remains

8.6.6 A series of pits and other features were seen to both the north and south of the ditch. Structual elements were only represented by a north-west to south-east orientated wall, constructed from reused Roman brick and dark yellow brown sandy mortar, which continued beyond the northern site boundary. A series of pits were recorded in the underpinning trenches to the north along Bedale Street together with a barrel well/cess pit. To the south of the ditch a further series of intercutting pits including a wattle lined cess pit were revealed.

8.6.7 These pits would seem to respect the large ditch and did not encroach on it. It would seem that the ditch was a major topographic feature in the landscape and formed the boundary for properties with the presence of rubbish and cess pits suggesting that the area adjacent to the ditch formed the back plots/garden areas of buildings facing to the north-east and south-west.

8.7 Phase 5a: Medieval Post-AD 1200 - Ditch re-cut

8.7.1 Truncating the bulk of the earlier deposits seen on the site, and in particular the fills of the original ditch, was the site's most defining feature: a ditch re-cut. The ditch re-cut was aligned along the same northwest-southeast course as the original ditch and as it was seen to extend beyond the northern, eastern and western limits of the site it was probable that it had once been significantly wider.

8.7.2 The ditch re-cut was more than 20m long by 6.90m wide and 2.10m deep. The profile of the ditch was seen to slope fairly steeply and bottom out onto a gently concave base.

8.7.3 The fills of the ditch re-cut represented a mixture of redeposited natural sand and organic, possibly waterborne deposits. The finds from these fills included a large amount of domestic waste including pottery, CBM, glass, animal bones, fish bones, oyster and other shells. Column samples taken through the fills contained pollen that indicated the prevalence of arable cultivation during the backfilling of the ditch. Also a few aquatic taxa were present and

the presence of several eggs of the intestinal worm suggested that there was standing water and faecal matter present during the accumulation of fills within the ditch re-cut.

8.7.4 Judging by the dating of the backfill of the original ditch it would appear that the original ditch was re-cut *c.*1200 and had a relative short life. Pottery from the backfills of the re-cut would sufggest that the bulk of the ditch had been backfilled by *c.*1270. It was probable that by this time a defensive feature of this type was no longer required.

8.8 Phase 5b: Medieval Post-AD 1200 - Developments following backfilling of ditch re-cut

8.8.1 In the south-eastern corner of the western half of the site the uppermost part of fill of the ditch re-cut was truncated by a wall constructed of chalk ashlar blocks. The materials that composed the structure dated to 1300-1700. The wall formed part of a small room, that measured 1.10m north-south by approximately 2.80m east-west and was1.17m deep.

8.8.2 Further structural remains were revealed within the northern underpinning trenches, where a north-west to south-east orientated wall constructed from re-used Roman brick, which truncated a layer that contained pottery dated to 1270-1350, was encountered.

8.8.3 Similarly in the eastern half of the site a number of pits that post-dated the infilling of the ditch re-cut were recorded: four intercutting pits in the northern underpinning trenches and a single pit in the south-eastern corner of the excavation area.

8.8.4 Medieval features that occupied the area of the former ditch were few and the apparent dearth of such features is most likely due to widespread truncation by later post-medieval cellars.

8.9 Phase 6: Post-medieval - Masonry structures

8.9.1 A variety of post-medieval features were recorded in both the eastern and western parts of the site, including pits, brick-lined cess pits, walls and a potential floor and two soakaways, which were recorded for the most part truncating the uppermost fills of the ditch re-cut. These represent the scanty remains of features associated with the post-medieval buildings that had occupied the site along Bedale Street (previously Foul Lane) since the 16th century.

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9 RESEARCH OBJECTIVES

9.1 Original research objectives - General (NWR 2009b)

9.1.1 Geological/Topographic

- **Does the untruncated surface of the natural sands and gravels survive? If so, can the information be used to determine the site formation processes and reconstruct the post-glacial topography of the area?**

  The site has been heavily impacted by previous human activity, especially by a large medieval ditch and its later re-cut, which covered most of the site, and earlier and later pitting. The natural sands and gravel were found at varying heights across the site, at 1.30m OD in the south-western half of the site, at 0.47m OD in the north-eastern part of the site and 0.26m OD in the western part of the site. However, most of these heights represent truncated levels of the natural deposits and thus it is not possible from the natural deposits extant on the site to reconstruct the post-glacial topography of the area.

9.1.2 Prehistoric

- **Is there any evidence for a prehistoric presence? If so what is the stratigraphic context and the likely date range?**

  The earliest *in situ* archaeological deposits encountered on the site date to the early Roman period. The only prehistoric activity observed during the excavation were a small collection of residual lithics including a later prehistoric scraper, an early Neolithic blade-like flake and an early Neolithic or early Bronze Age unfinished arrowhead.

- **Do late prehistoric flood clays survive on the site?**

  Prehistoric clays were not extant on the site.

9.1.3 Roman

- **Do the finds from the site support a suggested date of *c.*AD 50 for the foundation date of Roman Southwark?**

  Although approximately three-quarters of the Roman pottery assemblage was residual, occurring in later features, it was seen to span the entire Roman period, with early pottery dated to AD 50-160 within deposits attributed to the early Roman period on site. Furthermore early Roman glass and small finds were encountered. The most significant evidence that supports a date of *c.*AD 50 for the foundation of Roman Southwark was found within the building material. A distinctive early group of roofing material dated to AD 50-80, characterised by Eccles imbrex and undercut tegulae profile 9, dominated the small ceramic building material assemblage from the Roman clay and timber structure and occupation and

demolition horizons. There was very little dating for the earliest features on site and none that could support a *c.*AD 50 date for the foundation of Roman Southwark.

- **Is there evidence of organized apportionment leading up to the earliest Roman occupation of the site, including enclosure ditches, fence lines etc**
  While there were dumped and levelling layers which were an indication of ground preparation during the early Roman period, no clear signs of any form of organisation of separate plots of land were visible on the site. However, the Roman deposits had been subject to widespread truncation caused by the excavation of the large medieval ditch.

- **Is there evidence of an organized programme of land preparation, such as the digging of drainage ditches etc?**
  Following the deposition of the dumped layers discussed in the previous question the remnant of a small, heavily truncated ditch and a pit were recorded. These are the only features that could have been associated in any way with a programme of land preparation prior to the construction of the clay and timber building on site.

- **Can the logic behind the earliest building, street and property alignments adopted be determined?**
  A single property, a Roman clay and timber building was evident on site. It mirrored the alignment of present day Bedale Street, which might suggest that a Roman routeway had already been constructed in this location. However, two phases of Roman building, found previously to the south-east at 2 Southwark Street/1a Bedale Street, fronted onto Roman Road 1, which followed the line of modern Borough High Street. It is probable that the building remains from 2-4 Bedale Street are associated with the structures at 1a Bedale Street and may have fronted Road 1 (Cowan *et al.* 2009, 44-45, 83-84); however, the gravel surfaces recorded in the southern part of the site may also represent the remains of a path or alley along which the building fronted.

- **To what extent was the layout determined by topographic features such as natural channels and existing road alignments?**
  As discussed in the previous question, its proximity to Roman Road 1 would appear to be the principal reasons for the situation of the Roman building. Certainly no specific topographic features or natural channels were observed on the site which would provide supplementary or alternative reasons for the location.

- **Are boundaries and alignments strictly maintained from one phase of occupation to the next?**

Certainly with slight variations the major features on site, the Roman clay and timber building, the medieval ditch, its later re-cut and the chalk wall and post-medieval brick lined cess pits and soakaways observed a north-west south-east orientation; the alignment of present day Bedale Street.

- **What are the maintenance cycles of features associated with drainage, water supply and organized access?**
  There were no features associated with access, drainage or water supply during the Roman period on site.

- **What was the form, function and character of Roman Southwark? In particular, can industrial, commercial or other specialized uses be identified?**
  The only indications of specialized or possible industrial use on the site were burnt horizons in the north-eastern corner of the site and potentially may have been the result of a specific industrial or domestic purpose; however, it is perhaps more probable that these burnt horizons were part of a fire that had destroyed the building to the south-east at 1a Bedale Street (Cowan *et al.* 2009, 44-45, 83-84).

- **Do the ceramic and environmental assemblages point to any specialized functions for the area?**
  No particular ceramic or environmental assemblages indicate any specialized function for the area.

- **In what ways did the Southwark Suburb differ from *Londinium*?**
  Only a small amount of evidence relating to the Roman period was encountered at Bedale Street, the most significant being that the early Roman clay and timber buildings that lined the Roman Road and were located at 1a Bedale Street extended into the site. Due to the medieval truncation across the site no specific deductions on the differences between the Southwark Suburb and *Londinium* can be made on the strength of Bedale Street alone.

- **What building techniques are represented during the Roman period and how do these change through time?**
  Only the corner of a single building was encountered on site this was composed of clay floors, brickearth walls, a beam slot and three postholes. Roughly gravelled surfaces may represent a yard surface. Clay and timber strip buildings are prevalent in both *Londinium* and Roman Southwark in the early Roman period. These were often replaced by larger masonry buildings in the later Roman period. Whilst there is evidence of a later phase of masonry building at 1a Bedale Street (Cowan *et al.* 2009, 83-84), the only possible evidence for this is apossible robber cut at 2-4 Bedale Street.

- **Is there any evidence of the Boudican revolt of AD 60/61 in the archaeological record? If so, do post-Boudican structures reflect continuity from the early period, or a change in the nature or status of the area?**
  Several burnt horizons were recorded in the the underpinning trenches in the north-eastern part of the site. No dateable finds were recovered from these deposits. However, immediately to the south-east of the site at 1a Bedale Street an early Roman clay and timber building was observed that had been destroyed by a fire which was suggested to be the Boudican Fire Of AD 60/61 (Cowan *et al.* 2009, 44-45), which might suggest that these burnt horizons are part of the same Boudican fire.

- **Is there evidence for a period of expansion in the late 1st century AD?**
  No specific evidence of expansion was seen on site in this period. This is mainly due to the heavy truncation of the Roman deposits and the lack of closely dated finds.

- **What evidence is there for higher status buildings of Roman date?**
  No high status buildings were extant at Bedale Street**.**

- **What evidence is there for land reclamation and consolidation/control of natural channels throughout the Roman period?**
  There is no evidence of either land reclamation or manipulation of natural channels on site.

- **What processes of change can be identified during the later Roman period?**
  The major evidence of change during the later Roman period related to the abandonment of the clay and timber building. A demolition horizon composed of deposits of sandy silts with frequent plaster inclusions and ceramic building material sealed the remains of the Roman building. Furthermore truncating the demolition horizon were two pits which denoted activity following the demolition of the earlier Roman building. The most significant find within the fills of these pits included an almost complete North Gaulish whiteware handled 'honeypot' dated to AD 50-150. The honeypot's remarkable preservation contrasted strongly with the remainder of the pottery recovered both from this feature and across the site and suggests it may have possibly been placed in association with the 'closure' of the building.

- **Is there evidence that the settlement of Roman Southwark contracted during the late Roman period, i.e. in the form of late Roman burials in previously settled areas?**
  No evidence that the settlement of Roman Southwark contracted during the late Roman period was encountered at Bedale Street. There were no burials encountered on the site.

- **Is dark earth present? If so, can it provide further information on the formation processes involved? What is the relationship between the nature of later Roman occupation and the 'dark earth'?**

  There is no evidence of 'dark earth' deposits on site.

9.1.4 Saxon

- **Is there any evidence of the Saxon occupation of north Southwark? If so, what is the date?**

  No deposits or features relating to the Saxon period were encountered at 2-4 Bedale, however the absence of evidence on the site may be due to the later medieval ditch cut and re-cut. In terms of the finds evidence a small assemblage, 27 sherds, of late Saxon Shelley ware dated to 900-1050 was recovered from a pre-1200 medieval pit fill. This pottery indicated a low level of Saxon activity may have been in evidence in the vicinity of Bedale Street. It is possible that the large ditch encountered on the site may have had Saxon origins as a boundary/defensive ditch to mark the late Saxon burh.

9.1.5 Medieval

- **What is the nature, extent, character and identification of medieval buildings or structures on the sites?**

  Two examples of medieval buildings were encountered on site. The first was situated in the south-eastern corner of the western half of the site and consisted of a wall constructed of chalk ashlar blocks and peg tile lacing courses dated to 1300-1700. The wall formed part of a small room, that measured 1.10m north-south by approximately 2.80m east-west and was 1.17m deep. Within the northern underpinning trenches a north-west to south-east orientated wall was revealed which was constructed from re-used Roman brick and dark yellow brown sandy mortar and continued beyond the northern site boundary. It cut through a layer that contained pottery dated to 1270-1350. These scanty remains might represent the remains of small cellars.

  The other major features relating to the medieval period were a large ditch and later re-cut and several features including a barrel well and a wattle-lined cess pit.

- **To what extent did the medieval town plan follow or vary from the Roman layout?**

  The site was dominated by a medieval ditch and its later re-cut. As seen on site, dimensions of these ditches were 18.20m in length by 4.70m wide by 1.50m deep (original ditch) and 20m long by 6.90m wide and 2.10m deep (re-cut); however, as both extended beyond the northern, eastern and western boundaries of the site, and the fills of both were truncated, the actual dimensions of both ditches would have been much larger. The profile of the original ditch presented a gradually sloping northern edge bottoming out onto a flattish base while the

ditch re-cut was seen to slope fairly steeply and bottom out onto a gently concave base. Both were orientated along the same north-west to south-east alignment.

Considering the size and character of these ditches it is probable that they served as boundaries and defensive earthworks for medieval Southwark; theoretically some of the fills found within them may have been collapse or deliberate backfilling from a possible associated bank. The orientation of the ditches followed the line of the presumed Roman routeway reflected by the orientation of the Roman clay and timber building found on the site. Indeed it may be a possibility that there was a Roman or a Saxon predecessor to the ditch which defended the Roman bridgehead/Saxon burh. This original ditch may have been the subject of continual cleaning and re-cutting which had removed all trace of its earlier Roman or Saxon fills.

- **Are historical records for the socio-economic nature of Southwark borne out by the archaeological evidence?**

  Full analysis of the finds and envornmental remains will help to determine the socio-economic status of the inhabitants of the vicinity as shown by their diet and their possessions including the types of pottery they were utilising.

- **Can environmental evidence from pit assemblages be used to reconstruct dietary and economic details?**

  Environmental samples were taken from the pits and the fills of the ditch in the medieval period. In terms of the diet of the population animal bones assemblages were generally dominated by the major domesticates and in particular by cattle. Several species of fish and shellfish were found within pit and ditch fills, the majority of which came from the ditch re-cut. These included most prevalently native oyster as well as clupeids (particularly herring), eel, gadids including cod, pollack, haddock and whiting, mackerel, smelt, small flatfishes, pike and stickleback. The most significant fill was [875] of pit [876], which contained small fish bones including eel, herring, mackerel and small plaice, founder or dab. Several fish bones appeared chewed and the character of the fill was typical for a deposit rich in human faecal waste.

  Column samples taken from ditch fills contained high levels of herbaceous pollen, which indicated that all woodland had been cleared from the area before the ditch started to fill. The principle vegetation of the surrounding area were grasses, however a few cereals were present suggesting arable cultivation.

9.1.6 Post-medieval

- **Are there any surviving remains of post-medieval date? If so, how does the archaeological evidence compare with the cartographic evidence?**

A variety of post-medieval features were recorded at 2-4 Bedale Street, including pits, brick-lined cess pits, walls and a potential floor and two soakaways, which were recorded for the most part truncating the uppermost fills of the medieval ditch re-cut. The remains of post-medieval buildings are scanty and relate mainly to subterranean features such as cess pits and cellars, whilst the majority of the map evidence is of insufficient detail to directly relate archaeological evidence to cartographic evidence. A more detailed plan of early 17th century structures in Bedale Street has been published which gives an idea of the nature of buildings in the area but does not cover the site itself (Schofield 1987, 140-141).

- **Do the archaeological remains provide any information on the use and relative status of the properties represents?**
  The utilitarian nature of the soakaways and cess pits of the structures encountered on the site suggested that the environs of Bedale Street were low status part of Southwark. Due to the severely truncated character of the wall foundations and floor fragment, the precise character and status of these structures could not be accurately determined.

- **Is there any evidence of continuity of layout from the medieval period?**
  The line of Bedale Street itself reflected the alignment of the medieval ditch and ditch re-cut and the post-medieval structures on site, particularly the brick-lined cess pits, are similarly aligned.

- **What evidence is there for post-medieval industries?**
  There is no evidence for post-medieval industry at 2-4 Bedale Street.

9.1.7 Other

- **To what extent has the archaeological sequence been truncated or disturbed by existing structures?**
  Truncating the upper archaeological horizon were the modern foundations of the northern, eastern and western walls and large concrete and masonry stanchions, service trenches, drains and manholes ultimately sealed or abutted by concrete floor slabs. All of these structures were associated with the recently demolished 2-4 Bedale Street buildings.

9.2 Original research objectives - 2-4 Bedale Street (NWR 2009b)

9.2.1 Roman

- **What is the nature and date of any surviving Roman deposits?**
  The Roman deposits were heavily truncated by the large medieval ditches that crossed the site. Those remains that survived consisted primarily of a clay and timber building with a gravel yard or alley to the south, which is most likely part of the same building that was

revealed to the south-east in an excavation at a Bedale Street in 1985. Burnt deposits in the eastern part of the site may represent industrial activity but more likely represent Boudican fire deposits. Later Roman activity consisted of pits, a well and a possible robber cut.

- **Do the early Roman clay and timber buildings that lined the Roman Road and were located at 1a Bedale Street extend into the site?**
  It was clearly demonstrated that clay and timber buildings were extant on the site and were probably an extension of the properties seen 1a Bedale Street. Details of the building can be seen in the previous question.

- **Is there any evidence for open areas or enclosures to the rear of these buildings - how was this area utilised?**
  No enclosures were apparent on site however roughly graveled surfaces associated with the clay and timber building was recorded in the eastern part of 2-4 Bedale Street. No specific evidence relating to the use of these surfaces was found although a number of cess and rubbish pits were noted suggesting domestic activities.

- **What was the form and function of these buildings?**
  Only the corner of a single building was encountered on site which was composed of clay floors, brickearth walls, a beam slot and three postholes. Roughly gravelled surfaces which sealed a single earlier posthole were present. The building extended beyond the northern and western boundaries of the site with an external area to the south. Given the nature of the deposits in the area it is theorized that this was a residential dwelling, although the presence of burnt cereals on the floor of the building to the south-east at 1a Bedale Street might suggest that it was used as a granary or for the storage of grain (Cowan *et al.* 2009, 44-45).

9.2.2 Medieval

- **Have any medieval deposits or structures survived excavation for post-medieval basements?**
  Despite the impact to the site by basements a variety of medieval deposits including several episodes of pitting, a well, a possible latrine and a late medieval chalk wall foundation. Most significantly a late 12th century boundary ditch and its later re-cut both of which extended beyond the limits of the site in a north-west to south-east alignment were found on site.

- **If so, how do they relate to the results of previous archaeological excavations in the vicinity?**
  A ditch at Montague Close (Watson 2009), an east-west aligned ditch recorded at 1a Bedale Street (22SSDB85; Thompson *et al.* 1998, 191), a boundary ditch or channel recorded at London Bridge Tower (The Shard), 32 London Bridge Street (LWE07; Maloney & Holroyd

2009, 72) and a ditch found at the Western Approach Viaduct (BVC12; Thameslink Assessment 9) may represent part of the same medieval earthwork as the large medieval ditch and its later re-cut found at 2-4 Bedale Street.

9.2.3 Post-medieval

- **What evidence is there for post-medieval structures pre-dating the construction of the 19th and 20th century buildings to be demolished?**
  A variety of post-medieval features were encountered at 2-4 Bedale Street, including pits, brick-lined cess pits, walls and a potential floor and two soakaways, which were recorded for the most part truncating the uppermost fills of the medieval ditch re-cut.

- **Can any structural remains be associated with buildings recorded on 18th and 19th century maps of the area?**
  Two remnants of masonry structures were extant in the eastern half of the site and are presumed to have related to the post-medieval 18th-19th properties that fronted Bedale Street. These features together with a series of brick-lined cess pits and wells represent subterranean structures beneath buildings present on the site on the 18th and 19th century maps.

9.3 Additional Research Questions

9.3.1 Additional research questions have been posed by individual specialists on the artefactual, faunal and environmental assemblages in the specialist appendices that follow the main text. The following additional more general research questions could be posed following the assessment of the archaeological investigations on site:

- Can the dating and nature of the Roman features and deposits on site be refined?

- Can analysis of the paper and finds archive of the site at 2 Southwark Street/1a Bedale Street help to determine if the Roman clay and timber building and fire horizons are the same as those previously found on that site?

- Can analysis of the archive of the site at 2 Southwark Street/1a Bedale Street determine if the ditch found on that site is the same as that from 2-4 Bedale Street and whether pottery from that site confirms the dating of the two phases of ditch? Additionally can the records of the alignment of the ditch found on that site help to determine the course of the feature to the east and whether there is a break for the main road (formerly Roman Road 1, present day Borough High Street)?

- Is there any documentary evidence, such as property deeds, that records the large medieval ditch as being a topographic feature?

- It is possible that the medieval boundaries may be reflected in the modern street pattern, in particular the location and alignment of parts of Montague Close, Bedale Street, St Thomas Street and Joiner Street? A ditch at Montague Close, an east-west aligned ditch recorded at 1a Bedale Street and a channel recorded at 32 London Bridge Street may represent part of the same medieval earthwork as the ditch and re-cut encountered at 2-4 Bedale Street. Can these and the ditch encountered at the Western Approach Viaduct (BVC12) be established as being definitively parts of the same earthwork? Is there any other additional archaeological data encountered in the vicinity that confirms or denies the overall hypothesis?

- The Optically Stimulated Luminescence (OSL) dating of the fills within both the medieval ditch and its later re-cut produced results that contrasted strongly with the other dating evidence. Can further research be performed to explain these anomalies and can the date of the backfilling of both the ditch and its re-cut be further refined?

- Can the digging of the original ditch and its laterre-cut be linked to particular periods of historical conflict, such as that between King Stephen and Matilda?

- Can it be determined if the ditches silted up over a period of time are were subject to rpid deliberate backfilling?

10 CONTENTS OF THE ARCHIVE

10.1.1 The BVV09 and BVA08 archives have been previously detailed (MOLA 2010; 2011) and are not reiterated in this document. Instead, the following section of this assessment is concerned solely with detailing the BVG10 archive.

10.1.2 Paper Records

• Context Sheets	655 Sheets
• Environmental Sheets	98 Sheets
• Registers	35 Sheets
• Plans & Sections	*c.*400 sheets

10.1.3 Finds

• Pottery	32 boxes
• CTP	1 box
• Building material	9 boxes
• Animal bone	33 boxes
• Glass	1 box
• Small finds and metal objects	4 boxes
• Slag	1 box
• Leather	1 box
• Shell	2 bags
• Wood	3 bags

10.1.4 Photographic Record

• Digital	46 folders
• Black & White (35mm)	6 films
• Colour Slide (35mm)	10 films
• Black & White (medium format)	10 films
• Colour (medium format)	4 films
• Geo-rectification data sheets	5 sheets

11 IMPORTANCE OF THE RESULTS, FURTHER WORK & PUBLICATION PROPOSAL

11.1 Importance of the Results

11.1.1 The most significant results of the excavations at 2-4 Bedale Street stem from the Roman and medieval periods, there were also heavily truncated deposits dated from the post-medieval period prior to the construction of the modern basemented properties.

11.1.2 Unfortunately the natural deposits on site had been heavily truncated by activity on site, especially the excavation of the large medieval ditches, thus severely limiting the possibilities of determining the site formation processes and reconstructing the post-glacial topography of this part of Southwark.

11.1.3 The discovery of a clay and timber building along with episodes of pitting and exterior gravel surfaces indicated a well defined period of Roman occupation. Principally this comprised the remnants of a clay and timber building. The Roman building indicated a continuation of similar properties seen at 1a Bedale Street (Cowan *et al.* 2009, 44-45) and fronting Roman Road 1. These remains are of local importance as they can help to determine the construction methods and layout of Roman buildings in the early Roman, potentially pre-Boudican Roman Southwark. The burnt deposits may provide evidence of the damage caused by the Boudican revolt to Roman Southwark and are also of importance.

11.1.4 The most significant features found at 2-4 Bedale Street were the late 12th century ditch and its later re-cut which may have had their origins as a late Saxon defence around the Southwark burh or even a late Roman defence around an contracted settlement focused on the bridgehead. The medieval boundary defined by this ditch may be reflected in the modern street pattern, in particular the location and alignment of parts of Montague Close, Bedale Street, St Thomas Street and Joiner Street. The boundary delineated by these roads could have enclosed the core of Southwark's medieval settlement, a settlement and boundary that could have extended back into the Saxon and Roman periods. If the interpretation of this feature is correct, and its possible earlier origins in the Saxon or even the Roman period, this would be of both regional and local significance. An east-west aligned ditch recorded at 1a Bedale Street (22SSDB85), a channel recorded at 32 London Bridge Street (LWE07) and ditch found at the Western Approach Viaduct (BVC12) may represent part of the same medieval earthwork as this ditch and and its later re-cut.

11.1.5 The artefacts and environmental evidence from the fills of the ditch and from a series of cess and rubbish pits of contemporary date in the vicinity have the potential to inform on the diet and lifestyle of the medieval population of Southwark. Medieval Southwark has previously

been rather neglected when compared to Roman Southwark and thus any contribution to redressing the balance is of major importance.

11.1.6 The archaeological investigaion also revealed a variety of post-medieval features, including pits, brick-lined cess pits, walls and a potential floor and two soakaways. The remains were heavily truncated but still have the potential to inform about post-medieval Southwark which is another previously neglected subject of archaeological study.

11.2 Further work

11.2.1 An attempt will be made to refine the dating of the Roman features and place the site into context by studying other sites in the vicinity. The Roman finds assemblages will be compared to other assemblages from Roman Southwark. An attempt will also be made to refine the dating of the medieval ditch, its re-cut and disuse. A study of documentary sources will be made to see if it is mentioned in deeds or property disputes. The medieval features, finds assemblages and environmental remains will be compared to other medieval sites in the vicinity. A study of other sites on the probable course of the medieval defensive/boundary ditch will be made to determine if features found at such sites as Montague Close (Watson 2009), 1a Bedale Street (22SSDB85; Thompson *et al.* 1998, 191), London Bridge Tower (The Shard), 32 London Bridge Street (LWE07; Maloney & Holroyd 2009, 72) and Western Approach Viaduct (BVC12; Thameslink Assessment 9) may represent part of the same medieval earthwork as this ditch and its later re-cut. The characteristics and dating of the backfills of these ditches and any environmental remains which have been recorded will be compared with the results from 2-4 Bedale Street. Cartographic and documentary study will be made to help to determine to which buildings the post-medieval structural remains belong. Additionally futher work will be undertaken on the following finds.

Roman pottery

11.2.2 The Samian and amphora assemblages should be analysed further by specialists as they both represent significant elements of the Roman pottery assemblage. Further comparative work to contemporary Roman assemblages near the site and the waterfront should be undertaken. Pottery from two contexts within Roman pits should be analysed to see if there are any refitting sherds from the different contexts. More in-depth analysis of the assemblage by period is necessary in order to assess whether the nature of pottery consumption, use and deposition changed throughout the Roman period at the site.

Post-Roman pottery

11.2.3 The assemblage from this excavation should be published. Approximately ten vessels require illustration and a number of group shots of intact vessels from different features require photographing.

Lithics

11.2.4 While there is little requirement for further work with the lithic assemblage, some of the key elements may require illustration and/or photographing for any final report. Similarly, a short report highlighting the discoveries, particularly those of the tools, set alongside a discussion of our current understanding of Mesolithic and early Neolithic activity within Greater London would be required.

Clay tobacco pipes

11.2.5 A publication report should include a section on the clay tobacco pipes from the site, relating them where possible to activities on the site and whether there are correlations to documented activities. Comparison of this assemblage should be made with material from other sites, particularly those associated with the Thameslink Viaduct project, to determine how well the local clay tobacco pipe industry is represented. Approximately five bowls need illustrating to supplement the text.

Glass

11.2.6 The glass assemblage should be characterised and a summary description of the phase assemblages should beincluded in a publication. A small number of sherds have the potential to be illustrated.

Roman small finds

11.2.7 The metals and small finds assemblage from Roman contexts was very limited in the number a range of finds recovered. A brief note on the composition of the Roman assemblage could be included in a publication and the 2 glass gaming pieces (sf <11> & sf <105>), the ceramic spindle whorl (sf <5>), the bone hair pin (sf <104>), the bead spacer (sf <103>) and the seal box (sf <43>) should be published. It is possible that further Roman small finds are present residually within the post-Roman small finds assemblage which will require further analysis.

Post-Roman small finds

11.2.8 The post-Roman metal and small finds form an integral part of the archaeological data from the site, and should be included where relevant in any further publication. This is particularly so for the small group of identifiable or diagnostic finds, which include the iron candleholder, the copper-alloy dress accessories and possible lead spindle whorl from Phase 5, and the household and personal objects from Phase 6. For the purpose of publication, the medieval mount with possible armorial decoration (sf <67>) would require cleaning to further identify the motif; the possible 18th-century finger ring (sf <81>) will need further identification. In addition, a number of corroded and/or fragmentary objects, retrieved from environmental

sampling, may warrant x-raying to enable identification. Considering the high degree of residuality, some finds may need to be seen by a Roman small finds specialist.

Slag

11.2.9 The slag assemblage requires no further work other than a mention of those examples of the material which are deemed relevant in any publication.

Building material

11.2.10 In terms of individual items of artistic, petrological and historical significance there are only a handful of items that require further investigation, photography, illustration and inclusion into publication - these are:

- The small example of micro-architecture from possibly a font, lectern or pulpit fragment from the fill of the 12th/13th century ditch. This material has been identified in the early phase 4.2 of Bermondsey Abbey also in a possible example of church furniture (Hayward in prep c.). Parallels need to be examined to identify its true function.
- The origin and function of the unstratified terracotta mould in particular whether it is Victorian or much earlier e.g. Elizabethan.
- Further investigation in to the origin and function of a group of decorated curved peg tiles in the rare 12th century fabric *2273* from medieval fills of the ditch.
- The origin of a group of late medieval bricks from context [631].
- Where else early dumps of roofing material in the distinctive very early (AD 50-80) white Eccles fabric can be located in Southwark and especially in other Thameslink sites.

As the first extensive Thameslink site to be assessed, the value of this assemblage lies in its importance as a comparative dataset of building material group types (mortar, stone, peg-tile, brick and Roman building material) with other sites from this project. Comparison by material form and fabric between sites will make it easier to determine similar construction phases, particularly at publication stage. For example, it has been shown that mortar has been important in distinguishing medieval and post-medieval building phases at Bedale Street; and some of these mortars have also been identified from the assessment at BVL10 (Hayward 2011).

Wall plaster

11.2.11 The Bedale Street wall plaster assemblage is well-paralleled stylistically in the vicinity of the site and tends to be either residual or re-deposited, thus no further analysis or discussion of the assemblage is recommended.

Animal bone

11.2.12 It is recommended that priority should be given to further analysis of the medieval animal bone collections with some time spent on the post-medieval animal bone assemblage.

Information concerning the Roman animal bones will of course be included in the final report, but it is not recommended that any further analysis should take place.

Fishbone

11.2.13 The fish assemblage from Bedale Street will form one of the few medieval assemblages reported from Southwark and is therefore worthy of full recording. It will be compared with published and unpublished reports from secular and monastic medieval sites in London such as 199 Borough High Street, Southwark, St Thomas Street, Southwark, Winchester Palace, Southwark, Albion Place, Billingsgate, St Mary's Clerkenwell, St Mary's Spital and St. Saviour, Bermondsey. The focus of the analysis will be to examine as far as possible continuity and change in fishing industry from the Late Saxon to the later medieval period in the light of national trends.

Leather

11.2.14 The leather should be researched in relation to medieval leather working/cobbling activities in this area of Southwark. Also some of the fragments are clearly associated with domestic discards. Although only a small quantity of leather was found, the assemblage is an important indicator of what trades were present in this area of London, as well as adding information to what items were discarded and what sort of features contained this waste.

Charcoal, charred and mineralised plant remains

11.2.15 The wood charcoal data has the potential to address questions relating to the following research areas: preferred fuel woods in use at the site in different periods; character of the local environment; exploitation of local resources; changes in the local vegetation during the occupation of the site; local and regional tree and shrub vegetation and its exploitation, though comparisons with other wood/charcoal assemblages, and local and regional pollen data.

Some tentative identifications made at assessment need to be confirmed, and a limited amount of additional work will broaden the range of the results and thus the conclusions which can be drawn from them.

The charred plant remains provide data relevant to the following research questions: the nature of the food remains at the site; exploitation of local resources; cultivation practices, including areas possibly utilised and changes through time; the character of the local environment and how this changed over time; the local and regional picture and how this assemblage compares to other sites in the region.

A summary of the results from analyses at other Thameslink sites (including Hunter 2012a-c; Mean, 2010) is being prepared and much published data is also available, which will be consulted during the preparation of a publication report.

Waterlogged plant remains

11.2.16 Collectively the waterlogged plant macrofossil data from this site may address the following research questions:

- The character of food remains on the site
- The exploitation of natural resources
- The character of the local environment
- Potential changes in local vegetation types throughout the occupation of the site

It would be useful to compare the plant remains from all of the Thameslink sites with contemporary sites from the Southwark area, including various excavations from Borough High Street and Montague Close.

Pollen

11.2.17 Due to the poor concentrations and preservation of the pollen assemblage it is not recommended that further analysis is performed on this material. The publication of the site should include a summary report on the pollen.

Diatoms

11.2.18 The results of the diatom analysis should be published.

Insects

11.2.19 A relatively large number of well preserved insect faunas from medieval and post-medieval deposits have now been studied from the City of London on the north bank of the Thames, however, there are very few such studies from Southwark itself. All of the insect faunas recovered at Bedale Street were very poorly preserved and have limited interpretive value, therefore it is suggested that only limited further work is undertaken on the insect remains from this site and only if the results from other environmental indicators suggest that it is warranted.

Marine shells

11.2.20 Given the small number of shells, their generally poor condition and the types of deposits from which they derive (largely mixed deposits within the medieval ditch) no further work is recommended, but publication of the site should include a summary report on the shellfish.

Non-marine molluscs

11.2.21 It is considered unlikely that further quantitative analysis in terms of shell counts would add significantly to the information presented in Appendix 22, however some of the conclusions

would seem to appear to contradict the results of other specialist studies and further analysis may be required to resolve these conflicts. The results of the assessment, however, do provide supporting data for other categories of remains such as the waterlogged plant remains and should be included in the publication.

11.3 Publication Proposal

11.3.1 It is proposed that the results of this assessment report will be considered together with those from other Thameslink Borough sites (TAA1-7 & 9) and all the recommendations from the specialists from the separate assessments will be summarised and brought together in one report incorporating an overall assessment and updated project design. This report will consider the archaeological results as a whole and make detailed recommendations regarding the content and scope of the publication. At this stage it is suggested that the archaeological results and finds will be presented in one or more monographs of the Borough area of Southwark.

12 ACKNOWLEDGMENTS

12.1 OA-PCA would like to thank Network Rail for funding the archaeological works at 2-4 Bedale Street and Chris Place (Network Rail Project Archaeologist) for monitoring the project and for his advice throughout. In addition thanks are also offered to Dr Chris Constable (Senior Archaeology Officer, Southwark Council) for monitoring and advising on the archaeological investigations.

12.2 OA-PCA would also like to thank Skanska for commissioning the archaeological field work and in particular, the project supervisor would like to offer her thanks to Ian Gregory, John Rooney, Tim Ovington, Peter Neville, James Ruck and Adam Clarkson for their help and assistance during the Bedale Street excavations.

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APPENDIX 1: CONTEXT INDEX

Site Code	Context	Grid Square/Trench	Plan	Section	Type	Description	Details	NS	EW	Depth	High	Low	Prov Date	Phase
BVG10	1	UP 1b, 2b, 3b, 4b	UP 1-4b	2, 3	Layer	Layer	Friable, dark grey brown, clayey sandy silt	5.60	1.90	1.10	2.87	*n/a*	Medieval (pre-AD1200)	4
BVG10	2	UP 1a, 2a, 3a, 4a	UP 1-4a	1, 2	Layer	Layer	Friable, dark grey brown, clayey sandy silt	2.40	1.90	1.00	2.88	*n/a*	Medieval (pre-AD1200)	4
BVG10	3	UP 1a, 2a	UP 1-4a	1	Layer	Dump/levelling	Firm/friable, mid yellow grey, sandy silt/clay	1.80	1.10	0.10	2.04	*n/a*	Medieval (pre-AD1200)	4
BVG10	4	UP 2b, 3b	UP 1-4b	*n/a*	Masonry	Well/soakaway within [157]	Frogged red brick well/soakaway	0.90	0.90	1.10	2.97	*n/a*	Post-medieval	6
BVG10	5	UP 2b, 3b	*n/a*	*n/a*	Fill	Fill of soak-away [4]	Indurated, mid yellow brown, concrete	0.70	0.70	0.80	2.84	*n/a*	Post-medieval	6
BVG10	6	UP 3a	*n/a*	1	Fill	Fill of pit [7]	Soft, mid grey brown, silt sand	0.70	*n/a*	0.70	2.84	*n/a*	Post-medieval	6
BVG10	7	UP 3a	*n/a*	1	Cut	Pit?	Shape unknown, steep sides, concave base	0.70	*n/a*	0.70	2.84	2.14	Post-medieval	6
BVG10	8	GR - Stage 1	*8*	*n/a*	Masonry	Tank?	Unfrogged red brick wall, lime mortar bonding	0.22	1.32	0.30	2.66	*n/a*	Post-medieval	6
BVG10	9	GR - Stage 1	*n/a*	*n/a*	Fill	Infill of tank (8)	Firm, dark black brown, sandy clay silt	0.24	1.50	0.30	*n/a*	*n/a*	Post-medieval	6
BVG10	10	TP1	*n/a*	4, 5	Fill	Fill of pit [11]	Firm, dark black brown, clay silt	1.10	0.10	0.50	1.68	*n/a*	Medieval (pre-AD1200)	4
BVG10	11	TP1	*n/a*	4, 5	Cut	Pit?	Shape unknown, concave sides, concave base	1.10	0.10	0.50	1.68	1.18	Medieval (pre-AD1200)	4
BVG10	12	TP1	*n/a*	5	Layer	Clay floor	Firm, mid brown yellow, silty clay	*n/a*	1.10	0.14	1.78	*n/a*	Roman	2b
BVG10	13	TP1	*n/a*	4, 5	Layer	Occupation horizon?	Firm, mid green grey, sand silt	0.10	1.10	0.26	1.64	*n/a*	Roman	2a
BVG10	14	TP1	*n/a*	4, 5	Layer	Dump/levelling	Firm, mid yellow brown, sand gravel	0.40	1.10	0.08	1.38	*n/a*	Roman	2a
BVG10	15	TP1	*n/a*	4, 5	Layer	Natural	Loose, mid green yellow, sand	1.10	0.60	0.35	1.30	*n/a*	Natural	1
BVG10	16	TP 4	*n/a*	6, 7, 20	Fill	Fill of pit [20]	Soft, dark grey/dark green grey/light grey green, gritty sandy silt	0.12	1.24	0.47	1.98	*n/a*	Medieval (post-AD1200)	5a
BVG10	17	TP 4	*n/a*	6, 7, 20	Fill	Fill of pit [20]	Soft, dark grey green/green grey, sandy silt	0.11	0.45	0.80	1.66	*n/a*	Medieval (pre-AD1200)	4
BVG10	18	TP 4	*n/a*	6, 7, 20	Fill	Fill of pit [20]	Soft, dark brown, silty decayed wood (barrell)	0.07	0.04	0.44	1.36	*n/a*	Medieval (pre-AD1200)	4
BVG10	19	TP 4	*n/a*	6, 7, 20	Fill	Fill of pit [20]	Soft, dark grey, gritty silt, freq light grey green/green	0.32	0.50	0.72	1.59	*n/a*	Medieval (pre-AD1200)	4

							grey patches							
BVG10	20	TP 4	*n/a*	6, 7, 20	Cut	Pit? - latrine	Shape unknown, steep sides, base unknown - latrine pit	0.44	0.76	0.56	1.44	0.85	Medieval (pre-AD1200)	4
BVG10	21	TP 4	*n/a*	6, 7, 8, 9, 19, 20	Layer	Dump/levelling?	Soft, light green grey, coarse sandy silt	0.61	1.84	0.26	1.44	*n/a*	Roman	2c
BVG10	22	TP 4	*n/a*	6, 7, 8, 9, 19, 20	Layer	Dump/levelling?	Soft, pink brown/light yellow brown, coarse sand	0.66	1.13	0.30	1.20	*n/a*	Roman	2c
BVG10	23	TP 4	*n/a*	6, 8, 9, 19, 20	Layer	Natural	Loose, dark brown red, coarse sandy gravel	0.92	0.54	0.14	1.00	*n/a*	Natural	1
BVG10	24	TP 3	*n/a*	12	Fill	Fill of pit [26]	Fairly firm, dark grey green, sandy gravel	*n/a*	0.40	0.45	1.88	1.76	Medieval/post-medieval	5b
BVG10	25	TP 3	*n/a*	12	Fill	Fill of pit [26]	Soft, dark grey green/dark grey, silt sand	*n/a*	0.70	0.25	1.76	1.68	Medieval/post-medieval	5b
BVG10	26	TP 3	*n/a*	12	Cut	Pit?	Shape unknown, sloping sides, base unknown	*n/a*	0.70	0.70	1.68	1.28	Medieval/post-medieval	5b
BVG10	27	TP 3	*n/a*	10, 11, 12, 13, 14, 18	Fill	Fill of recut [31]	Soft, dark grey, dark grey green/light yellow brown, silt sand	2.79	0.80	0.75	1.68	*n/a*	Medieval (post-AD1200)	5a
BVG10	28	TP 3	*n/a*	12	Fill	Fill of recut [31]	Soft, dark grey brown, gravel sand	*n/a*	0.25	0.10	1.31	*n/a*	Medieval (post-AD1200)	5a
BVG10	29	TP 3	*n/a*	10, 11, 13, 14, 18	Fill	Fill of recut [31]	Soft, dark red brown, silt sand	1.16	0.62	0.07	1.63	1.14	Medieval (post-AD1200)	5a
BVG10	30	TP 3	*n/a*	11, 12, 18	Fill	Fill of recut [31]	Soft, dark brown green, silty sand	0.97	0.58	0.46	1.10	*n/a*	Medieval (post-AD1200)	5a
BVG10	31	TP 3	*n/a*	10, 11, 12, 13, 18	Cut	Ditch re-cut?	Shape unknown, gradual sides, concave base	3.74	0.80	0.99	1.55	0.56	Medieval (post-AD1200)	5a
BVG10	32	TP 3	*n/a*	12	Fill	Fill of ditch [91]	Soft, dark grey, sandy silt	*n/a*	0.89	0.15	1.42	*n/a*	Medieval (pre-AD1200)	4
BVG10	33	TP 3	*n/a*	12	Fill	Fill of ditch [91]	Soft, mid grey brown, sandy silt	*n/a*	1.11	0.15	1.28	*n/a*	Medieval (pre-AD1200)	4
BVG10	34	TP 3	*n/a*	10, 11, 12, 13, 18	Layer	Fill of ditch [91]	Soft, dark grey/dark grey green, sandy silt	2.28	0.80	0.40	1.15	1.10	Medieval (pre-AD1200)	4
BVG10	35	TP 3	*n/a*	10, 11, 12, 13, 18	Layer	Fill of ditch [91]	Loose, light yellow brown, gravelly sand	2.51	0.70	0.10	0.80	0.70	Medieval (pre-AD1200)	4
BVG10	36	TP 3	*n/a*	11, 12, 18	Layer	Fill of ditch [91]	Soft, dark grey/dark grey green, sandy silt	0.86	0.70	0.07	0.68	*n/a*	Medieval (pre-AD1200)	4
BVG10	37	TP 3	*n/a*	10, 11, 12, 13,	Layer	Natural	Loose, mid grey green, coarse sandy gravel	3.76	0.80	0.18	0.68	0.56	Natural	1

				14, 18										
BVG10	38	TP 4	*n/a*	7, 9, 19	Layer	Occupation horizon?	Soft, light brown grey, coarse gritty silt	1.17	1.40	0.45	1.87	*n/a*	Roman	3
BVG10	39	TP 4	*n/a*	7, 9, 19	Layer	Occupation horizon?	Soft, light green grey, sand	0.62	1.40	0.20	1.33	*n/a*	Roman	3
BVG10	40	TP 4	*n/a*	9, 19	Layer	Dump/levelling	Friable, black/dark pink red, charcoal and burnt clay	*n/a*	0.17	0.05	1.48	*n/a*	Roman	3
BVG10	41	MH/UP13?	*n/a*	14	Layer	Dump/levelling	Soft, light green grey silty sand	0.84	*n/a*	0.33	1.77	*n/a*	Medieval (pre-AD1200)	4
BVG10	42	MH/UP13?	*n/a*	14	Fill/layer	Dump/levelling within [116]	Soft, light grey yellow, silt sand	0.85	*n/a*	0.25	1.44	*n/a*	Roman	2c
BVG10	43	MH/UP13?	*n/a*	14	Fill/layer	Dump/levelling within [116]	Soft, light pink grey, sandy silt	0.86	*n/a*	0.25	1.42	1.20	Roman	2c
BVG10	44	MH/UP13?	*n/a*	14	Fill/layer	Burnt horizon within [116]	Firm, dark grey red, burnt clay	0.68	*n/a*	0.15	1.41	1.11	Roman	2c
BVG10	45	MH/UP13?	*n/a*	14	Layer	Natural	Soft/friable, mid green grey, gravelly sand	0.92	*n/a*	0.69	1.27	0.97	Natural	1
BVG10	46	TP 4	*n/a*	8, 9, 19	Fill	Fill of pit [47]	Friable/soft, light grey medium sand	0.26	0.35	0.14	0.82	*n/a*	Roman	2c
BVG10	47	TP 4	*n/a*	8, 9, 19	Cut	Pit?	Shape unknown, sloping sides, base unknown	0.26	0.35	0.14	0.82	0.72	Roman	2c
BVG10	48	UP 5, 7	*n/a*	14, 15, 18	Fill	Fill of recut [31]	Friable, mid brown grey sandy silt	1.25	*n/a*	0.30	1.70	1.37	Medieval (post-AD1200)	5a
BVG10	49	UP 5, 7	*n/a*	14, 15, 18	Fill	Fill of recut [31]	Soft, dark grey, clayey silt	1.35	*n/a*	0.20	1.35	1.07	Medieval (post-AD1200)	5a
BVG10	50	UP 5, 7	*n/a*	14, 15, 18	Fill	Fill of recut [31]	Soft, light yellow brown, gravelly sand	1.35	*n/a*	0.05	1.65	0.97	Medieval (post-AD1200)	5a
BVG10	51	UP 5, 7	*n/a*	14, 15, 18	Fill	Fill of recut [31]	Soft, light brown grey/dark grey, clayey silt	2.80	*n/a*	0.35	1.07	0.73	Medieval (post-AD1200)	5a
BVG10	52	UP 5, 7	*n/a*	14, 15, 18	Fill	Fill of recut [31]	Friable, red brown, gravelly sand	0.94	*n/a*	0.07	0.73	0.70	Medieval (post-AD1200)	5a
BVG10	53	UP 5, 7	*n/a*	14, 15, 18	Fill	Fill of recut [31]	Soft, light brown, grey sandy silt	1.20	*n/a*	0.13	0.70	0.56	Medieval (post-AD1200)	5a
BVG10	54	UP 9	*n/a*	16, 19	Fill	Fill of pit [60]	Soft, dark blue grey, clayey silt	*n/a*	0.25	0.30	1.87	1.57	Medieval (pre-AD1200)	4
BVG10	55	UP 9, 14	*n/a*	16, 19	Layer	Dump/levelling?	Friable, mid grey brown, silty sand	*n/a*	1.18	0.45	1.77	1.47	Roman	3
BVG10	56	UP 6, 7, 8, 9	*n/a*	16, 19	Layer	Dump/levelling?	Friable, dark brown grey, silty sand	*n/a*	2.68	0.16	1.38	1.32	Roman	3
BVG10	57	UP 8, 9	*n/a*	16, 19	Layer	Dump/levelling	Friable, mid grey, silty sand	*n/a*	1.55	0.09	1.32	1.25	Roman	3
BVG10	58	UP 6, 8, 9	*n/a*	16, 19, 20	Layer	Dump/levelling	Friable, mid grey brown, silty sand	*n/a*	1.18	0.36	1.32	1.16	Roman	3

BVG10	59	UP 6, 8, 9	*n/a*	16, 17, 19, 20	Layer	Natural	Friable, mid orange brown, silty sand	*n/a*	0.69	0.25	1.11	0.87	Natural	1
BVG10	60	UP 9	*n/a*	16, 19	Cut	Pit?	Shape unknown, vertical sides, flat base	*n/a*	0.25	0.30	1.87	1.57	Medieval (pre-AD1200)	4
BVG10	61	UP 8, 9	*n/a*	17, 20	Layer	Layer	Friable, dark grey/dark brown green, silty sand	*n/a*	1.14	0.10	2.00	*n/a*	Medieval (pre-AD1200)	4
BVG10	62	UP 9, 14	*n/a*	17, 20	Layer	Dump/levelling?	Soft, light yellow brown, silty sand	*n/a*	0.93	0.35	1.92	*n/a*	Medieval (pre-AD1200)	4
BVG10	63	UP 9, 14	*n/a*	17, 20	Layer	Dump/levelling?	Soft, mid grey brown, sandy silt	*n/a*	0.56	0.20	1.66	1.63	Medieval (pre-AD1200)	4
BVG10	64	UP 9	*n/a*	17, 20	Layer	Dump/levelling	Friable, light green grey and light grey silty sand	*n/a*	0.58	0.20	1.59	1.55	Roman	3
BVG10	65	UP 8, 9	*n/a*	17, 20	Fill	Fill of pit [66]	Soft, dark grey, gritty silt, freq light grey green/green grey patches	*n/a*	0.50	0.89	1.75	1.66	Medieval (pre-AD1200)	4
BVG10	66	UP 8, 9	*n/a*	20	Cut	Pit?	Shape unknown, steep sides, base unknown	*n/a*	0.50	0.89	1.92	0.85	Medieval (pre-AD1200)	4
BVG10	67	UP 9	*n/a*	17, 20	Fill	Fill of pit [68]	Soft, mid grey brown, sandy silt	*n/a*	0.45	0.60	1.63	1.58	Medieval (pre-AD1200)	4
BVG10	68	UP 9	*n/a*	17, 20	Cut	Pit	Circular, vertical sides, deeply concave base	*n/a*	0.45	0.60	1.62	1.00	Medieval (pre-AD1200)	4
BVG10	69	UP 9	*n/a*	16, 17, 19, 20	Fill	Fill of beamslot [70]	Friable, mid grey brown, silty sand	*n/a*	0.35	0.25	1.10	1.05	Roman	2b
BVG10	70	UP 9	*n/a*	16, 17, 19, 20	Cut	Beamslot?	Linear, steep sides, concave base	1.00	0.35	0.25	1.10	0.87	Roman	2b
BVG10	71	UP 11	*n/a*	14, 18	Fill	Fill of ditch [72]	Soft, dark brownish grey, clayey silt	0.60	*n/a*	0.50	1.77	1.65	Medieval (post-AD1200)	5a
BVG10	72	UP 11	*n/a*	14, 18	Cut	Ditch	Linear, moderate sides, base unknown	0.60	*n/a*	0.50	1.77	1.15	Medieval (pre-AD1200)	4
BVG10	73	UP 11, 12	*n/a*	14, 18	Layer	Dump/levelling?	Friable, mid red brown sandy silt	0.95	*n/a*	0.40	1.77	1.27	Roman	2c
BVG10	74	UP 11, 12	*n/a*	14	Layer	Occupation horizon	Soft, mid green brown, silty sand	1.10	*n/a*	0.04	1.43	1.25	Roman	2c
BVG10	75	UP 11, 12	*n/a*	14, 18	Layer	Dump/levelling	Friable, light yellow brown, silty sand	1.40	*n/a*	0.20	1.41	1.09	Roman	2c
BVG10	76	UP 11, 12	*n/a*	14	Layer	Burnt horizon	Soft/friable, dark black brown, sandy silt, freq charcoal	1.40	*n/a*	0.04	1.19	1.06	Roman	2c
BVG10	77	UP 11, 12	*n/a*	14, 18	Layer	Dump/levelling	Friable, light yellow brown, silty sand gravel	1.50	*n/a*	0.12	1.17	0.95	Roman	2a
BVG10	78	UP 11, 12	*n/a*	14, 18	Layer	Dump/levelling?	Friable, light yellow grey sandy silt	1.75	*n/a*	0.15	1.07	0.75	Roman	2a

BVG10	79	UP 11, 12	*n/a*	14, 18	Layer	Natural	Friable, mid red brown, sandy silt gravel	1.58	*n/a*	0.80	0.97	0.57	Natural	1
BVG10	80	UP 16, 17	*n/a*	20	Layer	Occupation horizon	Friable, dark grey, sandy silt	*n/a*	1.56	0.38	2.00	1.65	Medieval (pre-AD1200)	4
BVG10	81	UP 16, 17	*n/a*	20	Layer	Dump/levelling	Soft, mid grey brown, sandy silt	*n/a*	1.19	0.30	1.63	1.62	Roman	3
BVG10	82	UP 16, 17	*n/a*	20	Layer	Dump/levelling	Friable, light grey brown, silty sand	*n/a*	1.33	0.32	1.33	*n/a*	Roman	2c
BVG10	83	UP 16, 17	*n/a*	20	Layer	Dump/levelling	Friable, mid brown grey, silty sand	*n/a*	1.45	0.24	1.12	*n/a*	Roman	2a
BVG10	84	UP 7, 10	*n/a*	14	Fill	Fill of pit [85]	Soft/firm, dark brown grey, clay silt	0.60	*n/a*	0.30	1.77	*n/a*	Medieval/post-medieval	5b
BVG10	85	UP 7, 10	*n/a*	14	Cut	Pit?	Shape unknown, sloping sides, concave base	0.60	*n/a*	0.30	1.77	1.47	Medieval/post-medieval	5b
BVG10	86	UP 5, 7	*n/a*	14	Fill	Fill of pit [119]	Firm, dark brown grey/dark grey green, clay silt	1.86	*n/a*	0.40	1.77	*n/a*	Medieval/post-medieval	5b
BVG10	87	UP 7, 10	*n/a*	14	Fill	Fill of pit [90]	Soft, dark grey/dark grey green, sandy silt	1.05	*n/a*	0.50	1.59	1.37	Medieval (post-AD1200)	5b
BVG10	88	UP 7, 10	*n/a*	14	Fill	Fill of pit [90]	Soft, dark grey/dark green, silt	0.85	*n/a*	0.65	1.08	1.00	Medieval (post-AD1200)	5b
BVG10	89	UP 7, 10	*n/a*	14	Fill	Fill of pit [90]	Soft, dark grey/mid brown green, gritty silt	0.55	*n/a*	0.15	0.72	0.69	Medieval (post-AD1200)	5b
BVG10	90	UP 7, 10	*n/a*	14	Cut	Pit?	Shape unknown, irregular sides, concave base	1.05	*n/a*	1.05	1.59	0.55	Medieval (post-AD1200)	5b
BVG10	91	UP 5, 7, 10	*n/a*	14, 15, 18	Cut	Ditch	Linear, moderately sloping sides, concave/irregular base	3.10	*n/a*	1.25	1.81	0.56	Medieval (pre-AD1200)	4
BVG10	92	UP 16	*n/a*	20	Fill	Fill of [94]	Soft, dark grey brown, sandy silt	1.40	0.40	0.10	2.00	*n/a*	Medieval (pre-AD1200)	4
BVG10	93	UP 16	*n/a*	20	Masonry	Wall within [94]	Regular coursed Roman brick, dark yellow brown silty sand mortar	1.40	0.38	0.15	1.95	1.88	Medieval (pre-AD1200)	4
BVG10	94	UP 16	*n/a*	20	Cut	Construction cut for [95]/[93]	Linear, vertical sides, concave base	1.40	0.40	0.35	2.00	1.65	Medieval (pre-AD1200)	4
BVG10	95	UP 16	*n/a*	20	Fill	Foundation within [94]	Soft, dark grey brown, sandy silt (50% freq plaster, CBM, pebbles)	1.40	0.30	0.20	1.82	1.81	Medieval (pre-AD1200)	4
BVG10	96	UP 15, 16, 17, 18	*n/a*	19	Fill/layer	Dump/levelling within [117]	Friable, dark grey, sandy silt	*n/a*	3.52	0.25	1.92	1.86	Post-medieval	6
BVG10	97	UP 16	*n/a*		Fill/layer	Dump/levelling within [117]	Soft, mid grey brown, sandy silt	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	Post-medieval	6
BVG10	98	UP 16	*n/a*		Fill	Fill of stakehole [99]	Soft, dark brown grey, sandy silt	0.07	*n/a*	0.33	*n/a*	*n/a*	Post-medieval	6

BVG10	99	UP 16	*n/a*		Cut	Stakehole	Circular, vertical sides, tapered to a blunt point	0.07	*n/a*	0.33	*n/a*	*n/a*	Post-medieval	6
BVG10	100	UP 15, 16, 17	*n/a*	19	Layer	Demolition horizon	Friable, light grey brown, silty sand	*n/a*	2.02	0.14	1.49	1.37	Roman	3
BVG10	101	UP 15, 16, 17	*n/a*	19	Layer	Occupation layer?	Firm, mid orangey brown, silty sand	*n/a*	2.01	0.04	1.34	1.28	Roman	3
BVG10	102	UP 15, 16, 17	*n/a*	19	Layer	Dump/levelling?	Friable, mid brown grey, silty sand	*n/a*	2.00	0.23	1.29	1.24	Roman	2a
BVG10	103	UP 15, 16, 17	*n/a*	19	Fill	Fill of pit [117]	Friable, light grey green, silty sand	*n/a*	2.42	0.19	1.71	1.54	Post-medieval	6
BVG10	104	UP 17	*n/a*	20	Cut	Pit	Circular, steep sides, concave base - contained whole pot	*n/a*	0.40	1.10	1.62	0.72	Roman	3
BVG10	105	UP 17	*n/a*	20	Fill	Fill of pit [104]	Soft, dark grey brown/dark brown grey/light grey green, sandy silt	*n/a*	0.38	0.50	1.63	1.62	Roman	3
BVG10	106	UP 17	*n/a*	20	Fill	Fill of pit [104]	Soft, light green yellow/light grey green/light grey brown, sandy silt	*n/a*	0.37	0.20	1.24	1.12	Roman	3
BVG10	107	UP 17	*n/a*	20	Fill	Fill of pit [104]	Soft, light yellow brown/mid grey brown, silty sand	*n/a*	0.35	0.20	1.22	0.92	Roman	3
BVG10	108	UP 16, 17	*n/a*	19	Layer	Dump/levelling	Soft, mid brown grey/dark yellow brown/dark brown red, sandy silt	*n/a*	0.40	0.23	1.63	*n/a*	Post-medieval	6
BVG10	109	UP 13?	*n/a*		Fill	Fill of pit [110]	Soft, dark blue grey, silty clay	*n/a*	*n/a*	1.00	*n/a*	*n/a*	Medieval (pre-AD1200)	4
BVG10	110	UP 13?	*n/a*		Cut	Pit	Circular, steep sides, flat base	*n/a*	*n/a*	1.00	*n/a*	*n/a*	Medieval (pre-AD1200)	4
BVG10	111	UP 13?	*n/a*		Layer	Dump/levelling?	Friable, mid red brown, sandy silt	*n/a*	*n/a*	0.41	*n/a*	*n/a*	Roman	2c
BVG10	112	UP 13?	*n/a*		Layer	Burnt horizon	Soft, mid green brown, silty sand	*n/a*	*n/a*	0.03	*n/a*	*n/a*	Roman	2c
BVG10	113	UP 13?	*n/a*		Layer	Dump/levelling	Friable, light yellow brown, silty sand	*n/a*	*n/a*	0.25	*n/a*	*n/a*	Roman	2c
BVG10	114	UP 13?	*n/a*		Layer	Burnt horizon	Friable, dark black brown, sandy silt	*n/a*	*n/a*	0.03	*n/a*	*n/a*	Roman	2c
BVG10	115	UP 13?	*n/a*		Layer	Dump/levelling	Friable, light yellow brown, silty sand	*n/a*	*n/a*	0.34	*n/a*	*n/a*	Roman	2a
BVG10	116	UP 13	*n/a*	14	Cut	Pit?	Circular, moderately sloping sides, concave base	1.04	*n/a*	0.24	1.40	0.97	Roman	2c
BVG10	117	UP 13?	*n/a*		Cut	Pit?	Linear, shallow sides, concave base	*n/a*	*n/a*	0.40	*n/a*	*n/a*	Post-medieval	6

BVG10	*118*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	119	UP 5	*n/a*	14	Cut	Pit?	Linear, moderately sloping sides, flat base	1.86	*n/a*	0.40	1.48	1.37	Medieval/post-medieval	5b
BVG10	150	115/205, 120/205	150	*n/a*	Masonry	Floor within [151]	Unfrogged E/W and N/S red brick wall, lime mortar	1.09	0.46	0.20	1.82	1.74	Post-medieval	6
BVG10	151	115/205, 120/205	151	*n/a*	Cut	Construction cut for [159]	Linear, gradual/vertical sides, flat base	1.14	0.62	0.28	1.70	1.67	Post-medieval	6
BVG10	152	115/205, 120/205	*n/a*	*n/a*	Fill	Fill of [151]	Firm, mid grey yellow, sandy silt	1.14	0.62	0.28	1.70	1.67	Post-medieval	6
BVG10	153	115/205, 120/205	153	21	Cut	Ditch	Linear, steep sides, undulating base	4.76	8.39	1.50	1.87	0.87	Medieval (pre-AD1200)	4
BVG10	154	115/200-5, 120/200-5	154	21	Fill	Fill/layer?	Fairly firm, dark grey, silty sand, patches of clay	6.00	8.14	0.06	2.01	1.62	Medieval (post-AD1200)	5a
BVG10	155	120/200	155	*n/a*	Fill	Fill of re-cut [183]	Soft, dark blue grey, clay silt	1.04	2.36	0.09	1.51	1.11	Medieval (post-AD1200)	5a
BVG10	156	120/200	156	*n/a*	Fill	Fill of re-cut [183]	Firm, black, silty sand	1.90	3.00	0.12	1.48	1.11	Medieval (post-AD1200)	5a
BVG10	157	120/200	157	*n/a*	Cut	Construction cut for [4]	Sub-rectangular, moderately sloping sides, concave base.	1.70	0.80	0.27	1.22	0.95	Post-medieval	6
BVG10	158	120/200	*n/a*	*n/a*	Fill	Fill of [157]	Firm, light blue grey, sandy silt	1.70	0.80	0.27	1.21	*n/a*	Post-medieval	6
BVG10	159	115/205, 120/205	159	*n/a*	Masonry	Wall within [151]	Unfrogged red brick wall, lime mortar	0.40	1.20	0.16	1.92	1.85	Post-medieval	6
BVG10	160	115/205, 120/205	160	21	Fill	Fill of ditch [153]	Soft/firm, dark grey/dark brown green, sandy silt	1.68	8.08	0.53	1.92	1.37	Medieval (pre-AD1200)	4
BVG10	161	120/205	161	*n/a*	Fill	Fill of re-cut [183]	Friable, yellow grey/orangey brown, silty sand	0.84	2.60	0.09	1.20	1.02	Medieval (post-AD1200)	5a
BVG10	162	115/205	162	*n/a*	Layer	Dump/levelling?	Soft, dark green brown, sandy silt	0.40	1.36	0.15	1.74	1.53	Medieval (pre-AD1200)	4
BVG10	163	120/205	163	*n/a*	Layer	Dump/levelling	Soft, mid grey/mid brown green, sandy silt	1.30	2.54	0.23	1.88	1.52	Medieval (pre-AD1200)	4
BVG10	164	115/205	164	*n/a*	Layer	Demolition horizon	Soft, mid green yellow, sandy silt	0.40	1.40	0.22	1.59	1.47	Roman	3
BVG10	165	120/205	*n/a*	*n/a*	Fill	Fill of posthole [166]	Soft, dark brown grey, sandy clay	0.15	0.24	0.34	1.46	1.12	Medieval (pre-AD1200)	4
BVG10	166	120/205	166	*n/a*	Cut	Posthole	Sub-circular, steep sides, flat base	0.15	0.24	0.34	1.46	1.12	Medieval (pre-AD1200)	4
BVG10	167	120/205	*n/a*	*n/a*	Fill	Fill of posthole [168]	Soft, dark brown grey, sandy clay	0.17	0.30	0.17	1.46	1.26	Medieval (pre-AD1200)	4
BVG10	168	120/205	166	*n/a*	Cut	Posthole	Sub-circular, steep sides, flat base	0.17	0.30	0.17	1.46	1.26	Medieval (pre-AD1200)	4
BVG10	169	115/200-5	169	21	Fill	Fill of re-cut	Firm, black/olive green, silty	4.30	3.98	0.30	1.56	1.32	Medieval (post-	5a

						[183]	clay sand						AD1200)	
BVG10	170	115/205	*n/a*	*n/a*	Fill	Fill of posthole [171]	Soft, mid grey sandy, silt	0.16	0.16	0.22	1.56	1.34	Roman	2c
BVG10	171	115/205	171	*n/a*	Cut	Posthole	Circular, near vertical sides, rounded base	0.16	0.16	0.22	1.56	1.34	Roman	2c
BVG10	172	115/205	172	*n/a*	Layer	Demolition horizon	Soft, mid yellow grey, brickearth, freq plaster	0.40	1.40	0.17	1.55	1.48	Roman	2c
BVG10	173	120/200	*n/a*	*n/a*	Fill	Fill of posthole [174]	Firm/friable, mid yellow green grey, clayey silty sand	0.26	0.42	0.23	1.40	*n/a*	Medieval/post-medieval	5b
BVG10	174	120/200	174	*n/a*	Cut	Posthole	Sub-rectangular, steep concave sides, flat base	0.26	0.42	0.23	1.40	1.17	Medieval/post-medieval	5b
BVG10	175	115/205, 120/205	175	*n/a*	Layer	Occupation horizon	Soft, mid green grey, silty sand	0.90	0.63	0.02	1.35	*n/a*	Roman	2c
BVG10	176	115/205, 120/205	176	*n/a*	Layer	Clay floor	Firm, mid brown yellow, silty clay	0.78	0.80	0.03	1.34	*n/a*	Roman	2b
BVG10	177	120/205	177	*n/a*	Fill	Fill of ditch [178]	Friable, mid green grey, silty sand, freq pot	0.34	2.20	0.17	1.62	1.57	Roman	3
BVG10	178	120/205	178	*n/a*	Cut	Ditch	Linear, shallow sides, concave base	0.34	2.20	0.17	1.58	1.41	Roman	3
BVG10	179	120/205	179	*n/a*	Cut	Pit	Oval, concave sides, flat base	0.75	1.35	0.35	1.55	1.19	Roman	3
BVG10	180	115/200-5, 120/205	180	21	Fill	Fill of re-cut [183]	Fairly firm, dark grey brown, slightly sandy silt	4.47	6.84	0.69	1.42	1.35	Medieval (post-AD1200)	5a
BVG10	181	120/205	181	*n/a*	Fill	Fill of re-cut [183]	Friable, mid brown grey, silty sand	0.50	2.00	0.07	1.25	1.05	Medieval (post-AD1200)	5a
BVG10	182	115/205	182	21	Fill	Fill of re-cut [183]	Loose, light yellow brown, slightly silty sand	0.82	3.30	0.07	1.27	1.03	Medieval (post-AD1200)	5a
BVG10	183	115/200-5, 120/200-5	183	21	Cut	Ditch re-cut	Linear, moderately sloping sides, concave base	3.95	7.91	1.40	1.89	0.47	Medieval (post-AD1200)	5a
BVG10	*184*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	185	115/205, 120/205	185	21	Fill	Fill of ditch [153]	Firm, dark green grey, clayey silt	2.00	6.40	0.26	1.43	1.27	Medieval (pre-AD1200)	4
BVG10	186	120/200-5	186	21	Fill	Fill of re-cut [183]	Firm, dark grey black, silty clay	2.60	8.04	0.54	1.37	0.92	Medieval (post-AD1200)	5a
BVG10	187	120/200	187	21	Fill	Fill of re-cut [183]	Firm/friable, mid yellow brown, sand	0.90	2.50	0.03	1.22	1.10	Medieval (post-AD1200)	5a
BVG10	188	115/200-5, 120/200-5	188	21	Fill	Fill of re-cut [183]	Firm, dark grey black, silty clay	2.40	8.00	0.24	0.94	0.57	Medieval (post-AD1200)	5a
BVG10	189	115/200, 120/200	189	21	Fill	Fill of re-cut [183]	Soft, mid brown grey, silty clay - horse skull and pelvis	1.80	6.50	0.16	0.82	0.69	Medieval (post-AD1200)	5a
BVG10	190	120/205	*n/a*	*n/a*	Fill	Fill of pit [179]	Firm, light brown grey/light brown green, silty sand	0.75	1.35	0.35	1.55	*n/a*	Roman	3

BVG10	191	115/205, 120/205	191	21	Fill	Fill of ditch [153]	Firm, dark blue grey brown, silty clay	1.18	8.14	0.12	1.23	0.86	Medieval (pre-AD1200)	4
BVG10	192	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, N/S, rectangular C/S, tangentially faced	0.64	0.07	0.03	1.05	*n/a*	Medieval (pre-AD1200)	4
BVG10	193	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.05	1.58	0.20	0.94	*n/a*	Medieval (pre-AD1200)	4
BVG10	194	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	1.42	0.10	0.94	*n/a*	Medieval (pre-AD1200)	4
BVG10	*195*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	196	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	0.74	0.10	0.99	*n/a*	Medieval (pre-AD1200)	4
BVG10	197	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, NE/SW, rectangular C/S, tangentially faced	1.86	0.65	0.10	1.10	1.09	Medieval (pre-AD1200)	4
BVG10	198	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	0.30	0.20	1.00	*n/a*	Medieval (pre-AD1200)	4
BVG10	199	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.55	1.95	0.01	0.96	*n/a*	Medieval (pre-AD1200)	4
BVG10	200	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.06	0.72	*n/a*	0.80	*n/a*	Medieval (pre-AD1200)	4
BVG10	201	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.08	0.88	0.05	1.09	1.07	Medieval (pre-AD1200)	4
BVG10	202	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, N/S, rectangular C/S, tangentially faced	0.12	*n/a*	0.01	1.00	*n/a*	Medieval (pre-AD1200)	4
BVG10	203	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.08	0.47	*n/a*	0.90	*n/a*	Medieval (pre-AD1200)	4
BVG10	204	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.05	0.78	0.01	1.12	*n/a*	Medieval (pre-AD1200)	4
BVG10	205	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	0.49	0.01	1.00	*n/a*	Medieval (pre-AD1200)	4

BVG10	206	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.05	1.36	*n/a*	0.83	*n/a*	Medieval (pre-AD1200)	4
BVG10	207	120/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, NE/SW, rectangular C/S, tangentially faced	0.07	1.56	0.02	0.97	*n/a*	Medieval (pre-AD1200)	4
BVG10	208	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	1.37	*n/a*	0.90	*n/a*	Medieval (pre-AD1200)	4
BVG10	209	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	2.40	0.01	1.13	0.97	Medieval (pre-AD1200)	4
BVG10	210	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	0.52	0.02	0.80	*n/a*	Medieval (pre-AD1200)	4
BVG10	211	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	2.38	0.02	1.11	0.97	Medieval (pre-AD1200)	4
BVG10	212	115/205, 120/205	GR	*n/a*	Group	Timbers within ditch [153]	Group No. for timbers [192]-[194], [196]-[211], [219], [243]-[248]	*n/a*	*n/a*	*n/a*	*n/a*	*n/a*	Medieval (pre-AD1200)	4
BVG10	213	120/205	*n/a*	*n/a*	Fill	Fill of pit [179]	Friable, blue brown, silty sand	0.80	1.35	0.13	1.36	1.30	Roman	3
BVG10	214	120/205	214	*n/a*	Layer	Demolition horizon	Soft, grey brown/mid yellow brown, fine sandy silt	0.85	1.00	0.18	1.56	1.47	Roman	3
BVG10	215	120/205, 115/205	215	*n/a*	Fill	Fill of ditch [153]	Friable, dark blue grey, silty sand	1.04	5.44	0.07	1.23	0.89	Medieval (pre-AD1200)	4
BVG10	216	115/205, 120/200-5	216	21	Fill	Fill of ditch [153]	Fairly firm, dark grey brown, sandy silt	2.52	8.12	0.10	1.08	0.62	Medieval (pre-AD1200)	4
BVG10	217	115/205	*n/a*	*n/a*	Fill	Fill of pit [218]	Firm, greyish brown, coarse silty sand	1.25	0.70	0.12	1.52	*n/a*	Medieval (pre-AD1200)	4
BVG10	218	115/205	218	*n/a*	Cut	Pit	Irregular, gradually sloping sides, concave base	1.25	0.70	0.12	1.52	1.40	Medieval (pre-AD1200)	4
BVG10	219	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.08	0.36	*n/a*	0.90	*n/a*	Medieval (pre-AD1200)	4
BVG10	*220*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	221	120/205	221	*n/a*	Layer	Occupation horizon	Soft, mid grey green brown, sandy silt	1.00	0.80	0.15	1.50	1.44	Roman	3
BVG10	*222*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	*223*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*

BVG10	224	115/205, 120/200-5	224	21	Fill	Fill of ditch [153]	Friable, mid orangey brown/light yellow brown, gravelly sand	1.55	8.12	0.05	0.99	0.53	Medieval (pre-AD1200)	4
BVG10	225	120/205, 115/205	225	21	Fill	Fill of ditch [153]	Friable, dark blue grey, sandy silt	2.30	6.80	0.13	0.90	0.80	Medieval (pre-AD1200)	4
BVG10	226	115/200, 120/200	226	21	Fill	Fill of re-cut [183]	Friable, dark grey/green, cessy sandy silt	0.50	4.80	0.32	1.10	1.02	Medieval (post-AD1200)	5a
BVG10	227	120/200	227	*n/a*	Layer	Occupation horizon	Firm, mid grey brown, silty sand	0.21	1.62	0.06	1.24	1.23	Roman	2c
BVG10	228	115/200, 120/200	228	*n/a*	Layer	Gravel surface	Loose, dark grey brown silty gravel	0.80	4.00	0.10	1.27	1.20	Roman	2b
BVG10	229	115/200, 120/200	229	*n/a*	Layer	Dump/levelling	Friable, mid grey brown, silty sand	0.90	4.00	0.29	1.18	1.13	Roman	2a
BVG10	230	120/205	230	*n/a*	Layer	Burnt horizon	Firm, dark black grey/light orangey brown, sandy silt	0.92	0.27	0.04	1.54	1.44	Roman	3
BVG10	231	120/205	231	*n/a*	Layer	Dump/levelling	Soft/friable, light brown grey, silty sand, evidence of root action	1.14	1.52	0.12	1.49	1.42	Roman	3
BVG10	232	120/205	232	*n/a*	Layer	Dump/levelling	Fairly firm, dark brown red/light brown grey patches, sandy gravel	1.30	1.35	0.15	1.39	1.27	Roman	3
BVG10	233	120/205	*n/a*	*n/a*	Fill	Fill of posthole [234]	Soft, light pink grey, silty clay	0.64	0.50	0.37	1.34	1.17	Roman	2c
BVG10	234	120/205	234	*n/a*	Cut	Posthole	Oval, sloping sides, concave base tapered to a point	0.64	0.50	0.37	1.34	0.90	Roman	2c
BVG10	235	120/200	235	*n/a*	Layer	Dump/levelling	Firm, mid grey black, sandy gravel	0.12	1.09	*n/a*	0.88	0.84	Roman	2a
BVG10	236	120/205	236	*n/a*	Layer	Occupation horizon?	Firm, mid green grey, clayey silt	0.15	0.25	0.15	1.41	1.22	Roman	2c
BVG10	237	120/205	237	*n/a*	Layer	Occupation horizon?	Loose, mid orange grey, sandy silt	1.20	0.60	0.02	1.35	1.29	Roman	3
BVG10	238	120/205	*n/a*	*n/a*	Fill	Fill of [239]	Friable, light brown grey/dark brown red/mid brown green, sandy silt	0.95	1.35	0.25	1.22	1.15	Roman	2b
BVG10	239	120/205	239	*n/a*	Cut	Ditch?	Linear, moderately sloping sides, flat base	0.95	1.35	0.25	1.23	0.89	Roman	2b
BVG10	240	120/205	240	*n/a*	Layer	Dump/levelling?	Soft/firm, mid orange yellow grey, sandy silt	1.40	3.30	0.31	1.35	1.12	Roman	2a
BVG10	*241*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	242	115/205	242	*n/a*	Fill	Fill of pit [259]	Soft, light/mid grey brown, fine sandy silt	0.66	0.90	0.26	1.73	1.66	Roman	3
BVG10	243	115/205	GR	*n/a*	Timber	Plank within	Horizontal plank, E/W,	0.07	1.01	0.15	1.04	0.98	Medieval (pre-	4

						ditch [153]	rectangular C/S, tangentially faced						AD1200)	
BVG10	244	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.20	1.28	0.07	1.02	0.98	Medieval (pre-AD1200)	4
BVG10	245	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.06	0.29	0.01	0.97	0.94	Medieval (pre-AD1200)	4
BVG10	246	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.06	0.81	0.02	0.97	*n/a*	Medieval (pre-AD1200)	4
BVG10	247	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.14	0.60	0.01	0.90	*n/a*	Medieval (pre-AD1200)	4
BVG10	248	115/205	GR	*n/a*	Timber	Plank within ditch [153]	Horizontal plank, E/W, rectangular C/S, tangentially faced	0.07	0.15	0.01	0.90	*n/a*	Medieval (pre-AD1200)	4
BVG10	249	115/205	249	*n/a*	Layer	Dump/levelling	Soft, dark brown grey/mid yellow brown, clayey silt	0.80	2.15	0.02	1.63	1.48	Medieval (pre-AD1200)	4
BVG10	250	115/205	250	*n/a*	Layer	Demolition horizon	Firm/friable, light brown yellow, sandy silt, freq plaster	0.40	1.20	0.17	1.54	1.41	Roman	2c
BVG10	251	115/200	*n/a*	21	Fill	Fill of pit [252]	Friable/soft, dark brown clayey silt	0.70	1.50	0.60	1.59	1.18	Post-medieval	6
BVG10	252	115/200	252	21	Cut	Pit	Rectangular, steep sides, flat base	0.70	1.50	0.60	1.59	1.01	Post-medieval	6
BVG10	253	115/205	*n/a*	*n/a*	Fill	Fill of posthole [254]	Firm, dark grey brown, sandy silt	0.12	0.16	0.20	1.50	*n/a*	Roman	2b
BVG10	254	115/205	254	*n/a*	Cut	Posthole	Oval/sub-rectangular, vertical sides, rounded base	0.12	0.16	0.20	1.50	1.30	Roman	2b
BVG10	255	115/205	*n/a*	*n/a*	Fill	Fill of posthole [256]	Firm, dark grey brown, sandy silt	0.14	0.12	0.28	1.49	*n/a*	Roman	2b
BVG10	256	115/205	254	*n/a*	Cut	Posthole	Oval/sub-rectangular, vertical sides, rounded base	0.14	0.12	0.28	1.49	1.21	Roman	2b
BVG10	257	115/205	*n/a*	*n/a*	Fill	Fill of posthole [258]	Firm, dark grey brown, sandy silt	0.11	0.15	0.11	1.34	*n/a*	Roman	2c
BVG10	258	115/205	276	*n/a*	Cut	Posthole	Oval/sub-rectangular, vertical sides, rounded base	0.11	0.15	0.11	1.34	1.23	Roman	2c
BVG10	259	115/205	259	*n/a*	Cut	Pit?	Circular?, vertical sides, flat base	0.30	0.46	0.74	1.50	0.76	Roman	3
BVG10	260	115/205	250	*n/a*	Layer	Demolition horizon	Firm/friable, light brown yellow, sandy silt, freq plaster	0.85	3.55	0.13	1.54	1.41	Roman	3

BVG10	261	115/205	261	*n/a*	Layer	Occupation horizon	Firm, light yellow brown, silty clay	0.56	1.18	0.08	1.37	*n/a*	Roman	2c
BVG10	262	115/205	262	*n/a*	Layer	Dump/levelling	Soft, mid orange brown, sandy silt	0.98	0.97	0.06	1.48	0.74	Roman	3
BVG10	263	115/205	261	*n/a*	Layer	Occupation horizon	Firm/friable, mid brown yellow, clayey silt	0.88	1.85	0.02	1.37	1.34	Roman	2c
BVG10	264	115/205	*n/a*	*n/a*	Fill	Fill of posthole [265]	Fairly firm, dark grey brown, silt sand	0.22	0.17	0.16	1.06	0.86	Roman	2c
BVG10	265	115/205	265	*n/a*	Cut	Posthole	Oval, vertical sides, concave base	0.22	0.18	0.16	1.06	0.79	Roman	2c
BVG10	266	115/200	266	*n/a*	Layer	Demolition horizon?	Firm, light grey/yellow, clay silt/brickearth	1.22	0.72	0.15	1.53	1.52	Roman	2c
BVG10	267	115/200	267	*n/a*	Layer	Gravel surface?	Loose, mid green grey, sandy gravel	1.32	0.90	0.10	1.37	*n/a*	Roman	2b
BVG10	268	115/205	*n/a*	*n/a*	Fill	Fill of pit [270]	Soft, mid brown yellow, sandy silt	0.38	0.46	0.14	1.42	*n/a*	Roman	3
BVG10	269	115/205	*n/a*	*n/a*	Fill	Fill of pit [270]	Friable, grey brown silty sand	0.38	0.46	0.23	1.28	*n/a*	Roman	3
BVG10	270	115/205	270	*n/a*	Cut	Pit?	Sub-circular?, steep sides, concave base	0.38	0.46	0.37	1.42	1.05	Roman	3
BVG10	271	120/205	*n/a*	*n/a*	Fill	Fill of pit [272]	Soft/firm, light orange yellow grey, sandy silt	0.50	0.50	0.40	1.30	0.92	Roman	2b
BVG10	272	120/205	272	*n/a*	Cut	Pit	Irregular, vertical sides, flat base	0.50	0.50	0.40	1.30	0.92	Roman	2b
BVG10	273	115/200	*n/a*	*n/a*	Fill	Fill of posthole [274]	Firm, light pink yellow, clay sand	0.42	0.42	0.15	1.22	*n/a*	Roman	2b
BVG10	274	115/200	274	*n/a*	Cut	Posthole	Circular, steep sides, concave base	0.42	0.42	0.15	1.22	0.97	Roman	2b
BVG10	275	115/205	275	*n/a*	Layer	Occupation horizon	Firm, mid grey brown, clay silt	0.84	1.30	0.02	1.33	*n/a*	Roman	2c
BVG10	276	115/205	276	*n/a*	Cut	Posthole	Sub-circular, shallow sides, concave base	0.14	0.26	0.10	1.33	1.23	Roman	2b
BVG10	277	115/205	*n/a*	*n/a*	Fill	Fill of posthole [276]	Friable, light brown grey, silty sand	0.14	0.26	0.10	1.33	1.31	Roman	2b
BVG10	278	115/200-5, 120/200-5	278	21	Layer	Natural	Loose, mid yellow/orange, sand gravels	7.30	8.30	*n/a*	1.06	0.47	Natural	1
BVG10	279	115/205	279	*n/a*	Masonry	Wall above [281]	Firm, mid brown yellow, silty clay	0.40	0.30	0.20	1.50	1.31	Roman	2b
BVG10	280	115/205	280	*n/a*	Masonry	Wall above [285]	Firm, mid brown yellow, silty clay, freq plaster	0.56	0.12	0.09	1.40	1.35	Roman	2b
BVG10	281	115/205	281	*n/a*	Layer	Clay floor	Firm, mid brown yellow, silty clay	1.00	3.26	0.07	1.34	1.31	Roman	2b

BVG10	282	115/205, 120/205	282	*n/a*	Layer	Dump/levelling	Firm/friable, mid grey brown, silty sand	1.60	4.70	0.25	1.31	1.28	Roman	2a
BVG10	283	115/205	283	*n/a*	Layer	Clay floor	Firm, mid brown yellow, silty clay	0.62	0.14	0.07	1.32	1.31	Roman	2b
BVG10	284	115/205	284	*n/a*	Cut	Construction cut for [285]/[280]	Linear, vertical sides, concave base	1.04	0.20	0.40	1.25	0.83	Roman	2b
BVG10	285	115/205	*n/a*	*n/a*	Fill	Foundation within [284]	Friable, mid brown grey, silty sand	1.04	0.20	0.40	1.25	0.83	Roman	2b
BVG10	500	UP Trench (wall foundations)	*n/a*	30	Layer	Modern made ground	Compact, mid grey/brown clay	7.75	2.50	0.48	3.34	*n/a*	Post-medieval	6
BVG10	501	UP Trench (wall foundations), UP 1a, UP 2a, UP 1b,	*n/a*	30, 32, 33, 42, 44	Layer	Garden soil	Firm but friable, mid grey/brown with occasional black mottling, silty clay	7.75	2.50	0.41	2.88	*n/a*	Post-medieval	6
BVG10	502	UP Trench (wall foundations)	*n/a*	*n/a*	Masonry	West facing wall foundation	Red and yellow brick wall foundation, lime mortar	7.75	0.19	0.68	3.53	3.03	Post-medieval	6
BVG10	503	UP Trench (wall foundations)	*n/a*	*n/a*	Masonry	North facing wall foundation	Red brick wall foundation, lime mortar	2.50	0.32	1.15	3.53	2.87	Post-medieval	6
BVG10	504	Test Pit (north wall)	*n/a*	31	Layer	Modern made ground	Firm but friable, mid greyish brown clay silt	2.73	0.58	0.43	3.29	*n/a*	Post-medieval	6
BVG10	505	Test Pit (north wall)	*n/a*	31	Layer	Garden soil/made ground	Firm but friable, mid grey/brown with occasional blackish brown mottling, silty clay	2.73	0.58	0.53	2.89	*n/a*	Post-medieval	6
BVG10	506	UP 1a, UP 2a, UP 4a, UP 1b, UP 2b	*n/a*	32, 33, 42, 44	Layer	Garden soil	Soft, mid grey brown, clay silt	5.28	*n/a*	0.70	2.73	*n/a*	Post-medieval	6
BVG10	507	UP 1b, UP 2b, UP 3b	*n/a*	32, 44, 51	Fill	Fill of ditch [603]	Fairly firm, mid grey with slightly orange/brown mottling, slightly silty clay	2.00	*n/a*	0.43	2.41	*n/a*	Medieval (post-AD1200)	5a
BVG10	508	UP 1b, UP 2b, UP 3b	*n/a*	32, 43, 44, 51	Fill	Fill of ditch [603]	Fairly soft, mid-dark grey/brown, clay silt	2.70	*n/a*	0.30	1.95	*n/a*	Medieval (post-AD1200)	5a
BVG10	509	UP 1a, UP 2a,	*n/a*	33, 42, 43, 44	Fill	Pit fill. Same as [748]	Fairly firm, mid brownish grey, clay silt	1.13	*n/a*	0.42	2.23	*n/a*	Medieval (pre-AD1200)	4
BVG10	510	UP 4b	UP 4b	36, 44	Masonry	Part of brick lined cess pit	Unfrogged red brick with light yellowish brown sand mortar	0.46	0.42	0.40	2.91	*n/a*	Post-medieval	6
BVG10	511	UP 4b	UP 4b	35, 36, 44, 48	Masonry	Part of brick lined cess pit	Unfrogged red brick with light yellowish brown sand mortar	0.30	0.24	0.45	2.99	2.62	Post-medieval	6
BVG10	512	UP 4b	*n/a*	*n/a*	Masonry	Part of brick lined cess pit	Unfrogged red brick	0.14	0.14	*n/a*	2.53	*n/a*	Post-medieval	6
BVG10	513	UP 4b, UP 6a	UP 4b,	34, 41,	Masonry	Part of brick	Unfrogged red brick with	0.45	0.15	0.33	2.73	*n/a*	Post-medieval	6

			UP 6a (I & II)	48		lined cess pit	light yellowish brown sand mortar							
BVG10	514	UP 4b, UP 6a	UP 4b	35, 48	Fill	Backfill of brick lined cess pit	Loose/soft mid-dark brown black sandy ash.	0.60	0.45	0.35	2.55	*n/a*	Post-medieval	6
BVG10	515	UP 3b, UP 4b	UP 4b	36, 38, 44	Layer	Cessy garden soil	Firm, mid greenish brown, clay silt	1.30	0.70	0.80	2.62	*n/a*	Post-medieval	6
BVG10	516	UP 4a	*n/a*	37, 44	Layer	Same as [501]	Soft, mid brown, clay silt	1.30	*n/a*	0.30	2.9	*n/a*	Post-medieval	6
BVG10	517	UP 4a	*n/a*	37, 44	Fill	Same as [507]	Soft, mid greyish brown, clay silt	1.30	*n/a*	0.52	2.63	*n/a*	Medieval (post-AD1200)	5a
BVG10	518	UP 4a, UP 1b	*n/a*	37, 44	Fill	Fill of ditch [603]	Soft, greyish brown, silty clay	1.30	*n/a*	0.15	2.08	*n/a*	Medieval (post-AD1200)	5a
BVG10	519	UP 4a	*n/a*	37, 44	Fill	Same as [508]	Soft, mid dark grey brown, clay silt	1.10	*n/a*	0.20	1.94	*n/a*	Medieval (post-AD1200)	5a
BVG10	520	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	521	UP 2a, UP 4a	*n/a*	37, 42, 44	Fill	Fill of ditch [603]	Firm, mottled yellow brown, sandy silty clay	0.20	*n/a*	0.10	2.03	*n/a*	Medieval (post-AD1200)	5a
BVG10	522	UP 4a	*n/a*	37, 44	Fill	Fill of ditch [603]	Firm, mid bluish grey, sandy silt	0.32	*n/a*	0.20	1.91	*n/a*	Medieval (post-AD1200)	5a
BVG10	523	UP 4b	*n/a*	38	Masonry	Same as [513]	Unfrogged red brick, sandy mortar	*n/a*	0.80	0.30	2.48	*n/a*	Post-medieval	6
BVG10	524	UP 4b	*n/a*	38	Masonry	Same as [513]	Unfrogged red brick, sandy mortar	0.80	0.20	0.80	2.53	*n/a*	Post-medieval	6
BVG10	525	UP 5b	*n/a*	45	Fill	Ditch fill	Firm, dark brown sandy clay	1.45	*n/a*	0.19	2.86	2.5	Medieval (post-AD1200)	5a
BVG10	526	UP 6a, UP 7a	*n/a*	41, 47, 48	Fill	Backfill of construction cut [536]	Fairly firm, dark grey brown, clay silt	*n/a*	0.31	0.71	2.77	*n/a*	Post-medieval	6
BVG10	527	UP 5b	*n/a*	45	Fill	Ditch fill	Fairly firm, mid-dark brown, sandy silt	1.08	*n/a*	0.42	2.23	1.83	Medieval (post-AD1200)	5a
BVG10	528	UP 5b	*n/a*	45	Fill	Ditch fill	Soft, mid greyish brown, sandy silt	0.75	*n/a*	0.10	2.03	1.83	Medieval (post-AD1200)	5a
BVG10	529	UP 5b	*n/a*	45	Fill	Ditch fill	Soft, mid brown, sandy clay	1.46	*n/a*	0.25	2.43	1.83	Medieval (post-AD1200)	5a
BVG10	530	UP 5b	*n/a*	45	Fill	Ditch fill	Friable, mid-dark greyish brown, sandy silt	1.48	*n/a*	0.22	2.71	2.08	Medieval (post-AD1200)	5a
BVG10	531	UP 5b	*n/a*	45	Fill	Ditch fill	Firm, light-mid grey brown, sandy silt	1.48	*n/a*	0.18	2.82	2.31	Medieval (post-AD1200)	5a
BVG10	532	UP 5b	*n/a*	45	Fill	Ditch fill	Moderately compact, mid greyish brown, sandy silt	1.48	*n/a*	0.45	3.13	2.67	Medieval (post-AD1200)	5a
BVG10	533	UP 5a	*n/a*	46, 48, 49	Fill	Ditch fill	Soft, mid brown, clay silt	*n/a*	1.90	0.29	3.08	*n/a*	Medieval (post-AD1200)	5a
BVG10	534	UP 5a, UP 7a	*n/a*	46, 47,	Fill	Ditch fill	Fairly loose, mid-dark	*n/a*	2.21	0.31	2.87	*n/a*	Medieval (post-	5a

				48, 49			blackish grey brown, slightly sandy clay silt						AD1200)	
BVG10	535	UP 5a, UP 7a	UP 7a	46, 47, 48, 49	Fill	Ditch fill	Fairly firm, mid greenish grey brown, clay silt	*n/a*	1.93	0.53	2.53	*n/a*	Medieval (post-AD1200)	5a
BVG10	536	UP 7a	UP 7a	44, 47, 48	Cut	Construction cut for [513]	Construction cut for post-medieval brick lined cess pit	*n/a*	0.33	0.96	2.76	*n/a*	Post-medieval	6
BVG10	537	UP 6a	*n/a*	41, 48	Fill	Fill within cut [536]	Loose-soft, mid greenish grey, slightly clay silt	*n/a*	0.25	0.25	1.75	*n/a*	Post-medieval	6
BVG10	538	UP 3b	*n/a*	44, 51	Fill	Ditch fill	Compact, mid grey clay	0.70	*n/a*	0.21	1.98	1.83	Medieval (post-AD1200)	5a
BVG10	539	UP 3b	*n/a*	44, 51	Fill	Ditch fill	Firm but friable, mid greenish grey/brown clay silt	0.70	*n/a*	0.20	1.76	*n/a*	Medieval (post-AD1200)	5a
BVG10	540	UP 6b	*n/a*	39, 40, 48	Fill	Ditch fill	Soft, mid brown clay silt	1.30	0.85	0.21	3.28	*n/a*	Medieval (post-AD1200)	5a
BVG10	541	UP 6b	*n/a*	39, 40, 48	Fill	Ditch fill	Soft, mid grey brown clay silt	1.30	0.81	0.50	3.16	*n/a*	Medieval (post-AD1200)	5a
BVG10	542	UP 5b, UP 6b	*n/a*	39, 40, 48	Fill	Ditch fill	Soft, grey brown silty clay	1.30	0.91	0.50	3.16	*n/a*	Medieval (post-AD1200)	5a
BVG10	543	UP 5b, UP 6b	*n/a*	39, 40, 48	Fill	Ditch fill	Soft, grey brown silty clay	1.30	0.97	0.32	3.03	*n/a*	Medieval (post-AD1200)	5a
BVG10	544	UP 5b, UP 6b	UP 6b	39, 40, 48	Fill	Ditch fill	Fairly soft, mid-dark brown, sandy silt	0.86	1.06	0.53	2.68	2.33	Medieval (post-AD1200)	5a
BVG10	600	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	601	100/200	601, Post ex Stage 1	100, 106	Layer	Ploughsoil	Firm, dark grey, sandy silty clay	0.73	1.40	0.27	2.09	2.02	Medieval (pre-AD1200)	4
BVG10	602	100/200	602, Post ex Stage 1	100, 106	Layer	Ploughsoil	Firm, very dark grey, sandy silty clay	0.61	*n/a*	0.41	2.51	1.94	Medieval (pre-AD1200)	4
BVG10	603	100/200, 100/205, 105/200, 105/205, UP 2a, UP 8b, UP 10a, UP 11a	603, Pre-ex	44, 100, 106, 111, 150, 151	Cut	12th-13th century Ditch recut	Linear 12th-13th century ditch recut	6.70	5.10	2.00	2.51	0.41	Medieval (post-AD1200)	5a
BVG10	604	100/200, Underpinning Trench	*n/a*	100	Fill	Fill of ditch [603]	Fairly firm, very dark grey, sandy silty clay	0.71	*n/a*	0.49	2.61	*n/a*	Medieval (post-AD1200)	5a
BVG10	605	100/200, Underpinning Trench	*n/a*	100	Fill	Fill of ditch [603]	Fairly firm grey brown sandy silty	0.31	*n/a*	0.22	2.33	2.07	Medieval (post-AD1200)	5a
BVG10	606	100/200, Underpinning	*n/a*	100	Fill	Fill of ditch [603]	Fairly firm, very dark grey, silty clay	0.51	*n/a*	0.24	2.61	*n/a*	Medieval (post-AD1200)	5a

		Trench												
BVG10	607	100/200, 105/200, Underpinning Trench	*n/a*	100	Fill	Fill of ditch [603]	Soft, dark grey, clay silt	0.49	*n/a*	0.84	2.61	*n/a*	Medieval (post-AD1200)	5a
BVG10	608	100/205, 105/205	608	100, 101	Fill	Fill of ditch [603]	Fairly firm, dark grey, silty clay	1.28	3.30	0.20	2.45	*n/a*	Medieval (post-AD1200)	5a
BVG10	609	100/205, 105/205, Underpinning Trench	609	100, 106	Fill	Fill of ditch [603]	Fairly firm, dark grey brown, gritty silty clay	1.10	3.20	0.26	2.65	*n/a*	Medieval (post-AD1200)	5a
BVG10	610	100/200, 100/205, 105/200, 105/205, Underpinning Trench	610	100, 106	Fill	Fill of ditch [603]	Fairly firm, very dark grey, silty clay with some grit	2.56	1.80	0.45	2.65	2.2	Medieval (post-AD1200)	5a
BVG10	611	100/200, 100/205, 105/200, Underpinning Trench	611	100, 106	Fill	Fill of ditch [603]	Fairly firm-friable, mid grey brown, gritty clay	3.50	1.88	0.18	2.58	2.15	Medieval (post-AD1200)	5a
BVG10	612	100/200, 100/205, Underpinning Trench	612	100	Fill	Fill of ditch [603]	Fairly firm-friable, very dark grey, gritty clay	2.26	1.55	0.12	2.52	2.34	Medieval (post-AD1200)	5a
BVG10	613	100/200, 100/205, 105/205, Underpinning Trench	613, Pre-ex	100, 101, 106	Fill	Fill of ditch [603]	Fairly firm, very dark grey, sandy silty clay	3.35	1.40	0.40	2.83	*n/a*	Medieval (post-AD1200)	5a
BVG10	614	105/205, Underpinning Trench	Pre-ex	101	Fill	Fill of ditch [603]	Fairly firm, dark grey clay silt	*n/a*	3.65	0.51	2.65	2.05	Medieval (post-AD1200)	5a
BVG10	615	Underpinning Trench	*n/a*	101	Fill	Fill of ditch [603]	Fairly firm, mid grey brown, gritty sandy silt	*n/a*	1.20	0.32	2.53	2.19	Medieval (post-AD1200)	5a
BVG10	616	105/205, 100/205, Underpinning Trench	616	101, 106	Fill	Fill of ditch [603]	Friable, grey brown, gritty sand	*2*	2.35	0.47	2.88	2.38	Medieval (post-AD1200)	5a
BVG10	617	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	618	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*

BVG10	619	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	620	105/200, 105/205	620, Post ex Stage 1	*n/a*	Cut	Construction cut for [622]	Rectangular, vertical sides, flat base	1.97	2.40	0.62	2.87	2.21	Post-medieval	6	
BVG10	621	105/205	*n/a*	102	Fill	Backfill within [622]	Fairly compact, dark greyish brown, sandy clay silt	1.30	2.00	0.23	2.44	*n/a*	Post-medieval	6	
BVG10	622	105/200, 105/205	622	103	Masonry	Rectangular brick tank	Red brick, pinky grey sandy mortar	1.50	2.00	0.32	2.9	2.21	Post-medieval	6	
BVG10	623	105/200	623, Pre-ex	*n/a*	Masonry	Rectangular brick tank	Unfrogged red brick, pinky grey sandy mortar	0.56	1.33	0.22	2.56	2.32	Post-medieval	6	
BVG10	624	105/200	*n/a*	*n/a*	Fill	Backfill within [625]	Soft, mid greyish brown, sandy silty clay	0.56	1.33	0.32	2.56	*n/a*	Post-medieval	6	
BVG10	625	105/200	625, Post ex Stage 1	*n/a*	Cut	Construction cut for [623]	Rectangular, vertical sides, flat base	0.60	1.56	0.32	2.48	2.12	Post-medieval	6	
BVG10	626	105/200	626, Pre-ex	*n/a*	Masonry	Circular soakaway	Circular red brick soakaway	1.32	1.32	1.65	3.04	1.39	Post-medieval	6	
BVG10	627	105/200	*n/a*	*n/a*	Fill	Backfill in soakaway	Friable, dark grey, sandy silt	1.12	1.12	0.93	2.63	*n/a*	Post-medieval	6	
BVG10	628	105/200	628, Post ex Stage 1	*n/a*	Cut	Construction cut for [626]	Circular, vertical, flat base	1.32	1.32	1.65	2.94	1.39	Post-medieval	6	
BVG10	629	105/200	629, Pre-ex	105, 153	Masonry	Late medieval chalk wall	Chalk blocks with occasional CBM, sandy mortar with occasional lime flecking	1.10	0.26	1.17	2.87	*n/a*	Medieval (post-AD1200)	5b	
BVG10	630	105/200	630	*n/a*	Layer	Demolition rubble	Soft, mid reddish brown, sandy silt	0.50	0.31	0.25	2.46	*n/a*	Post-medieval	6	
BVG10	631	105/200	631	153	Layer	Demolition rubble	Firm, dark brown, silty clay	1.10	1.20	0.20	2.47	2.14	Post-medieval	6	
BVG10	632	105/200	632	104	Layer	Dump layer	Fairly firmly firm, very dark grey, silty clay	0.84	1.39	0.29	2.71	2.43	Post-medieval	6	
BVG10	633	105/200	*n/a*	104	Fill	Fill of ditch [603]	Fairly firmly soft, dark brownish grey, sandy clay	*n/a*	1.69	0.26	2.54	2.18	Medieval (post-AD1200)	5a	
BVG10	634	105/200	*n/a*	104	Fill	Fill of ditch [603]	Moderately soft, dark grey, sandy clay	*n/a*	1.99	0.43	2.49	2.02	Medieval (post-AD1200)	5a	
BVG10	635	105/200	635	*n/a*	Layer	Dump layer	Soft, mid reddish brown, clay silt	1.40	1.51	0.30	2.67	2.45	Post-medieval	6	
BVG10	636	105/200	636	104	Layer	Rubble	Moderately firm, dark grey, silty clay	0.68	0.68	0.06	2.66	2.6	Post-medieval	6	
BVG10	637	105/200	637, Post ex Stage 1	153	Cut	Construction cut for [629]	Linear, vertical sides, flat base?	1.34	1.50	0.40	2.23	2.63	Medieval (post-AD1200)	5b	

BVG10	638	110/200, 110/205	638, Pre-ex	*n/a*	Fill	Ditch fill?	Fairly firm, mid-dark grey brown, slightly clay silt	5.26	0.70	0.50	2.85	2.76	Medieval (post-AD1200)	5a
BVG10	639	100/200, 100/205, 105/205	Pre-ex	*n/a*	Fill	Fill of pit [640]	Firm, mid brownish grey, silty clay	1.40	0.92	0.16	2.8	2.78	Post-medieval	6
BVG10	640	100/200, 100/205, 105/205	640, Pre-ex	*n/a*	Cut	Base of pit?	Rectangular, steep sides, flat base	1.40	0.92	0.16	2.8	2.61	Post-medieval	6
BVG10	641	100/205, Underpinning Trench	641	101	Fill	Fill of [603]	Soft, mid greenish brown, slightly sandy clay silt	0.70	0.98	0.05	2.72	*n/a*	Medieval (post-AD1200)	5a
BVG10	642	105/200	642	*n/a*	Layer	Demolition rubble from wall [629]	Fairly firm, dark blackish brown, clay silt	1.36	0.20	1.15	2.87	*n/a*	Post-medieval	6
BVG10	643	100/200, 105/200, 100/205, 105/205	643	106	Fill	Fill of ditch [603]	Fairly loose, mid greyish brown, sandy silt	1.90	1.24	0.90	2.64	2.55	Medieval (post-AD1200)	5a
BVG10	644	100/205, 105/205	644	*n/a*	Fill	Fill of ditch [603]	Compact, light greyish yellow brown, sandy silt	1.06	1.06	0.05	2.55	2.37	Medieval (post-AD1200)	5a
BVG10	645	100/200, 105/200, 100/205, 105/205	645	106	Fill	Fill of ditch [603]	Fairly soft, dark brown, sandy silt	1.96	3.26	0.29	2.5	2.21	Medieval (post-AD1200)	5a
BVG10	646	100/200, 100/205, 105/205, 105/200	646	*n/a*	Fill	Fill of ditch [603]	Loose, light to mid yellowish brown, sand	1.98	2.42	0.20	2.71	*n/a*	Medieval (post-AD1200)	5a
BVG10	647	100/205	647	106	Fill	Fill of ditch [603]	Soft, dark brown, silty clay	0.40	1.10	0.21	2.46	*n/a*	Medieval (post-AD1200)	5a
BVG10	648	100/205	648	n/a	Fill	Fill of ditch [603]	Fairly firm, very dark brown, silty clay	0.48	0.34	0.10	2.01	*n/a*	Medieval (post-AD1200)	5a
BVG10	649	100/205, 105/205	649	106	Fill	Fill of ditch [603]	Fairly firm, dark greyish brown, sandy silt	0.40	1.50	0.15	2.14	1.99	Medieval (post-AD1200)	5a
BVG10	650	100/205, 100/200, 105/200, 105/205	650	106	Fill	Fill of ditch [603]	Soft, dark brownish grey, sandy silty clay	3.32	1.40	0.32	2.17	1.89	Medieval (post-AD1200)	5a
BVG10	651	100/200	651, Post ex Stage 1	106	Fill	Fill of ditch [603]	Soft, dark brown grey, sandy silty clay	1.24	1.26	0.23	1.93	*n/a*	Medieval (post-AD1200)	5a
BVG10	652	100/200	652	106	Fill	Fill of ditch [603]	Firm, dark grey brown with yellow mottling, clay silt	0.72	1.36	0.21	2.73	2.31	Medieval (post-AD1200)	5a

BVG10	653	100/200, 105/200, 100/205, 105/205	653	106	Fill	Fill of ditch [603]	Moderately firm, mid-dark grey brown, clay silt	4.20	1.50	0.44	2.48	1.82	Medieval (post-AD1200)	5a
BVG10	654	100/200	654	106	Fill	Fill of ditch [603]	Fairly firm, dark grey brown, clay silt	1.46	1.50	0.10	2.78	2.02	Medieval (post-AD1200)	5a
BVG10	655	100/200, 105/200, 105/205	655	106	Fill	Fill of ditch [603]	Firm but friable, dark grey brown, clay silt	3.12	1.35	0.20	2.76	1.84	Medieval (post-AD1200)	5a
BVG10	656	100/200	656	106	Fill	Fill of ditch [603]	Friable, mid grey brown clay silt	2.50	1.50	0.21	2.57	1.9	Medieval (post-AD1200)	5a
BVG10	657	100/205, 105/205, 100/200, 105/200	657, Post ex Stage 1	106	Fill	Fill of ditch [603]	Fairly firm, dark grey sandy silty clay	3.00	1.44	0.16	1.95	*n/a*	Medieval (post-AD1200)	5a
BVG10	700	UP 12a, UP 8d	*n/a*	110, 112, 113	Fill	Fill of pit [708]	Moderately compact, dark grey brown, sandy silt	0.9	1.2	0.75	1.95	*n/a*	Roman	3
BVG10	701	UP 8d, UP 9d	*n/a*	110, 112	Layer	Redeposited brick earth layer	Moderately compact, mid yellowish brown, sandy clay	0.90	0.50	0.30	1.63	0.99	Roman	3
BVG10	702	UP 8a	*n/a*	116	Fill	Fill of truncated pit [717]	Soft, dark grey brown, clay silt	0.75	*n/a*	0.60	1.66	1.51	Roman	3
BVG10	703	UP 8c	*n/a*	*n/a*	Fill	Fill of [724]	Soft, mixed dark brownish grey with dark reddish brown lenses, clay silt	*n/a*	0.94	0.37	1.7	*n/a*	Post-medieval	6
BVG10	704	UP 8b, UP 9b	*n/a*	111, 117, 120	Fill	Fill of ditch [603]	Soft-firm, dark greyish brown, clay silt	1.00	0.95	0.63	1.73	*n/a*	Medieval (post-AD1200)	5a
BVG10	705	UP 8d, UP 12a	*n/a*	110, 112, 113	Fill	Fill of [706]	Soft, mid grey brown silty clay	0.90	0.40	0.95	1.72	0.94	Roman	3
BVG10	706	UP 8d	*n/a*	110, 112	Cut	Cess pit	Rounded?, steep sides, unseen base	*n/a*	0.36	0.49	1.71	0.74	Roman	3
BVG10	707	UP 8d, UP 9d	*n/a*	110, 112	Layer	Levelling dump	Loose, mid-dark yellowish brown , clay gravelly sand	0.90	0.85	0.30	1.33	1.17	Roman	2c
BVG10	708	UP 12a, UP 8d	*n/a*	110, 112, 113	Cut	Pit	Unclear, moderately steeply sloping sides, unseen base	1.20	0.90	0.75	1.95	0.94	Roman	3
BVG10	709	UP 8d, UP 9d	*n/a*	110	Layer	Roman dump layer	Soft, mid-light reddish brown, clay silt	*n/a*	1.00	0.30	1.93	*n/a*	Roman	3
BVG10	710	UP 8d, UP 9d	*n/a*	110, 112	Layer	Gravel layer	Fairly firm, dark brownish grey, mid yellowish brown and mid reddish brown, coarse sandy gravel	*n/a*	1.07	0.30	1.21	*n/a*	Roman	2c
BVG10	711	UP 8d, UP 9d	*n/a*	110, 112	Natural	Natural sand and gravel	Fairly firm, light yellowish brown with dark brownish red lenses, mainly coarse	*n/a*	1.07	0.03	0.83	0.8	Natural	1

							sand and gravel							
BVG10	712	UP 8a, UP 9a, UP10a	*n/a*	111, 115, 116, 124	Fill	Fill of pit [714]	Soft, dark brownish grey and dark brownish green, silty sand	1.35	*n/a*	0.85	1.66	1.26	Medieval (pre-AD1200)	4
BVG10	713	UP 8a, UP 9a, UP10a	*n/a*	111, 115, 116, 124	Fill	Fill of pit [714]	Soft, dark grey, clay silt	1.34	*n/a*	>0.3	0.94	0.79	Medieval (pre-AD1200)	4
BVG10	714	UP 8a, UP 9a, UP10a	*n/a*	111, 115, 116	Cut	Pit. Same as [870]	Rounded, vertical sides, unseen base	1.38	*n/a*	>1.2	1.66	0.46	Medieval (pre-AD1200)	4
BVG10	715	UP 8a, UP 9a	*n/a*	111, 115	Fill	Fill of [716]	Soft, dark greyish green, sandy silt	0.55	*n/a*	0.95	1.66	*n/a*	Roman	3
BVG10	716	UP 8a, UP 9a	*n/a*	111, 115	Cut	Cess pit	Rounded, steep sides, flat base	0.55	*n/a*	0.95	1.6	0.71	Roman	3
BVG10	717	UP 8a	*n/a*	116	Cut	Truncated pit	Unclear, vertical northern side, concave base	0.25	*n/a*	0.60	1.66	1.06	Roman	3
BVG10	718	UP 8a	*n/a*	114, 116	Fill	Fill of pit [719]	Soft, dark grey, clay silt	0.50	0.39	0.50	1.66	*n/a*	Roman	3
BVG10	719	UP 8a	*n/a*	114, 116	Cut	Pit	Unclear, Steeply sloping sides, concave base	0.30	0.40	0.50	1.66	1.16	Roman	3
BVG10	720	UP 8a	*n/a*	114	Layer	Ploughsoil	Soft, light greenish brown, coarse sandy silt	*n/a*	0.66	0.38	1.66	*n/a*	Roman	3
BVG10	721	UP 8a	*n/a*	111, 114, 116	Layer	Ploughsoil	Soft/friable, light brownish grey sandy silt	0.13	0.95	0.30	1.36	1.06	Roman	3
BVG10	722	UP 8a, UP 9a	*n/a*	111, 114, 115, 116	Layer	Silty sand layer	Soft/friable, light brownish green silty sand	0.85	0.95	0.44	1.01	0.56	Roman	3
BVG10	723	UP 8c, UP 9c	*n/a*	110, 119, 122	Fill	Backfill of construction cut [725]	Soft/slightly firm dark brownish grey clay silt	0.50	1.47	0.37	1.36	*n/a*	Post-medieval	6
BVG10	724	UP 8c, UP 9c	*n/a*	110, 122	Masonry	Brick cess pit	Unfrogged red brick, dark yellowish brown sandy mortar	*n/a*	1.42	0.37	1.7	*n/a*	Post-medieval	6
BVG10	725	UP 8c, UP 9c	*n/a*	110, 122	Cut	Construction cut for [724]	Rectangular, vertical sides, flat base	*n/a*	1.47	0.37	1.7	1.33	Post-medieval	6
BVG10	726	UP 11b, UP 8c	*n/a*	110, 111, 119	Fill	Fill of pit [727]	Soft, dark brownish grey, clay silt	0.80	1.54	0.73	1.7	*n/a*	Medieval (pre-AD1200)	4
BVG10	727	UP 11b, UP 8c	*n/a*	110, 111, 119	Cut	Pit	Unclear, gently sloping sides, unseen base	0.80	1.54	0.73	1.7	0.82	Medieval (pre-AD1200)	4
BVG10	728	UP 8c, UP 9c, UP 10c	*n/a*	110, 118	Layer	Ploughsoil?	Soft, dark grey, clay silt	*n/a*	1.72	0.28	1.73	*n/a*	Medieval (pre-AD1200)	4
BVG10	729	UP 11b, UP 8c, UP 9c	*n/a*	110, 119	Layer	Gravel layer	Weakly cemented, mid reddish brown, coarse sandy silty gravel	0.23	2.35	0.18	1.05	*n/a*	Roman	3

BVG10	730	UP 11b, UP 8c, UP 9c, UP 10c	*n/a*	110, 111, 118, 119	Layer	Gravel surface?	Moderately cemented, light brownish grey, gravel and mortar	0.50	2.16	0.22	1.32	1.14	Roman	3
BVG10	731	UP 11b, UP 8c, UP 9c, UP 10c	*n/a*	110, 111, 118, 119	Layer	Levelling layer?	Weakly cemented, dark brownish red and dark greenish grey, gravelly sand	0.80	2.80	0.19	1.06	*n/a*	Roman	3
BVG10	732	UP 8c, UP 9c	*n/a*	110, 118, 119	Natural	Natural sand and gravel	Friable, light yellowish brown, medium sand	0.80	2.10	0.07	0.65	*n/a*	Natural	1
BVG10	733	UP 8b, UP 9b	*n/a*	111, 117, 120	Fill	Ditch fill	Soft-firm, mid brownish grey clay silt	1.51	0.91	0.33	1.52	1.1	Medieval (post-AD1200)	5a
BVG10	734	UP 8b, UP 9b	*n/a*	111, 120	Fill	Ditch fill	Soft, dark greyish green, sandy silt	1.14	*n/a*	0.15	0.9	0.77	Medieval (post-AD1200)	5a
BVG10	735	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	736	UP 11a, UP 8b	*n/a*	111, 117, 127	Fill	Ditch fill	Soft, mid greenish grey, sandy silt	0.71	0.90	0.44	1.17	0.93	Medieval (post-AD1200)	5a
BVG10	737	UP 11a, UP 8b	*n/a*	111, 117, 127	Fill	Ditch fill	Friable, mid reddish brown, sandy silt	1.25	0.38	0.16	1.07	0.74	Medieval (post-AD1200)	5a
BVG10	738	UP 8b, UP 9b	*n/a*	111, 117, 120	Fill	Ditch fill	Friable/weakly cemented, mid greyish green, coarse gravelly	1.60	0.90	0.45	0.93	0.74	Medieval (post-AD1200)	5a
BVG10	739	UP 8b, UP 11a	*n/a*	111, 117, 127	Cut	Same as [603]	Unclear, moderately sloping?, flattish base.	5.10	6.70	2.00	0.57	0.48	Medieval (post-AD1200)	5a
BVG10	740	UP 8b	*n/a*	111, 117	Natural	Natural sand and gravel	Friable, light yellowish, medium sand	0.18	0.22	0.10	0.64	*n/a*	Natural	1
BVG10	741	UP 9c, UP 10c	*n/a*	110, 118, 131	Fill	Ditch fill	Friable, dark greenish brown, silty clay	0.70	2.10	0.35	2	*n/a*	Medieval (post-AD1200)	5a
BVG10	742	UP 12a	*n/a*	110, 121	Fill	Ditch fill. Same as [741].	Firm, mixed brownish grey, silty sand	>0.90	>1.20	0.45	2.03	*n/a*	Medieval (post-AD1200)	5a
BVG10	743	UP 12a	*n/a*	110, 121	Fill	Fill of well [760]/[745]	Friable/loose, brownish grey, sandy silt	>0.90	>0.60	>0.95	1.75	*n/a*	Medieval (pre-AD1200)	4
BVG10	744	UP 12a	*n/a*	110	Fill	Fill of well [760]/[745]	Friable, mixed greenish grey, silt and silty sand	>0.90	0.44	0.95	1.73	*n/a*	Medieval (pre-AD1200)	4
BVG10	745	UP 12a	*n/a*	110	Cut	Well. Same as [760]	Unclear probably oval, near vertical sides, unseen base	>0.90	>1.20	>1.20	1.69	0.49	Medieval (pre-AD1200)	4
BVG10	746	UP10a	*n/a*	111, 124	Fill	Fill of ditch [603]	Firm, brownish grey sandy silt	>0.46	>0.80	0.27	1.66	*n/a*	Medieval (post-AD1200)	5a
BVG10	747	UP 10a	*n/a*	111, 124	Fill	Fill of ditch [603]	Soft, dark brown-black, sandy silt	>0.28	>0.80	0.10	1.49	*n/a*	Medieval (post-AD1200)	5a
BVG10	748	UP 10a	*n/a*	111	Fill	Fill of pit [714]	Firm, mixed greyish brown, clay sand	>0.82	>0.50	0.41	1.6	1.22	Medieval (pre-AD1200)	4
BVG10	749	UP 8a, UP 9a, UP10a	*n/a*	111, 124	Fill	Fill of pit [714]	Soft, mixed dark grey silt with organic brown lenses	>0.36	>0.80	0.48	1.16	1.01	Medieval (pre-AD1200)	4

BVG10	750	UP 10a	*n/a*	111, 124	Fill	Stained natural/possible pit fill?	Firm, greenish brown, silty sand	>0.96	>0.54	>0.08	0.54	0.42	Medieval (pre-AD1200)	4
BVG10	751	UP 11b	*n/a*	122	Fill	Pit fill? Same as [726]	Friable dark brown, silty clay	*n/a*	0.64	0.56	1.68	*n/a*	Medieval (pre-AD1200)	4
BVG10	752	UP 11b	*n/a*	122	Layer	Dump layer	Friable, greyish brown silty sand	*n/a*	0.64	0.16	1.08	*n/a*	Medieval (pre-AD1200)	4
BVG10	753	UP 11b	*n/a*	122	Layer	Dump layer	Friable, dark brown silty clay	*n/a*	0.64	>0.28	0.95	*n/a*	Medieval (pre-AD1200)	4
BVG10	754	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	755	UP 11c	*n/a*	125, 126, 110	Fill	Ditch fill. Same as [741].	Firm/friable mid brownish grey with occasional yellow mottling, sandy silt	0.84	0.87	0.44	2.05	*n/a*	Medieval (post-AD1200)	5a
BVG10	756	UP 11c	*n/a*	125, 126, 110	Layer	Same as [728]	Fairly firm, mid slightly greenish grey, clay silt	0.84	0.60	0.57	1.7	1.57	Medieval (pre-AD1200)	4
BVG10	757	UP 11c	*n/a*	125, 126, 110	Layer	Same as [730]	Firm, dark-mid grey, slightly silty clay	0.84	0.60	0.17	1.33	1.05	Roman	3
BVG10	758	UP 11c	*n/a*	125, 126, 110	Layer	Same as [731]	Friable, light greyish green with yellow mottling, silty sand	0.84	0.60	0.28	1.15	0.95	Roman	3
BVG10	759	UP 11c	*n/a*	110, 125	Fill	Fill of pit [760]	Fairly firm but friable, mid brownish grey, sandy silt	>0.85	0.27	0.71	1.75	1.63	Medieval (pre-AD1200)	4
BVG10	760	UP 11c	*n/a*	110, 125	Cut	Well. Same as [745]	Unclear, near vertical sides, unseen base.	>0.85	0.27	0.71	1.75	*n/a*	Medieval (pre-AD1200)	4
BVG10	761	UP 11a	*n/a*	111, 127, 129	Fill	Ditch fill. Same as [704]	Friable, very dark brown, silty clay	1.35	*n/a*	0.15	1.65	*n/a*	Medieval (post-AD1200)	5a
BVG10	762	UP 11a	*n/a*	111, 127, 129	Fill	Ditch fill. Same as [733]	Firm, greyish brown, silty clay	1.35	*n/a*	0.20	1.55	*n/a*	Medieval (post-AD1200)	5a
BVG10	763	UP 11a	*n/a*	111, 127, 129	Fill	Fill of pit [764]	Firm, dark greyish brown silty clay	0.65	*n/a*	0.50	1.36	*n/a*	Medieval (post-AD1200)	5a
BVG10	764	UP 11a	*n/a*	111, 127, 129	Cut	Pit	Unclear, sharply sloping sides, concave base	0.65	*n/a*	0.50	1.36	*n/a*	Medieval (post-AD1200)	5a
BVG10	765	UP 11a	*n/a*	111, 127, 129	Fill	Ditch fill. Same as [738]	Loose, greenish grey, silt and gravel	1.35	*n/a*	0.70	1.34	*n/a*	Medieval (post-AD1200)	5a
BVG10	766	UP 11a	*n/a*	111, 127	Natural	Natural sand and gravel	Loose, yellow/orange sand and gravel	1.35	*n/a*	>0.11	0.63	*n/a*	Natural	1
BVG10	767	UP 11a	*n/a*	129	Fill	Ditch fill	Firm, greyish brown silty clay	0.70	*n/a*	<0.10	1.65	*n/a*	Medieval (post-AD1200)	5a
BVG10	768	UP 12b, UP 11d	*n/a*	110, 130, 133	Fill	Fill of possible pit [769]	Firm, dark brown, silty clay	*n/a*	1.80	0.90	1.97	*n/a*	Roman	3
BVG10	769	UP 12b, UP 11d	*n/a*	110, 130, 133	Cut	Pit?	Unclear, moderately sloping sides, flat base	*n/a*	1.80	0.90	1.89	*n/a*	Roman	3

BVG10	770	UP 12b, UP 11d	*n/a*	110, 130, 133	Layer	Roman dump layer	Friable, mid brown with occasional orange mottling, clay silt.	*n/a*	1.80	0.72	1.89	*n/a*	Roman	3
BVG10	771	UP 12b, UP 11d	*n/a*	110, 130, 133	Layer	Sand and silt layer	Friable, light brown, sandy silt	*n/a*	1.80	0.25	1.17	*n/a*	Roman	2c
BVG10	772	UP 12b	*n/a*	110, 130	Natural	Natural sand and gravel	Loose, yellow/orange sand and gravel	*n/a*	0.84	>0.05	0.95	*n/a*	Natural	1
BVG10	773	UP 10b	*n/a*	111, 132	Fill	Ditch fill	Friable, dark greyish brown, silty clay	0.88	*n/a*	0.85	1.76	*n/a*	Medieval (post-AD1200)	5a
BVG10	774	UP 10b, UP 11b	*n/a*	111, 132	Fill	Ditch fill	Friable, dark greyish/greenish brown silty clay	1.10	*n/a*	0.80	1.76	*n/a*	Medieval (post-AD1200)	5a
BVG10	775	UP 10b, UP 11b	*n/a*	111, 132	Fill	Ditch fill	Soft, grey, sandy silt	1.10	*n/a*	0.41	1.15	*n/a*	Medieval (post-AD1200)	5a
BVG10	800	100/205	*n/a*	*n/a*	Fill	Fill of [807]	Compact, dark brownish black, clay silt	0.80	1.25	0.10	1.72	1.62	Post-medieval	6
BVG10	801	100/205	801	*n/a*	Masonry	Brick cess pit	Yellow brick, pinkish grey lime mortar	0.60	1.24	0.29	1.73	1.61	Post-medieval	6
BVG10	802	105/200	*n/a*	*n/a*	Fill	Lower fill of soakaway [626]	Fairly firm, very dark grey with greenish black mottling, silty clay	0.98	1.00	0.92	1.52	*n/a*	Post-medieval	6
BVG10	803	100/205	*n/a*	*n/a*	Fill	Fill of [801]	Soft, mid reddish brown, organic silt	0.60	1.24	0.20	1.64	1.44	Post-medieval	6
BVG10	804	100/205	*n/a*	*n/a*	Fill	Primary fill of [801]	Firm, mid greenish grey, clay silt	0.60	1.24	0.12	1.44	*n/a*	Post-medieval	6
BVG10	805	100/205	805	*n/a*	Cut	Stakehole	Circular, vertical sides, unseen base	0.11	0.11	0.30	1.48	1.18	Post-medieval	6
BVG10	806	100/205	*n/a*	*n/a*	Fill	Fill of stakehole [805]	Very soft, dark brownish black, silt	0.11	0.11	0.30	1.48	*n/a*	Post-medieval	6
BVG10	807	100/205	807	*n/a*	Cut	Construction cut for [801]	Rectangular, vertical sides, flat base	0.80	1.50	0.45	1.71	1.32	Post-medieval	6
BVG10	808	100/205	*n/a*	*n/a*	Fill	Backfill of construction cut [807]	Firm, dark brown, silty clay	0.80	1.50	0.45	1.72	1.67	Post-medieval	6
BVG10	809	100/200	810	*n/a*	Fill	Fill of possible pit [810]	Firm, dark greyish brown, sandy silt	0.66	0.84	0.14	1.66	1.52	Medieval (pre-AD1200)	4
BVG10	810	100/200	810	*n/a*	Cut	Pit?	Rounded/irregular, steeply sloping sides, flat base	0.66	0.84	0.14	1.66	1.52	Medieval (pre-AD1200)	4
BVG10	811	100/205	805	*n/a*	Cut	Stakehole	Square, vertical sides, unseen base	0.10	0.11	0.78	1.48	0.7	Post-medieval	6
BVG10	812	100/205	812	*n/a*	Fill	Fill of stakehole [811]	Very soft, dark brownish black, sandy silt	0.10	0.11	0.78	1.48	*n/a*	Post-medieval	6

BVG10	813	100/205	805	*n/a*	Cut	Stakehole	Square, vertical sides, unseen base	0.10	0.10	0.30	1.48	1.18	Post-medieval	6
BVG10	814	100/205	*n/a*	*n/a*	Fill	Fill of stakehole [813]	Very soft, dark brownish black, sandy silt	0.10	0.10	0.30	1.48	*n/a*	Post-medieval	6
BVG10	815	105/200, 100/200, 100/205, 105/205	815	150, 151	Fill	Fill of ditch [603]	Fairly firm, dark grey with occasional brown mottling, silty clay	3.96	3.92	0.09	1.75	1.64	Medieval (post-AD1200)	5a
BVG10	816	100/205, 105/205	816	150	Fill	Fill of ditch [603]	Fairly firm-compact, dark brownish grey, sandy clay silt	2.61	3.63	0.18	1.75	*n/a*	Medieval (post-AD1200)	5a
BVG10	817	100/200	817	150 151 153	Layer	Ploughsoil	Fairly firm-soft, dark brownish grey, silty sandy clay	2.08	1.74	0.18	1.66	1.63	Medieval (pre-AD1200)	4
BVG10	818	100/200, 100/205	818	*n/a*	Fill	Fill of ditch [603]	Fairly firm-soft, dark greyish brown, sandy gravelly clay silt	5.42	0.98	0.11	1.64	*n/a*	Medieval (post-AD1200)	5a
BVG10	819	100/200, 100/205	819	*n/a*	Fill	Fill of ditch [603]	Fairly firm-friable, dark brown, clay sandy silt	1.62	1.08	0.19	1.56	*n/a*	Medieval (post-AD1200)	5a
BVG10	820	100/200, 100/205, 105/200, 105/205	820	150, 151	Fill	Fill of ditch [603]	Firm, mid-dark brownish grey clay silt	2.20	3.90	0.17	1.44	1.34	Medieval (post-AD1200)	5a
BVG10	821	100/200, 100/205	821	*n/a*	Fill	Fill of ditch [603]	Fairly firm-soft, very dark grey with black mottling, sandy clay silt	1.68	0.76	0.05	1.56	*n/a*	Medieval (post-AD1200)	5a
BVG10	822	100/200, 100/205	822	*n/a*	Fill	Fill of ditch [603]	Soft, dark brownish green, silty clay	3.32	1.50	0.14	1.59	1.53	Medieval (post-AD1200)	5a
BVG10	823	100/200	823	*n/a*	Fill	Fill of ditch [603]	Soft, dark greyish green, clay silt	2.66	1.30	0.05	1.49	1.39	Medieval (post-AD1200)	5a
BVG10	824	100/205, 105/205	824	150, 151	Fill	Fill of ditch [603]	Soft-sticky, dark greenish grey, silty clay	1.62	4.28	0.40	1.74	1.45	Medieval (post-AD1200)	5a
BVG10	825	100/205, 105/200, 105/205, 100/200	825	150, 151	Fill	Fill of ditch [603]	Soft, dark greyish green, silty clay	0.80	3.30	0.20	1.29	1.15	Medieval (post-AD1200)	5a
BVG10	826	100/200, 100/205	826	*n/a*	Fill	Fill of ditch [603]	Firm, dark greyish green, silty clay	1.24	1.20	0.21	1.46	1.15	Medieval (post-AD1200)	5a
BVG10	827	100/205, 105/205	827	150	Fill	Fill of ditch [603]	Friable-Fairly firm, mid greyish brown, clay silt	2.86	4.20	0.32	1.53	1.14	Medieval (post-AD1200)	5a
BVG10	828	105/200, 105/205	828	150, 151	Fill	Fill of ditch [603]	Firm, mid greenish grey, sandy silt	1.56	4.34	0.25	1.29	0.96	Medieval (post-AD1200)	5a
BVG10	829	105/200,	Post ex	*n/a*	Fill	Fills of ditch	Firm-friable, dark grey-dark	4.40	2.40	0.60	1.7	1.14	Medieval (post-	5a

		105/205	Stage 1			[603] within ground reduction area.	green, clay silt and sandy lenses						AD1200)	
BVG10	830	100/200, 105/200, 105/205, 100/205	830	150, 151	Fill	Fill of ditch [603]	Soft, dark bluish grey, sandy silt	2.26	3.78	0.19	1.08	1.02	Medieval (post-AD1200)	5a
BVG10	831	100/200	Post ex Stage 2	153	Fill	Fill of pit [832]	Loose, blackish brown, silty clay	1.23	1.20	0.90	1.28	*n/a*	Medieval (pre-AD1200)	4
BVG10	832	100/200	832, Post ex Stage 2	153	Cut	Pit	Square, vertical sides, flat base	1.23	1.20	0.33	1.4	0.78	Medieval (pre-AD1200)	4
BVG10	833	100/205, 105/205	833	150, 151	Fill	Fill of ditch [603]	Soft, dark grey, silty clay	2.56	3.90	0.50	0.98	0.62	Medieval (post-AD1200)	5a
BVG10	834	100/200	*n/a*	*n/a*	Fill	Fill of pit [870]	Loose, blackish brown, silty clay	2.00	0.90	0.60	1.39	1.27	Medieval (pre-AD1200)	4
BVG10	835	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	836	100/205, 105/205,	836	150, 151	Fill	Fill of original ditch [837]	Firm, mid greyish brown, sandy silt	1.94	3.64	0.10	0.99	0.41	Medieval (pre-AD1200)	4
BVG10	837	100/205, 105/205, UP 9c, UP 10c, UP 11c, UP 12a	837	110, 150, 151	Cut	Original ditch	Linear, unseen sides, flat base	2.26	6.90	0.43	0.71	*n/a*	Medieval (pre-AD1200)	4
BVG10	838	100/200	838	152	Fill	Wattle lining in pit [870]	Poorly preserved remnants of wattle lining	0.90	0.10	0.45	0.81	0.72	Medieval (pre-AD1200)	4
BVG10	839	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [840]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.07	0.07	0.14	0.59	*n/a*	Medieval (pre-AD1200)	4
BVG10	840	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.07	0.07	0.14	0.59	0.45	Medieval (pre-AD1200)	4
BVG10	841	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [842]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.08	0.08	0.14	0.62	*n/a*	Medieval (pre-AD1200)	4
BVG10	842	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.08	0.08	0.14	0.62	0.48	Medieval (pre-AD1200)	4
BVG10	843	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [844]	Loose, light brown with dark greyish brown mottling,	0.09	0.08	0.15	0.7	*n/a*	Medieval (pre-AD1200)	4

							decomposed wood and silty clay							
BVG10	844	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.09	0.08	0.15	0.7	0.55	Medieval (pre-AD1200)	4
BVG10	845	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [846]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.08	0.08	0.14	0.81	*n/a*	Medieval (pre-AD1200)	4
BVG10	846	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.08	0.08	0.14	0.81	0.67	Medieval (pre-AD1200)	4
BVG10	847	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [848]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.07	0.07	0.14	0.8	*n/a*	Medieval (pre-AD1200)	4
BVG10	848	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.07	0.07	0.14	0.8	0.66	Medieval (pre-AD1200)	4
BVG10	849	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [850]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.07	0.07	0.17	0.77	*n/a*	Medieval (pre-AD1200)	4
BVG10	850	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.07	0.07	0.17	0.77	0.6	Medieval (pre-AD1200)	4
BVG10	851	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [852]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.06	0.07	0.12	0.72	*n/a*	Medieval (pre-AD1200)	4
BVG10	852	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.06	0.07	0.12	0.72	0.6	Medieval (pre-AD1200)	4
BVG10	853	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [854]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.05	0.06	0.13	0.67	*n/a*	Medieval (pre-AD1200)	4
BVG10	854	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.05	0.06	0.13	0.67	0.54	Medieval (pre-AD1200)	4
BVG10	855	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, mid orange-dark brown, sandy clay	0.14	*n/a*	0.11	1.28	0.94	Medieval (post-AD1200)	5a

BVG10	856	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, dark green brown, cessy clay silt	1.47	*n/a*	0.14	1.7	1.27	Medieval (post-AD1200)	5a
BVG10	857	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, dark brown black, organic and charcoal rich silty clay	>0.25	*n/a*	>0.09	1.2	0.87	Medieval (post-AD1200)	5a
BVG10	858	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, dark brown with mid yellow and light brown mottling, silty clay with sand lenses	0.46	*n/a*	0.29	1.72	0.94	Medieval (post-AD1200)	5a
BVG10	859	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, dark brown sandy silt	1.58	*n/a*	0.28	1.74	1.12	Medieval (post-AD1200)	5a
BVG10	860	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Friable, mid brownish grey, silty sand	0.63	*n/a*	0.08	1.14	*n/a*	Medieval (post-AD1200)	5a
BVG10	861	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, dark grey brown, silty sand	0.59	*n/a*	0.17	1.52	0.85	Medieval (post-AD1200)	5a
BVG10	862	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, mid brown grey, silty sand	0.47	*n/a*	0.11	1.34	1.21	Medieval (post-AD1200)	5a
BVG10	863	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	864	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	865	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	866	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	867	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	868	105/200	*n/a*	153	Fill	Fill of pit [869]	Fairly firm, dark grey, clay sandy silt	1.05	1.55	0.67	1.16	1.11	Medieval (pre-AD1200)	4
BVG10	869	105/200	869, Post ex Stage 2	153	Cut	Pit	Rectangular, vertical sides, flat base	1.05	1.55	0.82	1.31	0.49	Medieval (pre-AD1200)	4
BVG10	870	100/200	870	*n/a*	Cut	Cut for wattle lined pit.	Circular, vertical sides, concave base	2.10	0.82	0.41	0.96	0.55	Medieval (pre-AD1200)	4
BVG10	871	100/200	*n/a*	*n/a*	Fill	Fill of pit [832]	Firm, dark greyish brown, silty clay	1.23	1.20	0.20	1.14	*n/a*	Medieval (pre-AD1200)	4
BVG10	872	100/200	Post ex Stage 2	*n/a*	Fill	Fill of pit [873]	Firm, mid blackish brown, silty clay	0.28	1.14	*n/a*	1.4	*n/a*	Medieval (pre-AD1200)	4
BVG10	873	100/200	873, Post ex Stage 2	*n/a*	Cut	Unexcavated pit	Linear, unseen sides, unseen base	0.28	1.14	*n/a*	1.4	1.31	Medieval (pre-AD1200)	4

BVG10	874	105/200	Post ex Stage 2	153	Fill	Fill of pit [876]	Firm, mid brownish grey, silty clay	1.82	2.00	0.36	1.39	1.19	Medieval (pre-AD1200)	4
BVG10	875	105/200	*n/a*	153	Fill	Fill of pit [876]	Soft, dark greyish brown, peaty clay	1.82	2.00	0.28	0.83	*n/a*	Medieval (pre-AD1200)	4
BVG10	876	105/200	876, Post ex Stage 2	153	Cut	Pit	Sub-circular, stteply sloping sides, flattish base	1.82	2.00	0.70	1.39	0.49	Medieval (pre-AD1200)	4
BVG10	877	100/200	*n/a*	*n/a*	Fill	Fill of stakehole [878]	Loose, light brown with dark greyish brown mottling, decomposed wood and silty clay	0.07	0.07	*n/a*	0.68	*n/a*	Medieval (pre-AD1200)	4
BVG10	878	100/200	838	*n/a*	Cut	Stakehole	Circular, steeply sloping sides , base sharply tapers to a point.	0.07	0.07	*n/a*	0.68	*n/a*	Medieval (pre-AD1200)	4
BVG10	879	100/200, 105/200	879, Post ex Stage 2	151, 153	Cut	Pit	Irregular semi-circular, near vertical sides, concave base?	1.92	2.44	1.11	1.45	0.34	Medieval (pre-AD1200)	4
BVG10	880	100/200, 105/200	Post ex Stage 2	151, 153	Fill	Fill of pit [879]	Fairly firm, dark brown, clay silt	1.93	2.44	0.14	1.43	*n/a*	Medieval (pre-AD1200)	4
BVG10	881	100/200, 105/200	Post ex Stage 2	151, 153	Fill	Fill of pit [879]	Soft/friable, mid grey with light brown mottling, clay silt	1.94	2.44	0.79	1.43	1.22	Medieval (pre-AD1200)	4
BVG10	882	100/200, 105/200	*n/a*	*n/a*	Fill	Fill of pit [879]	Soft, light grey with light brown mottling, clay silt	0.90	2.95	0.26	0.64	*n/a*	Medieval (pre-AD1200)	4
BVG10	883	100/200, 105/200	*n/a*	153	Fill	Fill of pit [879]	Fairly firm-firm, mid grey, silty clay	1.94	2.44	>0.53	0.53	*n/a*	Medieval (pre-AD1200)	4
BVG10	884	100/200, 105/200	*n/a*	*n/a*	Fill	Fill of pit [879]	Soft, mid grey with yellowish brown mottling, silty sand	0.13	1.30	1.00	1.45	*n/a*	Medieval (pre-AD1200)	4
BVG10	885	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*	*Void*
BVG10	886	100/200	*n/a*	*n/a*	Fill	Cessy fill of pit [888]	Fairly firm, yellow grey, sandy clay	1.20	2.00	0.24	1	0.76	Medieval (pre-AD1200)	4
BVG10	887	100/200	Post ex Stage 2	153	Fill	Fill of pit [888]	Fairly firm, dark grey yellow, sandy clay silt	1.20	2.00	0.45	1.45	1	Medieval (pre-AD1200)	4
BVG10	888	100/200	888, Post ex Stage 2	*n/a*	Cut	Truncated pit	Unclear due to truncation, very steep sides, flat base	1.20	2.00	1.00	1.45	0.76	Medieval (pre-AD1200)	4
BVG10	889	100/200, 105/200	889	*n/a*	Layer	Silty sand layer	Soft/friable, light greenish brown, mid brownish grey with dark brownish green mottling, silty sand.	1.35	6.00	0.35	1.49	1.06	Medieval (pre-AD1200)	4
BVG10	890	100/200	*n/a*	*n/a*	Fill	Fill of pit [891]	Firm, greenish yellow, silty sand	1.20	0.84	0.53	1.26	*n/a*	Medieval (pre-AD1200)	4
BVG10	891	100/200	891, Post ex	*n/a*	Cut	Pit	Heavily truncated, steeply sloping eastern side, flattish	1.20	0.84	0.53	1.26	0.73	Medieval (pre-AD1200)	4

			Stage 2				base							
BVG10	892	105/205	892, Post ex Stage 2	*n/a*	Cut	Well	Sub-circular, near vertical sides, unseen base	1.70	2.30	1.28	0.52	-0.76	Roman	3
BVG10	893	105/205	892, Post ex Stage 2	*n/a*	Fill	Fill of well [892]	Soft, dark brown grey, sandy silt	1.10	1.10	0.40	0.52	*n/a*	Roman	3
BVG10	894	105/205	892, Post ex Stage 2	*n/a*	Fill	Fill of well [892]	Soft/friable mid greyish brown, sandy silty clay	1.70	2.30	0.40	0.19	*n/a*	Roman	3
BVG10	895	100/200	895, Post ex Stage 2	*n/a*	Cut	Small pit	Sub-circular, near vertical sides, flat base	0.60	0.80	0.40	1.06	0.68	Medieval (pre-AD1200)	4
BVG10	896	100/200	*n/a*	*n/a*	Fill	Fill of pit [895]	Fairly firm, very dark grey brown clay silt	0.60	0.80	0.40	1.06	*n/a*	Medieval (pre-AD1200)	4
BVG10	897	100/200, 100/205, 105/200, 105/205	Post ex Stage 2	*n/a*	Natural	Natural sand and gravel	loose, light brownish yellow, coarse sand	*n/a*	*n/a*	0.81	1.07	0.26	Natural	1
BVG10	898	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, dark brownish black sandy clay	0.27	*n/a*	0.02	1.12	1.1	Medieval (pre-AD1200)	4
BVG10	899	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, mid brown-greenish grey, clay silt	0.25	*n/a*	0.14	1.1	0.96	Medieval (post-AD1200)	5a
BVG10	900	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft-firm, dark brownish black, organic rich silty clay	3.00	*n/a*	0.33	0.6	*n/a*	Medieval (post-AD1200)	5a
BVG10	901	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [603]	Soft, mid brown, silty clay	1.55	*n/a*	0.06	0.76	0.55	Medieval (post-AD1200)	5a
BVG10	902	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [837]	Soft, dark greenish grey, cessy sandy silt	0.99	*n/a*	0.35	1.19	0.73	Medieval (pre-AD1200)	4
BVG10	903	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [837]	Soft, dark black, charcoal rich silty sand	0.42	*n/a*	0.07	0.83	0.76	Medieval (pre-AD1200)	4
BVG10	904	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [837]	Soft, mid yellow brown-dark grey	0.20	*n/a*	0.04	0.77	0.72	Medieval (pre-AD1200)	4
BVG10	905	105/205, Ground reduction area	*n/a*	151	Fill	Fill of ditch [837]	Soft, mid yellow with dark brown mottling, sand with clay lenses	1.2	*n/a*	0.14	0.8	0.62	Medieval (pre-AD1200)	4

BVG10	*120-149*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	286-499	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	545-599	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	658-699	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*
BVG10	776-799	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*	*Unused*

APPENDIX 2: DOCUMENTARY ASSESSMENT

Julian Munby

1

Address: 2-4 Bedale Street; TQ 3255 8027

Location: West side of Borough High Street, south side of Bedale Street.

Street names: Bedale Street, formerly York Street (C19); previously Foul Lane (C18 and before).

Admin: St Margaret's, later St Saviour's Parish, Southwark, in the County of Surrey (e.g. Vestry and Market Trustees). Metropolitan Borough of Southwark from 1899.

Manor: Guildable Manor of the Crown and then of the City of London (until 1899). At the west of Bedale Street was the Bishop of Winchester's manor (north and west of Park Street and Cathedral Street).

Topography: The primary topography is obscured by the widening of Borough High Street (for the new London Bridge, 1831) and the interruption of the Railway in 1864. The medieval tenements largely consisted of deep tenements facing onto Borough High Street, whose boundaries often survived on the large scale OS town plan (scale 1:1056) of the 1870s. The west side of High Street has been more disrupted by its diversion round St Margaret's Church (Counter Lane), the formation of Southwark Street as a new road, and the arrival of the railway viaduct.

Medieval properties: On the south side of Foul Lane at the west end were two tenements of St Thomas's Hospital in 1551 (Carlin *Gazetteer*. no. 24), and at the east end three tenements (Carlin *Gaz*. No. 27) that were probably subsumed into the Crown Inn. The principal property here was a large site occupying much of the space south of Bedale Street (though other properties faced onto Stoney Street to the south). This was the Three Crowns Inn (Carlin *Gaz*. no. 25), which became 3 Crowns Court and later 3 Crowns Square. To the south of the block on Stoney Street (Counter Lane) were other inns, the Cross Keys and Red Lion (Carlin *Gaz*. nos. 27-28)

Post-Medieval change: Three Crowns Square survived into the 19th century, much rebuilt after widening of Borough High Street in early 19th century, losing its south-east corner to Southwark Street, and land on the west to the Trustees of Borough Market in the early 20th century. The later history of the property ['Site 2'] and its rebuilding in the 1930s is partly told in the MOLA Building Survey Report (Nov 2010), 21-2.

Map evidence: The general development of the site is shown on the more informative maps (Rocque 1746, Horwood 1799-1819, the OS skeleton plan of 1830, and large-scale OS 1:1056 plan of 1873 (sheet VII.76). The MOLA Building Survey includes reproductions of

C20 maps showing the property of the Market Trustees (LMA), and a *c.*1830 plan in the PRO of the National Archives showing the proposed widening of Borough High Street (Figs 6-8).

Research potential: The records of the Borough Market Trustees (ACC/2058) in the London Metropolitan Archives [LMA] may lead back to identifying previous owners of properties. Property records of St Thomas's Hospital, and of the St Saviours' Charities [LMA] may also include documentation for parts of the site. A search for 'Three Crowns' in LMA brings up Sun Alliance Insurance policies, but a more general search in other collections (through A2A) may find relevant material. Printed Directories for more recent periods would give commercial and private tenants of properties in Bedale Street, but the parish rate books may be hard to use for a single property without much time spent in discovering how they are arranged. The deposited Railway plans will give property shapes and owners, though in this instance they may perhaps supply no more than the Market records.

By chance there is a surviving Treswell plan of *c.*1611 for the corner property on the north side of Bedale Street (Foul Lane) adjoining the Green Dragon (John Schofield, *The London Surveys of Ralph Treswell*, LTS 135 (1987), 140, No. 50). This gives a good indication of the complexity of back yards and outbuildings in an unusually early and detailed source.

APPENDIX 3: ROMAN POTTERY ASSESSMENT

Katie Anderson

The BVG10 excavations yielded an assemblage of Roman pottery totalling 1,628 sherds, weighing 62,965g and representing 1276 ENV (Estimated Number of Vessels). Pottery was recovered from 119 different contexts, including the topsoil. All of the pottery was examined and recorded in accordance with the guidelines laid out by the Study Group for Roman Pottery (Darling 1994) and using the standard terminology and codes advocated by the Museum of London Archaeology Service (Symonds 2002). Sherds were sorted within context by fabric, with unsourced wares of the same type e.g. greywares grouped together.

Assemblage Date

Approximately 75% of the Roman assemblage was residual, occurring in later features. However, the pottery is still informative about the nature of Roman activity at the site. The pottery spans the entire Roman period, with early, mid and late Roman material identified, albeit in varying quantities. Chart 1 shows the quantities of pottery by earliest date (each sherd or group of sherds was given an 'earliest' and 'latest' date range). The largest peak is at AD 43, however, this figure is somewhat misleading as any non-diagnostic sherds were dated AD 43-400 and further sherds which could only be broadly dated as 'early Roman' were also given an earliest date of AD 43. However, this group should not be overlooked as it also represents significant quantities of Samian and amphora.

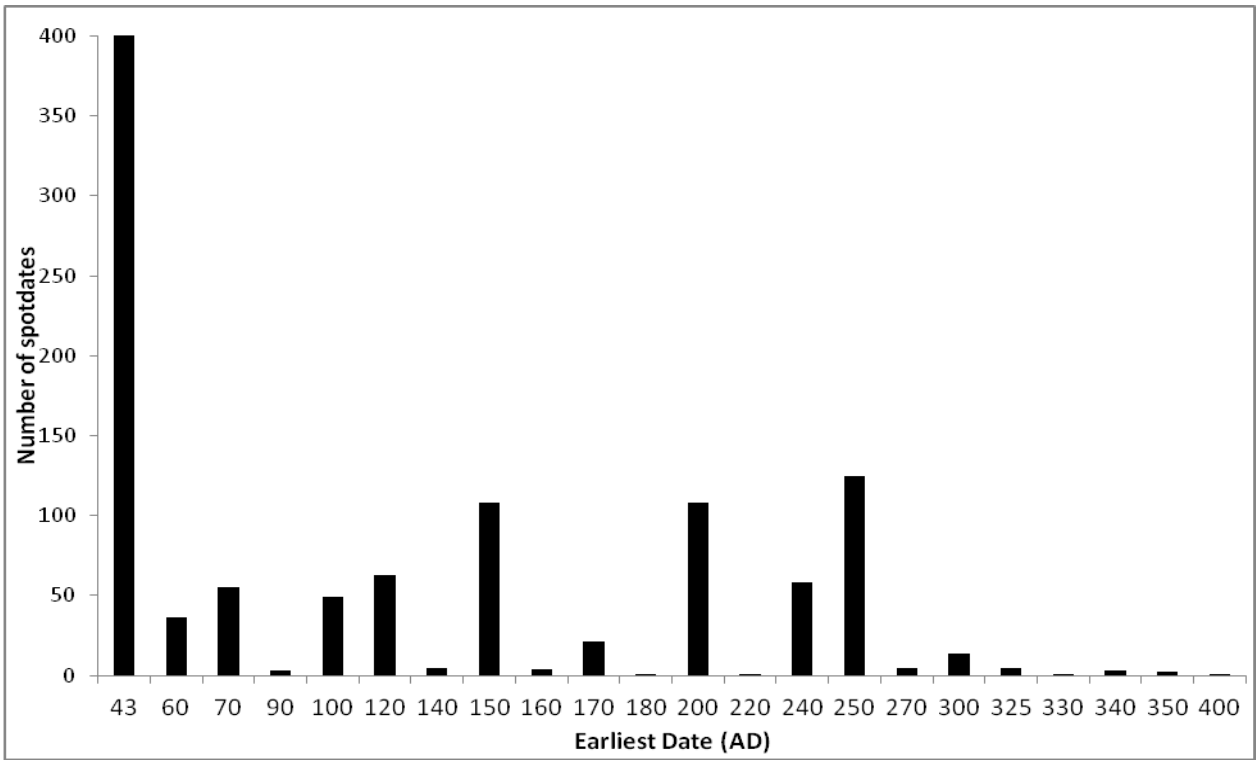

Chart 1: All pottery by earliest date

This peak aside, there are three smaller, but noteworthy peaks. The largest peak is at AD 250, representing 13% of the total assemblage. This is largely due to the presence of a significant quantity of late Roman Alice Holt/Farnham wares, as well as Oxford red-slipped wares and beaded, flanged bowls. The second largest peak is at AD 200 and is characterised by Oxford whitewares, Nene Valley whitewares and North African amphora. The third peak occurs at AD 150 and is partly explained by the presence of certain Black burnished ware (1 and 2) forms, as well as East Gaulish Samian, and a range of colour-coated wares.

Overall, the chart implies a fairly consistent level of activity from the early to the later Roman period, with an implied decline in pottery consumption after AD 250, although there is by no means a complete absence. The ceramic evidence certainly suggests that occupation was continuous throughout the early to later Roman period with no obvious break in activity.

Assemblage Composition

The assemblage comprised primarily medium to large sherds, with a relatively high mean weight of 38.2g, despite the high incidence of residuality. A wide range of vessel fabrics were identified (see Table 1) comprising coarsewares (53%), finewares (6%) and imported wares (41%). The composition of the assemblage in terms of fabrics is fairly typical for this part of London; with a high percentage of the pottery sourced from Alice Holt, Highgate Wood and Oxfordshire as well as BB2. Imported wares constitute a significant percentage of the Roman assemblage with Amphora and Samian being the most frequently occurring fabrics. Amphora in particular represented a high proportion of the assemblage, totalling 387 sherds weighing 34,659g and 216 ENV. By count this accounted for 24.2% of the total assemblage, 57% by weight and 16.9% by ENV. The overall quantity is potentially significant in understanding the site's function during the Roman period, and the site's close proximity to the River Thames may be a factor in this. Samian totalled 222 sherds, weighing 2826g and representing 211 ENV. This equated to 14% of the total assemblage by count, 4.6% by weight and 16.5% by ENV. Less common imported wares included Mayen wares, Eifelkeramik wares and Moselkeramik wares.

Fabric	No.	Wt(g)
AHFA	247	5483
AHSU	8	135
AMPH	193	11209
AMPH?	6	244
ARGCC?	1	10
ARGO	6	46
BAET	63	10608

BAETE	2	96
BAETL	31	5443
BB1	18	331
BB2	76	1400
BBS	14	198
BRAMD?	1	15
BUFF	10	137
CALC	3	48
CC	15	92
CCGW	5	80
CCGW?	2	110
CGOF	2	13
COLCC	5	90
COLWW	1	230
CSGW	2	178
EIFL	4	75
ERMS	1	8
ERSB	2	13
GAUL	34	2606
GAUL?	4	208
GROG	8	157
HADBB	4	84
HADRDU	2	52
HADRS	10	150
HWB	3	44
HWC	95	1766
KOLN	9	78
LOMI	11	152
LOXI	6	57
MAYEN	3	80
MICA	2	28
MORT	4	884
MOSL	5	17
MOSL?	1	9
MWS	1	19
NAFR	58	5429
NARS?	1	38
NKSH	2	586

NOGWH1	4	614
NVCC	10	142
NVPA	1	6
NVPR	1	16
NVSC	1	48
NVWW	11	322
OXFRS	52	1184
OXFWS	5	202
OXFWW	10	299
OXFWW1	1	4
OXID	13	241
OXPA	2	51
PORD	6	223
Red-slipped	8	111
SAM	34	468
SAMCG	54	893
SAMCG?	4	24
SAMEG	19	406
SAMLG	48	395
SAMLG?	1	16
SAMMT	1	6
SAMMV	7	75
SAMMV?	1	7
SAMMV2	6	40
SAMSG	47	509
SAMSG?	4	35
SAND	109	2364
SHELL	25	868
TR?	1	3
TSK	17	264
ERSB	17	185
VCWS	19	172
VERW	1	23
VERWW	3	29
VRW	28	1675
WS	4	45
WW	70	2162
WWM	2	102

TOTAL	**1628**	**62965**

Table 1: All Roman pottery by fabric

The range of vessel forms was also diverse (see Table 2), although despite the relatively high mean weight of the assemblage, a large number of sherds were non-diagnostic (42%). The most commonly occurring form in terms of number and weight of sherds were amphora, which represented 25% of all Roman sherds by count, with 387 sherds weighing 34,659g (42 sherds 1,631g were from a single semi-complete vessel from context [106]). This is a significant quantity, although this figure may be slightly misleading as these vessels are one of the most easily identifiable (including body sherds). ENV shows jars and bowls were also represented.

Form	No.	Wt(g)	ENV
Amphora	399	36030	216
Beaker	81	1121	50
Bowl	97	2823	91
Closed form	340	4740	308
Cup	36	506	36
Dish	88	1290	80
Flagon	12	260	11
Jar	167	6893	124
Lid	14	254	10
Mortaria	55	4602	41
Open form	182	2523	173
Storage Jar	1	76	1
Unknown	156	1847	135
TOTAL	**1628**	**62965**	**1276**

Table 2: All Roman pottery by form

Approximately 5% of the assemblage was noted as having usewear evidence, with internal and external sooting/burnt residue and/or limescale being the most commonly occurring. There were a small number of vessels which appeared to have been trimmed, as well as some with post-firing perforations, indicative of secondary uses. Seven vessels had maker's stamps, comprising six Samian vessels and one amphora handle ([738]).

Contextual Analysis

A total of 14 Roman contexts contained pottery in varying quantities (see Table 3), totalling 335 sherds, weighing 13,504g. For the purposes of this assessment, a small number of contexts have been selected for more detailed study.

Pit [104] contained three fills, two of which produced sizeable assemblages of pottery. Context [105] contained a total of 62 sherds of pottery, weighing 3,854g, thus with a high mean weight of 62.2g. This is largely due to the presence of 50 amphora sherds, weighing 3,151g. The spotdate of the context is AD 50-300, although a date of AD 150-300 is perhaps more appropriate given the presence of three Nene Valley colour-coated vessels. Perhaps the most interesting vessel within this context was an almost complete North Gaulish whiteware handled 'honeypot' dating AD 50-150. The condition of this vessel is of interest, and suggests it was deposited either complete or immediately after breakage, with nearly all the sherds collected and deposited into the pit. Either way, the process behind the way in which the vessel was deposited appears to be in contrast with the remainder of the pottery in this feature (and across the site in general). Although there were occurrences of multiple sherds from a single amphora deposited, within this context, these did not constitute even semi-complete vessels.

Fill [106] contained a further 70 sherds of pottery, weighing 2,473g, of which amphora sherds totalled 58 sherds (2,273g). This included a partially complete amphora (42 sherds, 1,631g). Three Samian vessels were recovered, along with a BB1 bowl and a Cologne colour-coated beaker. This context has been given a spotdate of AD 120-250, thus there appears to be little difference between the assemblages from the two fills. The quantity of amphora sherds (82% of the pits assemblage and 28% of the amphora from the entire assemblage) is of great interest and requires further analysis. The presence of a near complete imported honeypot within the pit is also of importance.

Context	No.	Wt(g)	Spotdate (AD)
21	1	520	50-250
38	9	224	50-160
42	1	3	50-100
44	4	117	50-160
58	15	214	240-400
81	17	2070	150-300
100	10	1312	200-400
105	62	3854	50-300
106	70	2473	120-250
177	33	809	150-300
190	83	1147	100-160
213	22	656	70-160
242	7	103	70-160
262	1	2	200-400

Table 3: All Roman pottery from Roman contexts

A further Roman pit [179] produced a comparable assemblage from two contexts. 83 sherds of pottery weighing 1,147g were collected from a fill, [190]. The assemblage from this context dates AD 100-160 and comprised a minimum of 12 Highgate Wood C vessels and three Samian vessels. The condition of the pottery from this context was good, despite the relatively low mean weight of 14g. There were several partially complete vessels (when refitted) including a Cologne colour-coated beaker and a further colour-coated beaker with roughcast decoration. There was also an almost complete Highgate Wood C poppyhead beaker. A second fill, [213], contained 22 sherds weighing 656g, comprising primarily of Highgate Wood C wares, as well as three Samian vessels. There should be an attempt at refitting from these two contexts to see if any of the sherds belong to the same vessels.

Context [177] contained 33 sherds of pottery, weighing 809g and dating AD 150-300. This included several BB2 vessels, Highgate Wood C vessels and partially complete Alice Holt beaded dish. The remaining Roman contexts produced only small assemblages of pottery.

Summary

Overall the Roman assemblage from BVG10 is indicative of activity which spanned the Roman period, albeit in varying levels of intensity. Despite the residual nature of much of the assemblage, the pottery is still informative of the nature and status of activity in the Roman period. The assemblage was fairly diverse in terms of the fabrics and forms that were identified, with a high number of imported wares identified. The quantity of amphora is of particular note and the sites proximity to the River Thames is a likely explanation for this. Pottery derived from the few Roman contexts on site produced some interesting material, particularly pit [104] which contained sherds from an almost complete North Gaulish whiteware honeypot.

Recommendations

All of the pottery has been fully analysed and recorded; however, the Samian and amphora assemblages should be analysed further by specialists as they both represent significant elements of this assemblage. Further comparative work to contemporary Roman assemblages near the site and the waterfront should be undertaken.

Pottery from two contexts within the two Roman pits [104] and [179] should be analysed to see if there are any refitting sherds from the different contexts (same feature).

More in-depth analysis of the assemblage by period is necessary in order to assess if and how the nature of pottery consumption, use and deposition changes throughout the Roman period at the site.

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Roman Pottery by Context

Context	No.	Wt(g)	Spotdate (AD)	Residual
0	183	8962	x	Yes
16	6	66	50-200	Yes
17	6	170	50-160	Yes
19	1	31	50-400	Yes
21	1	520	50-250	
38	9	224	50-160	
42	1	3	50-100	
44	4	117	50-160	
48	31	1420	240-400	Yes
49	3	52	240-400	Yes
50	1	12	250-400	Yes
51	23	1098	200-400	Yes
52	1	18	250-400	Yes
53	1	47	240-400	Yes
58	15	214	240-400	
62	33	829	150-300	Yes
63	13	132	60-170	Yes
67	14	285	50-200	Yes
80	15	163	60-170	Yes
81	17	2070	150-300	
86	2	107	170-300	Yes

87	12	354	170-300	Yes
95	14	1492	50-160	Yes
96	15	413	200-400	Yes
97	7	115	240-400	Yes
100	10	1312	200-400	
103	6	206	50-160	Yes
105	62	3854	50-300	
106	70	2473	120-250	
118	18	1073	250-400	Yes
154	159	4927	300-400	Yes
155	23	645	250-400	Yes
156	29	971	325-400	Yes
160	78	1488	150-300	Yes
161	1	169	50-300	Yes
165	1	19	150-300	Yes
169	31	1298	240-400	Yes
177	33	809	150-300	
180	3	139	50-250	Yes
182	5	268	170-250	Yes
185	68	1887	300-400	Yes
186	20	661	270-400	Yes
187	1	44	50-250	Yes
188	6	438	150-300	Yes
189	9	704	250-400	Yes
190	83	1147	100-160	
191	2	119	90-150	Yes
213	22	656	70-160	
215	4	37	70-120	Yes
216	3	36	50-100	Yes
217	3	37	70-160	Yes
220	1	6	50-250	Yes
225	7	59	70-160	Yes
242	7	103	70-160	
262	1	2	200-400	
506	1	11	250-400	Yes
507	1	167	200-400	Yes
602	8	167	250-400	Yes
608	1	21	250-400	Yes

609	1	14	250-400	Yes
611	12	190	250-400	Yes
612	2	38	120-250	Yes
613	1	13	50-100	Yes
616	1	31	120-250	Yes
624	1	18	325-400	Yes
627	10	161	240-400	Yes
632	1	6	50-400	Yes
634	3	225	170-300	Yes
643	1	48	200-400	Yes
645	7	44	240-400	Yes
646	3	144	50-300	Yes
650	3	49	240-400	Yes
651	2	20	250-400	Yes
652	1	2	50-400	Yes
653	6	63	240-400	Yes
654	7	90	250-400	Yes
655	3	41	250-400	Yes
656	26	496	250-400	Yes
657	13	943	240-400	Yes
700	5	251	170-300	Yes
703	2	66	240-300	Yes
704	2	277	200-400	Yes
705	5	764	50-150	Yes
713	2	109	50-100	Yes
715	3	29	150-300	Yes
722	1	8	50-400	Yes
728	9	216	200-400	Yes
730	1	26	300-400	Yes
733	2	75	200-400	Yes
738	2	2100	50-300	Yes
742	3	148	60-160	Yes
762	1	127	50-300	Yes
802	2	30	200-400	Yes
809	9	220	200-400	Yes
815	25	963	300-400	Yes
816	2	288	140-200	Yes
817	28	771	240-400	Yes

818	4	65	240-400	Yes
819	15	185	250-400	Yes
820	15	679	200-400	Yes
822	11	272	250-400	Yes
823	7	82	250-400	Yes
824	13	316	200-400	Yes
825	6	101	240-400	Yes
826	5	90	150-300	Yes
827	21	1065	250-400	Yes
828	13	240	70-160	Yes
830	25	1325	60-160	Yes
833	5	400	150-220	Yes
834	17	430	240-400	Yes
836	18	855	240-400	Yes
858	10	1064	240-400	Yes
868	4	296	200-400	Yes
874	9	209	250-400	Yes
881	7	889	200-300	Yes
886	3	40	70-160	Yes
887	3	225	240-400	Yes
893	1	28	100-120	Yes
894	3	138	200-400	Yes

Table 4: Roman pottery spotdates

APPENDIX 4: POST-ROMAN POTTERY ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of pottery was recovered from the site (12 boxes). The pottery dates from the Late Saxon, medieval and post-medieval periods. Very few sherds show evidence for abrasion (0.75% by sherd count) and were probably deposited fairly rapidly after breakage. Residual sherds made up 13.5% by sherd count of the total assemblage and intrusive material is low at 0.2%. The fragmentation of the pottery ranges from sherd material to vessels with complete profiles, although two post-medieval items are intact, but fragmentary. The pottery was quantified by sherd count and estimated number of vessels (ENV), besides weight. Pottery was recovered from 86 contexts and individual deposits produced small (fewer than 30 sherds) to medium (less than 100 sherds) groups of pottery.

All the pottery (926 sherds, 584 ENV and weighing 33,569g, of which 60 sherds, 42 ENV and 9,678g are unstratified) was examined macroscopically and microscopically using a binocular microscope (x20), and recorded in an ACCESS database, by fabric, form and decoration. The classification of the pottery types is according to the Museum of London Archaeology. The pottery is discussed by types and its distribution.

The Pottery Types

The quantification of the pottery for each post-Roman archaeological period is as follows:
Late Saxon: 27 sherds, 12 ENV, 1,216g
Medieval: 729 sherds, 471 ENV, 17,064g
Post-medieval: 170 sherds, 101 ENV, 15,289g

Late Saxon
Late Saxon shelly ware (LSS), 900-1050, 27 sherds, 12 ENV, 1,216g

This was the main pottery type used in London during the 10th century, becoming less important in the early 11th century. It is believed to have been made in the Oxfordshire region (Vince and Jenner 1991, 49-53). The only diagnostic form in this ware is jar-shaped vessels with the complete profile of a rounded form recovered from fill [896] of pit [895], Phase 4. A conjoining rim sherd from this vessel was noted in fill [833] of ditch [603], Phase 5.

Early medieval

Early medieval sandy ware with calcareous inclusions (EMCALC), 1000-1150, 26 sherds, 12 ENV, 289g

Early medieval flint-tempered ware (EMFL), 970-1100, 2 sherds, 2 ENV, 20g
Early medieval grog-tempered ware (EMGR), 1050-1150, 12 sherds, 10 ENV, 174g
Early medieval Surrey iron-rich sandy ware (EMIS), 1050-1150, 2 sherds, 2 ENV, 27g
Early medieval sandy ware (EMS), 970-1100, 37 sherds, 30 ENV, 733g
Early medieval shell-tempered ware (EMSH,) 1050-1150, 53 sherds, 17 ENV, 587g
Early medieval sand- and shell-tempered ware (EMSS), 1000-1150, 30 sherds, 14 ENV, 463g
Early south Hertfordshire-type coarseware (ESHER), 1050-1200, 3 sherds, 1 ENV, 32g
Early Surrey ware (ESUR), 1050-1150, 19 sherds, 12 ENV, 243g

The early medieval wares (Vince and Jenner 1991) are well represented on the site although only 10%SC/15% ENV/20% weight appears to have been in contemporary use in Phase 4, the rest being mostly residual or unstratified. Many of the sherds in these wares could not be consigned to a form type although frequently these fragments were externally sooted and/or had an internal food deposit to indicate that they were used to cook in. A single bowl was noted in EMSH with a rolled rim and thumb decoration and it was derived from fill [823] of ditch [603], Phase 5. Jar forms were noted in EMCALC, EMIS (with a rilled external surface), EMS, EMSH (with an applied vertical thumbed strip), EMSS, ESHER and ESUR (also with applied vertical thumbed strips). Rounded jars could be detected in EMSH (with a thumbed rim), EMSS and ESUR, while taller rounded shapes are found in EMS and ESUR.

Early medieval non-local wares

St Neots type-ware (NEOT), 970-1100, 1 sherd, 1 ENV, 13g
St Neots ware is a rare find in London as the city lay outside its main distribution area. It is easily identifiable by the presence of bryozoa and other shell inclusions (Vince and Jenner 1991, 54) and was noted here as a body sherd from a closed vessel with rilling and appears to be wheel thrown. It was residual and recovered from fill/layer [154], Phase 5/6.

London glazed wares

Coarse London-type ware (LCOAR) 1080-1200, 120 sherds, 80 ENV, 3,185g
Coarse London-type ware with early style decoration (LCOAR EAS), 1140-1200, 1 sherd, 1 ENV, 9g
Coarse London-type ware with gritty inclusions (LCOAR GRIT), 1080-1200, 22 sherds, 14 ENV, 459g
Coarse London-type ware with north-French style decoration (LCOAR NFR), 1180-1200, 8 sherds, 7 ENV, 49g
Coarse London-type ware with shell inclusions (LCOAR SHEL), 1080-1200, 3 sherds, 3 ENV, 94g

London-type ware (LOND), 1080-1350, 135 sherds, 95 ENV, 2,769g

London-type ware baluster jug (LOND BAL), 1180-1350, 5 sherds, 5 ENV, 283g

London-type ware with early style decoration (LOND EAS), 1140-1200, 10 sherds, 5 ENV, 1,381g

London-type ware in the highly decorated style (including anthropomorphic/zoomorphic) (LOND HD), 1240-1350, 16 sherds, 8 ENV, 355g

London-type ware with north-French style decoration (LOND NFR), 1180-1270, 12 sherds, 10 ENV, 184g

London-type ware with pellet decoration (LOND PELL), 1140-1220, 5 sherds, 4 ENV, 57g

London-type ware with Rouen-style decoration (LOND ROU), 1180-1270, 3 sherds, 3 ENV, 50g

The local, London glazed redwares (Pearce *et al.* 1985) occur in a variety of fabrics and forms, however the jars are often in reduced fabrics (LCOAR/GRIT/SHEL) and are types more frequently encountered in Southwark and Bermondsey than the City (Pearce 2010, 218). A single bowl rim is noted in LCOAR with an expanded rim and it was used to cook in as it is externally sooted. It was recovered from fill [643] of ditch [603], Phase 5.

Jars (31 sherds/22 ENV/799g) where discernible, are of a rounded shape with expanded rims and are mostly present in 1080-1200 dated fabrics: LCOAR, LCOAR GRIT and LCOAR SHEL and are unglazed. The complete profile of a LCOAR GRIT example used as a cooking pot was found in fill [713] of pit [714], Phase 5. Jars or cooking pots largely stopped being made in the London-type ware industry around *c.*1200 (Blackmore 1999) and this appears to be the case with most of the finer LOND fabric, present as four examples. A small rounded jar rim was found in the plough soil [817], Phase 5.

Jugs, which typify the industry, are very frequent (240 sherds/176 ENV/7,133g). A rare tripod pitcher base with a small foot in LCOAR is of note in the plough soil [817], Phase 5. Most of the jug sherds could not be assigned to a specific shape. Twelfth century dated early rounded jugs are mostly recognisable by their characteristic waisted bases and these occurred in mostly LCOAR and less so in LOND and LOND EAS and usually only have an external clear and green glaze. When other decoration could be assigned to this vessel shape then it is as a red slip line or with a white slip coating (LOND), while one example is decorated in the early style (LOND EAS: Pearce *et al.* 1985, 27-8). This vessel was found in fill [713] of pit [714], Phase 5 and has a corrugated neck and the body is decorated with red slip circles with white slip pads or dots, surrounding applied red slip floral pads. One other LCOAR early rounded jug of note was found in fill [830] of ditch [603], Phase 5, and has sgraffito decoration as bands of horizontal and wavy lines incised through the white slip. Early rounded jugs were mostly recovered from Phase 4 and less so from Phase 5 deposits.

Three sherds from rounded jugs were noted in LCOAR and were restricted to fill [749] of pit [714], Phase 5, and decorated with combed wavy lines and 'S' motifs, while two vessels came from fill [704] of ditch [603], phase 5: one with a continuously thumbed base, the other with a coarse slip and glaze.

Baluster shaped jugs (LOND BAL: six sherds/5 ENV/375g) were difficult to distinguish and were found in Phase 5 deposits, one of which was in the highly decorated style. Other jug sherds are decorated in a wide range of styles and techniques, notably with pellet (LOND PELL), North French (LOND NFR) and Rouen (LOND ROU) styles, which pre-date the highly decorative style and were mostly found in Phase 5 dated deposits.

A more unusual find is that of the top of a LOND roof finial recovered from fill [155], a re-cut of ditch [183], Phase 5. It survives as a component part neatly separated from the rest of the form and appears as a constricted large bottle rim, biconical in profile with an external white slip and green-glaze.

Surrey whitewares
Coarse Surrey-Hampshire border ware (CBW), 1270-1500, 2 sherds, 2 ENV, 39g
Coarse Surrey-Hampshire border ware large rounded jug (CBW LGR), 1340-1500, 3 sherds, 3 ENV, 276g
Cheam whiteware (CHEA), 1350-1500, 1 sherd, 1 ENV, 1g
Kingston-type ware (KING), 1240-1400, 20 sherds, 15 ENV, 506g
Kingston-type ware with anthropomorphic/zoomorphic decoration (KING ANT), 1240-1350, 2 sherds 1 ENV 108g
Kingston-type ware in the highly decorated style (KING HD), 1240-1300, 12 sherds, 5 ENV, 348g

The Surrey whitewares (Pearce and Vince 1988) are fairly poorly represented on the site and this may reflect the paucity of excavated late medieval deposits, when these wares were more frequent. A small number of open forms occur in these whitewares. An internally glazed bowl or dish base sherd in CBW was noted in the Phase 5 occupation layer [80], while the complete profile of a small flared dish used for cooking in KING was noted in fill [16] of pit [20], in Phase 5. Closed forms are also rare: cooking pots or jars with everted rims in Kingston-type ware were noted in Phase 5, fill [825] of ditch [603] and residual in Phase 6 and the fill [627] of the soakaway.

Jug sherds (27 sherds/17 ENV/745g) are more frequent and particularly in Kingston-type ware and include the highly decorative class (KING HD) found in Phase 4 and more so in Phase 5. Decoration usually consists of applied vertical strips, although one example from fill [611] of ditch [603] additionally has rouletted ring and dot motifs on the strips. From the same

ditch, but fill [612], another KING HD green-glazed jug sherd is decorated with groups of curving applied strips and groups of applied scales, besides a pad with a ring and dot stamp. Of note are two sherds of a mottled green-glazed KING ANT drinking jug, surviving from the neck to the splayed base with the anthropomorphic decoration consisting of folded arms. It was recovered from layer [2], Phase 5. Large rounded jugs in Coarse Surrey-Hampshire border ware are a late medieval form and were identified by their strap handles. These occurred as singular sherds in Phase 5 deposits: layer [2] and fill [16] of pit [20], besides an unstratified example.

Wheel-thrown coarse wares
Limspfield-type ware (LIMP), 1150-1300, 3 sherds, 3 ENV, 137g
Coarse Limpsfield-type ware (LIMP COAR), 1150-1300, 1 sherd, 1 ENV, 32g
Coarse medieval sandy wares (MCS), 1140-1300, 4 sherds, 3 ENV, 77g
South Hertfordshire-type greyware (SHER), 1170-1350, 35 sherds, 26 ENV, 923g
Shelly-sandy ware (SSW), 1140-1220, 86 sherds 51 ENV, 2,652g

A small range of forms (bowls, jars and jugs) are represented in this class of pottery. The complete profile of a spouted bowl is noted in SSW and found in ditch re-cut [183], fill [186], Phase 5. Jug sherds are also nominally represented (4 sherds/3 ENV/514g) and all recovered from Phase 5. A base sherd in SHER is from fill [155] of re-cut [183], Phase 5, while a Limpsfield mortised jug, rod handle came from fill [826] of ditch [603] in the same phase. The latter handle is decorated with a central diamond knife slashed pattern, bordered on each side with knife point stabbing and sticks impressions at the basal terminal. A rounded jug in SHER survived as an internally bevelled rim sherd with a mortised rod handle with pinched ‘ears’. It came from fill [507] of ditch [603], Phase 5.

As is expected for London, the wheel-thrown coarse wares are most frequent as jar forms (76 sherds/56 ENV/2,673g), which complemented the mainly jug producing London-type ware industry. All the definable wheel-thrown coarse ware jars are rounded in shape and vary in size between small and tall. These occur in LIMP, LIMP COAR, SHER and SSW fabrics and unusually it is the only the latter pottery type jars that are decorated with applied vertical thumbed strips with one example from pit [714], fill [749], Phase 5 which has a group of two finger impressions on the rim: a trait noted elsewhere on SSW jars. The wheel thrown coarse wares SHER and SSW are more frequent in Phase 5 than Phase 4, where as LIMP/COAR and MCS (here treated as a miscellaneous category) are only found in Phase 5.

Imported medieval pottery

Andenne-type ware (ANDE), 1050-1200, 2 sherds, 2 ENV, 12g
Blue-grey ware (BLGR), 1000-1200, 4 sherds, 4 ENV, 131g

North French greyware (NFGW), 900-1050, 2 sherds, 2 ENV, 21g
North French yellow-glazed ware (NFRY), 900-1200, 1 sherd, 1 ENV, 6g
Red-painted ware with buff fabric (REDP BUF), 900-1250, 5 sherds, 2 ENV, 29g
Red-painted ware with olive fabric (REDP OLV), 900-1250, 1 sherd, 1 ENV, 3g
Rhenish Tiel-type greyware (RHGR), 900-1100, 10 sherds, 4 ENV, 92g
Miscellaneous unsourced Spanish amphorae (SPOA), 1200-1900, 1 sherd, 1 ENV, 25g

Very few forms could be assigned to the fragmentary nature of the medieval imported wares, which date here to mostly the 12th and early 13th century (Vince and Jenner 1991). Jug or pitcher sherds were noted in ANDE, NFGW (as a collared rim) and NFRY and were all recovered from Phase 5 deposits. German blue greyware (BLGR) is typically represented here, as in the rest of London, in the form of 'ladles' or pipkins and were noted in Phases 4 and 5. The sherd of Spanish amphora came from Phase 5, fill [748] of pit [714] with other pottery dated 1240-1300, The German red painted wares occurred only in Phase 5 or residual in Phase 5 or 6. The forms in REDP are usually recorded in London as spouted pitchers or beakers (Vince and Jenner 1991, 100-1). The Rhenish greyware is a notable import here, with some of the vessels having externally sooted surfaces and so were used for cooking or heating water. RHGR forms in London are usually as pitchers (Vince and Jenner 1991, 95: coded as THWH).

Miscellaneous unsourced medieval wares

In total there are nine sherds/7 ENV/190g of miscellaneous (unsourced) pottery of which 4 sherds/3 ENV/52g can be classified as whitewares (MISC WW). Of these whitewares, a single sherd of a jug with an external green-glaze was recovered from Phase 5, fill [819] of ditch [603]. It has fine abundant iron-stained quartz fabric and could possibly be an Oxfordshire product. Two sherds have affinities with Surrey whitewares (iron-stained quartz), although they appear to be notably different from the typical products. One sherd came from Phase 4, fill [836] of ditch [837] and a green-glazed body sherd was found in Phase 5, fill [822], ditch [603].
Of the other miscellaneous wares, an unstratified sherd in a fine sandy greyware fabric is noted. A sherd is noted from Phase 5, fill [712] of pit [714] and it has external sooting. It has reddish yellow, abundant, fine, angular, amber orange quartz and iron ores and may also be from an Oxfordshire source. From Phase 5 there are two miscellaneous sherds, both from fills of ditch [603]. The first, from fill [815] is in the form of a handmade jug with an uneven, simple rim, rilling on the neck and a mortised strap handle. It is in a coarse fabric that may be related to the Early South Hertfordshire tradition (ESHER). The second, from fill [822] is in a sandy fabric and is as a jug sherd with external rilling and a green-glaze

Post-Medieval wares

Surrey-Hampshire Border wares

Surrey-Hampshire border whiteware with olive glaze (BORDO), 1550-1700, 1 sherd, 1 ENV, 113g

Surrey-Hampshire border whiteware with yellow glaze (BORDY), 1550-1700, 2 sherds, 2 ENV, 40g

Surrey-Hampshire border redware (RBOR), 1550-1900, 2 sherds, 2 ENV, 80g

Surrey-Hampshire Border wares (Pearce 1992) consist of a total of five sherds, representing the same number of ENV and weighing 233g. Forms in the whitewares consist of two unstratified dishes with flat rims in BORDO and BORDY. The redware is noted only in the shape of a rounded jar with a collared rim and this was recovered from the demolition layer [631] in Phase 6.

Coarse London area post-medieval redwares

London-area post-medieval redware (PMR), 1580-1900, 9 sherds, 6 ENV, 1,779g.

All of the identifiable forms in this ware (Nenk and Hughes 1999) were unstratified and consisted of a deep flared bowl and a handled, tall, rounded, Deptford/Woolwich jar, distinguished by its thumbed neck.

Tin-glazed earthenwares

Tin-glazed ware with external lead glaze (Orton style A) (TGW A), 1612-1650, 1 sherd, 1 ENV, 60g

Biscuit-fired tin-glazed ware (TGW BISC), 1570-1846, 3 sherds, 3 ENV, 293g

Tin-glazed ware with plain white glaze (Orton style C) (TGW C), 1630-1846, 4 sherds, 4 ENV, 256g

Tin-glazed ware with 'Chinaman among grasses' decoration (Orton style F) (TGW F), 1670-1690, 4 sherds, 2 ENV, 79g

In total there are twelve sherds of London made tin-glazed earthenware (Orton 1988), representing 10 ENV and weighing 688g. The biscuit ware is all unstratified and has been dumped on the site from local pot houses, the closest being located at Montague Close. Forms in these wasters were identified as a tankard and a possible salt. An unstratified charger is in TGW A and has a blue and white chequer design. An intact 18th-century TGW C ointment pot is also unstratified. Phase 6 finds include two plates in the ‘China men in grasses’ (TGW F) style found in fill [9] of the brick-built tank [8] and a 17th century porringer in TGW C came from the masonry cess pit [724].

Essex fine red earthenwares

Post-medieval Essex black-glazed redware (PMBL), 1580-1700, 21 sherds, 7 ENV, 1,427g
Post-medieval fine redware (PMFR), 1580-1700, 1 sherd, 1 ENV, 25g

There are a total of 28 sherds, representing 8 ENV or 1,452g of post-medieval pottery from an Essex source (Nenk 1999). The only fragmentary form represented in PMFR appears to be a closed one. The black-glazed ware occurs solely as drinking vessels, the non-diagnostic shapes all having handles, while an unstratified jug fragment is recorded.There are also fragments of two tygs: one with a complete, flared profile is unstratified while the other, which may represent a complete vessel in fragmentary condition, is noted in Phase 6, dump layer [635].

Non-local wares

North or West Kent fine calcareous ware (PM64), 1550-1700, 1 sherd, 1 ENV, 32g
Plain yellow ware (YELL), 1820-1900, 1 sherd, 1 ENV, 8g
Yellow ware with industrial slip decoration (YELL SLIP), 1820-1900, 3 sherds, 2 ENV, 119g

All of the Yellow ware came from Phase 6 and fill [802] of the masonry soakaway [626] and consisted of a YELL eggcup with a carinated profile and two YELL SLIP medium, rounded bowls, one with mocha decoration and the other with six white slip horizontal lines. The unstratified sherd of CPM64 could not be assigned to a form.

Industrial finewares

Creamware with developed pale glaze (CREA DEV), 1760-1830, 5 sherds, 5 ENV, 113g
Pearlware with under-glaze blue painted decoration (PEAR BW), 1770-1820, 1 sherd, 1 ENV, 11g
Pearlware with under-glaze transfer-printed decoration (PEAR TR), 1770-1840, 4 sherds, 2 ENV, 11g
Plain refined white earthenware (REFW), 1805-1900, 6 sherds, 3 ENV, 220g
Transfer-printed refined whiteware (TPW), 1780-1900, 66 sherds, 34 ENV, 1388g
Transfer-printed refined whiteware with 'flow blue' decoration (TPW FLOW), 1830-1900, 9 sherds, 3 ENV, 61g
Brown or black transfer-printed refined whiteware (type 3) (TPW3), 1810-1900, 1 sherd, 1 ENV, 14g
Transfer-printed refined whiteware with new colour decoration (type 4) (TPW4), 1825-1900, 1 sherd, 1 ENV, 5g

The industrial finewares or twice fired factory made earthenwares consist of 93 sherds, representing 50 ENV and weighing 1,823g. They were mostly recovered from Phase 6 and fill [802] of the brick soak away [626], unless otherwise stated. Plates of different sizes and shapes (dinner, large, rectangular and tea) are more frequent (44 sherds/18 ENV/792g). These are in developed Creamware and refined whiteware with a blue shell edge, but are mostly transfer-printed ware (TPW/4) and are unstratified or from fill [802]. The Willow Pattern is a frequent design, particularly on the tea plates. Of interest is an unstratified tea plate marked 'J. S. NICHOLLS DINING ROOMS/LONDON BRIDGE', which refers to a local establishment. There are 9 sherds of saucers present representing 7 vessels weighing 61g. These are in Creamware (the infilling of soakaway [4]), PEAR TR (soakaway [4] and fill [152] of the construction cut [151] for the masonry wall [159]) and TPW (fill [802]). Cylindrical mugs consist of six sherds/4 ENV/184g and all in TPW with different designs. Bowls are represented by 5 sherds/5 ENV/158g and are in CREA DEV: rounded (unstratified), REFW: rounded and TPW: carinated and rounded. Tea cups are represented by 5 sherds/5 ENV/25g and are mostly in TPW, except for a porringer shaped example in PEAR BW from soakaway [4]. Five sherds of cylindrical jars are present, representing two vessels and weighing 62g. These include a TPW FLOW example with a floral design and an unstratified TPW3 rim sherd with '[MAR]MALADE/...TIE & Co/[WIN]NERS' surviving.

An unstratified TPW water closet has a late 19th-century floral design and is noted as five sherds, 361g. Four sherds/1 ENV/105g are from an oval dish in refined whiteware. Also present is a TPW flanged lid (one sherd/1 ENV/44g) with a badly matched printed design of three geometrical trees. The same design was found on a tea plate with a mark featuring a skep, bees and the legend 'FOR...' FLORENTINE CA..' on its underside.

English stonewares

English stoneware with Bristol glaze (ENGS BRST), 1830-1900, 1 sherd, 1 ENV, 27g
London stoneware (LONS), 1670-1926, 2 sherds, 2 ENV, 34g
Midlands purple ware (MPUR), 1400-1750, 1 sherd, 1 ENV, 25g
White salt-glazed stoneware (SWSG), 1720-1780, 1 sherd, 1 ENV, 6g

There are few identifiable forms in the small quantity (five sherds/5 ENV/92g) of native stonewares present in the assemblage. In London stoneware there is a sherd from a large bottle or jar found in the masonry soakaway [4], while a blacking bottle was noted in fill [802] of the soakaway [626]. A fragment of a MPUR butter pot was noted in fill [703] of the brick cesspit [724].

Imported post-medieval pottery

Dutch red earthenware (DUTR), 1300-1650, 21 sherds, 1 ENV, 102g
Frechen stoneware (FREC), 1550-1700, 71 sherds, 7 ENV, 562g
Cologne or Frechen stoneware (KOLFREC), 1550-1580, 21 sherds, 2 ENV, 431g
Montelupo oil jar (MLOJ), 1800-1900, 7 sherds, 2 ENV, 7,957g
Westerwald stoneware (WEST), 1590-1900, 1 sherd, 1 ENV, 11g

The imported wares (Hurst *et al.* 1986) account for 45 sherds/30 ENV/9,832g of pottery in the assemblage. The majority are recorded in Phase 6 unless otherwise stated. The imports are mostly derived from Germany (FREC, KOLFREC and WEST), with smaller numbers of vessels sourced from the Low Countries (DUTR) and Italy. Jugs are the most frequent form as 10 sherds/10 ENV/1,004g and these are all as German stonewares. A jug fragment in WEST has an applied floral rosette and was noted in fill [703] of the brick cesspit [724]. Frechen stoneware bartmannen are noted as three sherds from the same number of vessels and two late 16th-century examples are unstratified and are from the demolition rubble layer [631]. The latter deposit also produced a 17th-century example with a medallion featuring the coat of arms for the Duchy of Julich-Kleve, Germany. Rounded jugs (two sherds/4ENV/535g) are in FREC and are unstratified as two vessels from demolition layer [642], one of which features part of a medallion from a large vessel.

The Dutch redware (DUTR) occurs as a cauldron or pipkin with a collared, internally lid seated rim and base sherd and this was recovered from Phase 6 and fill [639] of pit [640]. A more unusual import is the Italian/Montelupo oil jars and most sherds are unstratified, although they are believed to have been derived from fill [514] of the brick cesspit [513], the latter providing one sherd. These tall rounded jars survive as base and body sherds, one with a horizontal lug-type handle. They have an internal glaze, an external iron wash and evidence of vertical white slip line decoration.

Distribution and dating

Table 1 shows the contexts containing pottery, the phase 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), the pottery types in the deposit and a considered (spot) date for the group. All the Post-Roman pottery was recovered from Phases 2 and 4-6 dated deposits. A short discussion of the phases is included, concentrating mainly on the dating of the deposits according to the pottery.

Context	Phase	Size	SC	ENV	Weight (g)	Context ED	Context LD	Pottery types	Context considered date
2	5	S	3	2	156	1340	1500	CBW LGR, KING ANT	1340-1350
4	6	S	8	6	77	1780	1900	CREA DEV, LONS, PEAR BW, PEAR	Mid-late 19th century

Context	Phase	Size	SC	ENV	Weight (g)	Context ED	Context LD	Pottery types	Context considered date
								TR,TPW	
9	6	S	4	2	79	1670	1790	TGW F	1670-1690
16	5	S	2	2	177	1340	1500	CBW LGR, KING	1340-1400
19	5	S	1	1	32	1080	1200	LCOAR	1080-1200
48	5	S	1	1	43	1180	1270	LOND NFR	1180-1270
50	5	S	1	1	10	1080	1350	LOND	1080-1350
63	4	S	1	1	9	970	1100	EMS	970-1100
80	5	S	3	3	48	1270	1500	BLGR, CBW, LSS	1270-1350
87	5	S	4	3	65	1240	1350	LOND, LOND HD	1240-1350
152	6	S	1	1	6	1770	1840	PEAR TR	1770-1840
154	6	M	41	39	731	1180	1220	EMCALC, EMGR, EMIS, EMS, EMSS, ESUR, LCOAR, LCOAR GRIT, LOND, LOND NFR, LOND PELL, LSS, NEOT, REDP BUF, RHGR, SSW	1180-1220
155	5	M	10	9	335	1240	1400	EMGR, KING, LOND, LOND HD, RHGR, SHER, SSW	1240-1350
156	5	M	4	4	54	1180	1350	LOND, LOND BAL, LOND EAS	1180-1200
160	5	M	7	5	43	1180	1270	EMS, LOND, LOND ROU, LSS, SSW	1180-1220
169	5	M	8	7	179	1180	1270	EMGR, EMSH, LCOAR, LOND, LOND NFR, SSW	1180-1225
185	5	S	1	1	7	1080	1200	LCOAR	1080-1299
186	5	M	7	6	308	1140	1220	EMGR, LCOAR, LCOAR GRIT, SSW	1140-1200
187	5	M	2	2	60	1080	1350	LOND, RHGR	1080-1350
188	5	M	5	5	63	1080	1200	ESUR, LCOAR, LOND	Mid-late 12th century
189	5	S	7		113	1080	1350	EMSH, LCOAR, LOND	1080-1150
217	5	M	2	2	82	1050	1150	EMSH, LSS	1050-1150
226	5	S	4	4	118	1140	1220	LOND, SSW	1140-1220
231	4	M	1	1	36	970	1100	EMSS	970-1100
330	0	S	19	5	599	1580	1700	BORDY, FREC, KING, PMBL	1580-1700
506	6	S	2	2	13	1830	1900	CBW, TPW FLOW	1830-1900
507	5	S	4	4	534	1240	1350	KING, LOND, LOND HD, SHER	1240-1270
513	6		1	1	2494	1800	1900	MLOJ	1750/1800-1900
517	5	S	2	1	53	1140	1300	MCS	1140-1300
519	5	S	2	2	24	1150	1300	LIMP, SHER	1150-1300
525	5	S	1	1	35	1080	1200	LCOAR	1080-1200
608	5	S	9	4	78	1170	1200	EMS, ESHER, LCOAR, LCOAR NFR	1180-1200
609	5	S	9	9	56	1180	1200	EMCALC, EMS, EMSH, LCOAR, LCOAR GRIT, LCOAR NFR, NFRY	1180-1200
610	5	S	7	6	97	1180	1200	EMCALC, EMGR, EMSH, LCOAR NFR, NFGW, SSW	1180-1200

Context	Phase	Size	SC	ENV	Weight (g)	Context ED	Context LD	Pottery types	Context considered date
611	5	S	23	15	375	1240	1300	EMSH, EMSS, ESUR, KING, KING HD, LCOAR, LIMP COAR, LOND, LOND HD, MCS, SHER	1240-1300
612	5	S	26	11	492	1240	1300	KING, KING HD, LCOAR, LOND, LOND HD, LOND PELL, SHER	1240-1300
613	5	S	15	4	64	1240	1300	KING, KING HD, LCOAR, LOND, LOND HD, SHER	1240-1300
616	5	S	10	4	72	1140	1350	EMGR, EMSH, EMSS, LCOAR, LOND, LOND BAL, RHGR	1140-1200
624	6	S	2	2	33	1580	1700	BORDY, PMBL	1580-1700
627	6	S	6	6	72	1780	1900	EMS, EMSS, KING, LIMP, TPW	Mid-late 19th century
631	6	S	3	3	271	1550	1700	FREC, RBOR	1550-1700
635	6	S	1	1	392	1580	1700	PMBL	1580-1700
639	6	S	2	1	102	1300	1650	DUTR	1480-1650
642	6	S	2	2	431	1550	1580	KOLFREC	1550-1580
643	5	S	10	4	179	1240	1400	EMCALC, KING, LCOAR, LOND	1240-1350
645	5	S	18	8	278	1240	1400	EMCALC, EMGR, EMIS, EMS, EMSH, EMSS, KING, LCOAR, LOND, LOND BAL, LOND PELL, REDP BUF, SHER	1240-1270
646	5	S	10	1	96	1240	1350	KING, LCOAR, LOND, LOND HD	13th century
647	5	S	5	5	23	1350	1500	CHEA, EMSH, EMSS, LCOAR SHEL, LOND	1350-1500
650	5	S	22	8	216	1080	1200	EMS, EMSH, EMSS, LCOAR, LOND, SSW	Late 12th century
652	5	S	14		43	1080	1200	EMCALC, EMS, EMSH, EMSS, ESUR, LCOAR, LOND	1080-1150
653	5	S	24	11	316	1240	1400	EMCALC, EMGR, EMSH, EMSS, KING, LCOAR, LCOAR GRIT, LOND, LOND BAL, SHER, SSW	1240-1350
654	5	S	5	5	71	1180	1270	LCOAR GRIT, LOND ROU	1180-1200
657	5	S	11	9	322	1140	1220	EMCALC, EMS, ESUR, LCOAR, SSW	1140-1200
700	4	S	2	2	19	1050	1150	EMS, EMSH	1050-1100
703	6	S	11	11	607	1630	1846	ENGS BRST, FREC, MPUR, PMFR, PMR, RBOR, TGW C, WEST	1630-1700
704	5	S	4	4	195	1080	1200	ANDE, LCOAR	Late 12th century
705	4	S	1	1	219	970	1100	EMS	970-1100
712	5	S	11	11	485	1140	1220	EMSH, LCOAR, LCOAR GRIT, LOND, MISC, SSW	1140-1200
713	5	S	26	12	2547	1140	1200	LCOAR, LCOAR GRIT,	1140-1170

Context	Phase	Size	SC	ENV	Weight (g)	Context ED	Context LD	Pottery types	Context considered date
								LOND, LOND EAS, SSW	
734	5	S	1	1	11	1080	1200	LCOAR	1080-1200
748	5	S	7	7	109	1240	1300	KING, KING HD, LCOAR, LOND, SPOA	1240-1300
749	5	S	17	12	1063	1140	1200	LCOAR, LCOAR GRIT, LCOAR SHEL, LOND, SSW	1140-1200
750	4	S	1	1	26	1080	1200	LCOAR GRIT	1080-1200
761	5	S	5	4	136	1080	1200	EMSH, LCOAR, LOND	1080-1150
762	5	S	4	4	197	1080	1200	EMCALC, LCOAR, LOND, MISC WW	1080-1200
802	6	M	72	40	1109	1830	1900	CREA DEV, FREC, LONS, PMBL, PMR, REFW, SSW, SWSG TPW, TPW FLOW, TPW4, YELL, YELL SLIP	1830-1900
815	5	M	40	32	692	1180	1270	EMS,EMSH,ESHER,ESUR, LCOAR, LCOAR EAS, LCOAR NFR, LOND, LOND NFR, LSS, MISC, NFGW, REDP OLV, RHGR, SHER, SSW	1180-1200
816	5	S	6		21	1050	1150	EMS, EMSH, ESUR, RHGR	1050-1150
817	5	M	16	12	538	1180	1270	BLGR, LCOAR, LOND, LOND NFR, SHER, SSW	1180-1200
818	5	M	11	5	92	1180	1270	EMSS, LCOAR, LOND, LOND NFR, LSS, RHGR, SSW	1180-1200
819	5	M	38	26	576	1170	1350	ANDE, EMCALC, EMGR, EMS, EMSH, ESUR, LCOAR, LOND, LOND EAS, LOND NFR, LOND ROU, MISC WW, SHER, SSW	1180-1220
820	5	S	4	4	15	1080	1350	EMFL, EMSH, LOND, LSS	Late 12th-13th century
821	5	S	16		56	1140	1220	EMSH, LCOAR, REDP BUF, SSW	1140-1200
822	5	M	19	16	209	1140	1220	EMS, EMSH, ESUR, LCOAR, LOND, LSS, MISC, MISC WW, RHGR, SSW	1140-1200
823	5	M	15	8	197	1080	1200	EMGR, EMS, EMSH, EMSS, ESUR, LCOAR, LSS	1080-1100/50
824	5	M	31	18	332	1140	1220	BLGR, EMCALC, EMS, EMSH, EMSS, ESUR, LCOAR, LCOAR GRIT, LOND, SSW	1140-1200
825	5	S	5	5	123	1240	1400	ESUR, KING, LCOAR, LOND, LSS	1240-1350
826	5	M	23	11	552	1150	1300	BLGR, EMCALC, EMSH, ESUR, LCOAR, LIMP, LOND, SSW	1150-1200
827	5	M	4	4	117	1140	1220	EMSS, LOND, LOND PELL, SSW	1140-1220

Context	Phase	Size	SC	ENV	Weight (g)	Context ED	Context LD	Pottery types	Context considered date
830	5	M	22	13	371	1240	1350	EMS, EMSH, KING, LCOAR, LCOAR GRIT, LOND, LOND HD, LSS, SSW	1240-1300
833	5	M	11	4	468	1180	1270	EMS, EMSH, LCOAR, LOND, LOND HD, LSS, SSW	1180-1200
834	4	M	20	16	496	1140	1220	EMFL, EMS, ESUR, LCOAR SHEL, LOND, LOND EAS, LSS, SSW	1140-1200
836	4	M	7	1	180	1080	1350	EMSH, EMSS, ESHER, LOND, MISC WW	1175-1225
858	5	M	3	3	74	1050	1150	EMS, EMSS, ESUR	1050-1100
868	4	S	11	10	626	1140	1220	EMS, EMSS, ESUR, LCOAR, LOND, LOND EAS, LSS, SSW	1140-1200
896	4	S	9	1	801	900	1050	LSS	900-1050

Table 1. BVG10: Distribution of pottery types 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 fabrics present and a suggested deposition date.

Phase 4

The earliest feature containing pottery was pit [895], which solely produced a largely complete Late Saxon shelly ware (LSS) rounded jar dated 900-1050. Early medieval features are noted as pit [708], which contained in its fill [705] a tall rounded jar in EMS dated 970-1100, and truncating that, pit [708] had in its fill [700], sherds of EMS and EMSH indicating deposition between 1050-1100.

A series of pits are dated 1140-1200 by the presence of SSW as the latest pottery type, found together with local wheel-thrown glazed jugs: LCOAR and LOND. These features are: pit [870]; fill [834], pit [869]; fill [868] pit [869] and pit [714], fills [712], [713] and [748]. The latest fill [748] of pit [714] produced pottery dated 1240-1300 as KING/HD.

Ditch [72]/[91]/[153]/[837] produced pottery only in a tertiary fill [836], much of the ceramics being fragmentary and dating to the 11th or early 12th century, although the latest vessel is a London type ware jug with a strap handle dated c.1175-1225.

Phase 5

Three sherds of pottery were recovered from occupation layer [80], the earliest wares consisting of Late Saxon shelly ware and German blue grey ware, while the internally glazed base sherd of a sooted Coarse border ware vessel indicates deposition post 1270.

Most of the pottery in this phase was recovered from fills of a re-cut [31]/[183]/[739]/[603] of the Phase 4 ditch [72]/[91]/[153]/[837]. One primary fill, [226] produced pottery and this is dated 1140-1220. Secondary fills, early in the sequence of the ditch produced pottery dated mostly to the late 12th and early 13th century, often by the presence of LOND NFR/ROU in association with SSW or LCOAR, which stopped production in *c.*1200, e.g. fills [48], [186], [187], [188], [189], [704], and [833]. This seems to be the case for the dating of many subsequent ditch fills and It is mainly those fills at the top of the sequence: [611], [612], [613], [615], and [645], [646] and [647] being the earliest, where pottery dated from *c.*1240, such as KING/HD and LOND HD start to appear. Coarse border ware and Mill Green wares are absent and may indicate that the ditch stopped being infilled by 1270, when these wares appear first in London.

Phase 6

A large quantity of fragmentary pottery was recovered from fill/layer [154], the latest types being LOND NFR/PELL, which with the other pottery types indicated deposition between 1180 and 1220. Pit [640] is dated to between 1480-1650 by the presence of a Dutch redware cauldron with a collared rim and internal lid seating.

The demolition layer [642] contained pottery dated 1550-80, while [631] and [635] both produced 1580-1700 dated wares. Pottery recovered from fill [624] of the construction cut [625] for the brick tank [623] is dated also to 1580-1700. The brick built cess pit [724] contained pottery dated to between 1630-80, while the masonry tank [8] was infilled with [9] and that only produced two TGW F plates dated 1670-90. Montelupo oil jars are associated with the brick-lined cess pit [513] and these forms are dated 1750/1800-1900 and so indicated when this feature went out of use. Mid to late 19th-century pottery was recovered from two masonry features: fill [4] of the well/soakaway within [157] and fills [627] and [802] of soak away [626], and this dated the backfilling of these masonry features.

Significance of the collection

The pottery has a high significance at a local level. The pottery is on the whole in keeping with the ceramic profile for the London area and particularly Southwark. The Late Saxon and early medieval ceramics provide an important insight into the land use of this area during these periods. The ditch and its re-cuts demonstrate a sequence of pottery between the late 12th and mid 13th century. There is only a small quantity of late medieval and 16th-century pottery which informs very little about activity for this part of Southwark during this time. The later post-medieval pottery contains wasters from the local delftware pot houses and a small number of closed groups of 19th century material. The latter may relate to activities on Borough High Street and its side streets, particularly inns and other drinking establishments, while a small number of ‘institution ware’ plates relates to a dining room. The post-medieval

pottery is important for demonstrating the intensive land use of the whole site and how it relates to the documented land use of the properties within the area of excavation.

Late Saxon

The presence of a Late Saxon shelly ware jar, found solely in a discrete context, is important for providing information for this period in Southwark, which is poorly understood

Medieval

The early medieval pottery is important for understanding the land use of this area of Southwark during that time. The succession of ditch fills provides a useful sequence of pottery. There are also some important vessels that add to the corpus of forms found in London, such as a London-type ware finial, LCOAR GRIT/SHEL jars and an LCOAR early rounded jug with decoration not catalogued in Pearce *et al.* (1985).

Post-medieval

The significance of the post-medieval pottery is to determine if it correlates to documented commercial activity on the site. This may possibly include drinking establishments, evidenced perhaps by a number of 17th-century PMBL tygs. There is also one plate of a 19th-century date that relates to a dining house and other groups of pottery may be domestic or possibly relate to other leisure activities. The Montelupo oil jars are also of interest and may possibly relate to a colour shop.

Potential

The pottery has the potential to date the features in which it was found and to provide a sequence for them. Some of the pottery merits illustration or photographing.

Late Saxon

The Late Saxon pottery has limited potential to demonstrate what activity was occurring on the area of excavation during this period. The complete profile of an LSS jar from pit [896] merits illustration.

Medieval

The 11th to mid 14th-century medieval pottery has great potential for further study. The imported wares demonstrate what contact Southwark had with the continent. A number of vessels require illustrating as they are rare occurrences or have unusual decoration (see significance above).

Post-medieval

The post-medieval ceramic assemblage has a high potential. The pottery can demonstrate what types of activities were occurring on the site from the 17th century onwards and this can be correlated with the documentary evidence. Groups of pottery may be linked to a drinking establishment, while one vessel has links to an eating house. The pottery may also relate to other professions on the site which need to be further defined by interrogation of the history of the site.

Research Aims

A research aim can be suggested as avenues of research for the pottery assemblage from BVG10.

- How does the post-medieval pottery assemblage compare to the documentary evidence for the land use of the site?

Recommendations for further work

The assemblage from this excavation should be published. Certainly the ceramic sequence of the Phase 4 and 5 ditches are of interest and provide information on dating and the sources of medieval pottery Southwark was receiving, Additionally vessels recovered from features associated with the Phase 4 and 5 ditches can infer upon activities and any changes in land use during these two medival phases. Phase 6 post-medieval deposits can elucidate upon activities on the study area as implied by the pottery. The 17th-century layers [631], [635] and [642] produced exclusively drinking forms. While the Montelupo oil jar from fill [513] of the brick-lined cess pit [514] and the ceramic contents of the 19th-century fills of soakaway [626] may all relate to possible drinking and eating establishments, besides a shop on the area of the excavation. Up to ten vessels require illustration and a number of group shots of intact vessels from different features require photographing.

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APPENDIX 5: LITHICS ASSESSMENT

Michael Donnelly

Introduction

Various excavations along the length of the new Thameslink railway line in London brought to light a number of small assemblages of flint. For the most part, these numbered very few flints and sometimes only unworked burnt flint or natural fragments were recovered. A larger assemblage from site BVG10 included numerous examples from sorted residues and included a large number of very small pieces of shatter whose exact origins are uncertain; they could easily be accidental/mechanical shatter from excavations into flint gravel deposits but could also relate to fine shatter from actual knapping episodes, particularly those from later prehistoric assemblages where less care is given to maintaining platform margins on cores. Site BVG10 also yielded several genuine pieces including a scraper, a notch and an unfinished arrowhead. All the diagnostic pieces recovered date from the Mesolithic or earlier Neolithic periods. There was no evidence at any site for any large scale knapping activity and all the flint recovered should be considered residual.

Methodology

The artefacts were catalogued according to OA South's standard system of broad artefact/debitage type (Bradley 1999), general condition noted and dating was attempted where possible. Unworked burnt flint was quantified by weight and number. The assemblage was catalogued directly onto an Open Office spreadsheet.

During the initial analysis additional information on condition (rolled, abraded, fresh and degree of cortication), and state of the artefact (burnt, broken, or visibly utilised) was also recorded. Retouched pieces were classified according to standard morphological descriptions (e.g. Bamford 1985, 72-77; Healy 1988, 48-9; Bradley 1999).

Metrical and technological attribute analysis was undertaken and included the recording of butt type (Inizan *et al.* 1993), termination type, flake type (Harding 1990), hammer mode (Onhuma and Bergman 1982) and the presence of platform preparation and edge abrasion.

Table 1: The flint assemblage from BVG10

CATEGORY TYPE	BVG 10
Flake	17
Blade	
Bladelet	
Blade-like	1
Core tested nodule	

Scraper	1
Arrowhead unfinished Awl Microburin Ground implement flake Notch	1 1 1
Sub total	26
Irregular waste Chip Sieved Chips 10-4mm Sieved Chips 4-2mm	4 65 5
Waste Chip Sub total	74
Total	96

Natural fragments	223
Burnt unworked flint No./g	88/904g
No. burnt worked flint (exc. sieved chips) (%)	1/26 (3.85%)
No. broken worked flint (exc. sieved chips) (%)	3/26 (11.54%)
No. retouched worked flint (exc. sieved chips) (%)	4/26 (15.38%)

Bedale St (BVG10) contained 26 non-chips including four tools. Seventy sieved chips were found alongside 223 natural fragments (mostly 10-4mm in size) and 88 pieces of burnt unworked flint weighing 904g. Many of the sieved chips are likely to be accidental shatter from Thames gravel deposits rich in flint pebbles/cobbles. Excavation of these in both current and archaeological times can generate numerous pieces of fine shatter.

Actual excavated material from this site amounted to a single flake, but material from samples taken included a notch, an unfinished arrowhead of probable leaf-shaped form, an atypical straight end scraper, a blade like flake and many flakes. The arrowhead is slightly odd in that it has already undergone extensive invasive flaking but its lower end seems significantly out of size with its tip, and it is perhaps possible that an attempt was made to re-size the piece after it had became damaged, but that this was abandoned when the tip broke. It appears to be of leaf-shaped and would date to the early Neolithic although it could also be viewed as an unfinished barbed-and-tanged form of early Bronze Age date. An early Neolithic date would also easily accommodate the blade-like flake, but the scraper and notch are more typical of less refined later prehistoric knapping.

Discussion

The collection is small and lacked the recovery of any statistically meaningful assemblages. However, the presence of diagnostic elements gives some value to the finds. The arrowhead from site BVG10, alongside the blade-like flake probably indicate an early Neolithic date. The bulk of the fine shatter recovered is likely to have been accidentally created by a range of activities cutting into the Thames river gravels although some will be genuine knapping debris, as attested by the waste flakes and tools from BVG10.

Recommendations

There is little requirement for further work here, the natural fragments and the burnt unworked flint can be discarded. Some of the key elements may require illustration and/or photographing for any final report. Similarly, a short report highlighting the discoveries, particularly those of the tools, set alongside a discussion of our current understanding of Mesolithic and early Neolithic activity within Greater London would be required.

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APPENDIX 6: CLAY TOBACCO PIPE ASSESSMENT

Chris Jarrett

Introduction

A small sized assemblage of clay tobacco pipes was recovered from the site (one box). 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 in eight contexts as small (under 30 fragments) groups.

All the clay tobacco pipes (56 fragments, of which four are unstratified) were recorded in an ACCESS database and classified by Atkinson and Oswald's (1969) typology (AO); 18th-century examples are by Oswald's (1975) typology and prefixed OS. All decorated and maker marked pipes were given a unique registered find number. The pipes are further coded by decoration and quantified by fragment count. The degree of milling on 17th-century examples has been noted and recorded in quarters, besides their quality of finish. The tobacco pipes are discussed by their types and distribution.

The Clay Tobacco Pipe Types

The clay tobacco pipe assemblage from the site consists of 23 bowls, 31 stems and two nibs (mouth parts). The clay tobacco pipe bowls range in date between 1640 and 1860. All of the bowls show evidence for being smoked unless otherwise specified.

1640-1660

AO9: one spurred bowl with full milling and a fair finish, but cracked. Context [703].

1660-1680

AO15: three spurred bowls of a fair finish, with three quarters and full milling. Two are unstratified, one of which does not appear to have been smoked, and a single damaged bowl came from context [9].

AO18: one straight sided, heeled bowl as a tall variant with three quarters rim milling and a fair finish, found in context [9].

1680-1710

AO19: one spurred bowl with a quarter milling and a fair finish, recovered from context [9].

AO20: two heeled bowls with rounded profiles, both of a fair finish, one bowl (context [9]) has three quarters rim milling; the other bowl (context [6]) has evidence for milling, although the front of the bowl is missing.

AO21: one heeled bowl with a rounded front and straight back with a fair finish and no milling, recovered from context [6].

AO22: two heeled bowls with straight sides and both are of a fair finish. One bowl from context [9] has a quarter milling of the rim, while the other from context [154] has no milling.

1700-1740

OS10: one heeled, upright bowl with a damaged rim, a fair finish and marked on the heel I R, registered find no. <60>, context [6]. I R may relate to the pipe maker John Roome 1696-1717, James Roome, 1730, or John Robertson, 1721, St Olave's parish (Oswald 1975, 144; Walker 1981, 178).

1730-1780

OS12: two heeled, upright bowls with thin stems and of a fair or good finish. One unstratified example is plain and unmarked while the second is marked on the heel W B (registered find no. <121>) and was recovered from context [514]. The possible pipe maker for W B is: William Brown (1), 1752, St Giles in the Fields (Oswald 1975, 152), although a more local, unknown and so far undocumented Southwark pipe maker is more likely.

1760-1800

OS23: eight spurred bowls with a straight back and less rounded front than the OS22 type. All were recovered from context [514] unless otherwise stated. Two bowls survive as mostly spurs. Three bowls only have stars on each side of the heel (registered find nos. <62> and <64>) and one of these is recorded in context [513] (registered find no. <61>). One plain bowl is marked ? B (registered find no. <63>), the first name initial being illegible, although it is probably W considering that all the other initialled bowls in this context appear to have been made by the same pipe maker. Two bowls are of armorial types and feature the Prince of Wales's feathers. Both bowls were made in a worn mould and have the initials W B (registered find nos. <63> and <66>) on the spur, one of which is damaged, so the first initial is not certain. For the possible pipe makers of the WB bowls see above.

1820-1860

AO28: one spurred bowl with a wreath on each side of the spur and only an oak leaf border on the front of the bowl (registered find no. <36>) and it was recovered from context [802].

Decorated stem

Context [9] produced two conjoining stems which had a double line of milling around the circumference of the stem and it occurred with pipes dated 1680-1710.

Distribution

The tobacco pipes are found in Phases 5 and 6 and their distribution is shown in Table 1.

Context	Phase	No. of fragments	Assemblage size	Context ED	Context LD	Bowl type (makers initials and registered find no.)	Context considered date
4	6	2	S	1580	1910	Stems	1580-1910
6	6	5	S	1700	1740	X1 AO20, x1 AO21, x1 OS10 (I R <60>)	1700-1710
9	6	20	S	1680	1710	X1 AO15, x1 AO18, x1 AO19, x1 AO20, x1 AO22	1680-1710
154	6	1	S	1680	1710	x1 AO22	1680-1710
513	6	2	S	1760	1800	X1 OS23 (* * <61>)	1760-1800
514	6	15	S	1760	1800	X1 OS12 (W B <121>), x6 OS23 (x 2 * * <62> and <64>, x3 W B <63>, <64>, <65> and <66>	1760-1780
703	6	2	S	1640	1660	X1 AO9	1640-1660
802	6	5	S	1820	1860	X1 AO28 (o o <36>)	1820-1860

Table 1. BVG10. Distribution of the tobacco pipes showing the phase, number of fragments and size of the group, the date range of the clay tobacco pipes, the dates of the latest clay tobacco pipe bowl present (Context ED and LD), the range of bowl types the makers initials and registered finds nos. and a considered deposition spot date for each context. NB * * indicates a star/flower motif on the heel/spur; o o indicates a wreath-like motif on the heel/spur

Significance of the Collection

The clay tobacco pipes are of significance at a local level and it is assumed that the assemblage is derived from rubbish or material culture disposed of by the occupiers of the site. The bowl types present on the site fit within the typology for London and it is presumed that local clay tobacco pipe makers are represented in the assemblage, such as I R and WB. There is no evidence for clay tobacco pipe production on the site.

Potential of the collection

The main potential for the tobacco pipes is as an aid to dating the contexts in which they were found and to provide a sequence for them. A number of the pipe bowls merit illustration. Other local pipe assemblages have been recovered from Borough High Street (e.g. BHB00: Jarrett 2002) and Southwark Bridge Road (SBK00: Jarrett 2006), besides other excavations associated with the Thameslink excavations (see Thameslink Assessments 1-7 & 9). These assemblages add to the knowledge of the local clay tobacco pipe industry and their marketing to the end users on the site and in the vicinity.

The documentary evidence of the inhabitants on the excavation area, their professions and socio-economic status may complement the interpretation of the clay tobacco pipe assemblage. Borough High Street and the roads off of it are well known for the inns, public houses, taverns, *etc* located there and clay tobacco pipes may be part of the defining criteria for the material culture of post-medieval drinking establishments (Pearce 2000, 174) and therefore this assemblage may be important in defining activities on the site

Research Aims

A number of research aims can be suggested as avenues of research for the clay tobacco pipe assemblage from BVG10.

- How do the clay tobacco pipes relate to the documentary evidence for the land use of properties on the site?
- How does the clay tobacco pipe assemblage from BVG10 compare to other local sites and what does that inform temporally on the local clay tobacco pipe industry?

Recommendations for Further Work

A publication report should be written for the clay tobacco pipes from the site, relating them where possible to activities on the site and if there are correlations to documented activities. Comparison of this assemblage should be made with material from other sites, particularly those associated with the Thameslink project, to determine how well the local clay tobacco pipe industry is represented. Approximately five bowls need illustrating to supplement the text.

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APPENDIX 7: GLASS ASSESSMENT

Ian R Scott

Introduction

The glass assemblage comprises 166 sherds including 127 sherds of vessel glass and 22 sherds of window glass. Roman contexts (Phases 2 & 3) produced only 14 sherds of glass. Early medieval contexts (Phase 4) produced 30 sherds. By contrast later medieval contexts (Phase 5) produced 79 sherds of glass. Post-medieval contexts (Phase 6) produced 34 sherds.

Much of the glass was recovered through the sieving of samples. This produced 104 sherds many of which are small and undiagnostic to vessel form. Many of these small sherds are probably Roman in date rather than medieval or post-medieval. Fifty-six sherds can be dated with confidence on typological grounds.

Phase Assemblages (Tables 1 & 2)

Phase 2: Early Roman

The glass from this phase of the site comprises just 3 sherds from 3 contexts. The glass consists of 2sherds of vessel glass and a single small flat sherd which might be vessel or window glass (context [261]).

Phase 3: Late Roman

There are 10 sherds of glass from Phase 3. These include 3 thick sherds of frosted window glass, which appears to be modern, from context [163]. The remaining 4 sherds are all vessel glass and include a sherd from a pillar moulded bowl (SF 116) and a small fire polished rim sherd (SF 117). The vessel glass includes part of the neck of a vessel (context [231]) and a rim sherd from a pillar moulded bowl (SF 114).

Phase 4: Medieval pre-AD 1200

The glass from earlier medieval Phase 4 contexts comprises 25 sherds of vessel glass and 2 small sherds of window glass and appears to comprise residual Roman material all from the fill of ditch [153]. Half of the sherds are from context [225] and include a sherd from a square Roman bottle and a fragment of window glass.

The remaining sherds came from pit fills (Table 1). The sherds from the plough soil were all vessel glass and all small and recovered from soil samples. The remaining 7 sherds include a small sherd of window glass (context [886], pit [888]), a sherd of melted glass (context [834], pit [870]), 2 flat sherds that might be window or vessel glass (context [868], pit [869]) and 4 sherds of vessel glass including a body sherd from a square bottle. The glass from Phase 4 is probably all Roman and some of the sherds are certainly from late Roman vessels.

Phase 5a: Medieval post-AD 1200

The glass from Phase 5a contexts is the most numerous of the glass from any phase on the site. There are 79 sherds of glass including 61 vessel sherds, 1 bead and 6 sherds of window glass (Table 1). Most of the glass was recovered from soil samples and the sherds are small and largely undiagnostic. Of the 79 sherds only 11 can be confidently dated (Table 2). The bead is discussed amongst the post-Roman small finds.

Most of the glass came from the fills of ditch [603] (contexts [608]-[611], [613], [634], [643]-[646], [651], [653]-[656], [815]-[816], [820], [822], [824], [826]-[828] & [830]), or from the ditch re-cut [183] (contexts [156], [169], [180], [182], [186], [189] & [226]) (Table 1). Ditch [603] produced 46 sherds including 31 vessel sherds, 5 sherds of window glass, 1 bead, 7 sherds of uncertain type and 2 pieces of melted glass. Most of the vessel glass sherds are small and undiagnostic to form, but are probably Roman and residual. There are two rim sherds from thin walled late Roman beakers (SF 112, context [644] & SF 118, context [817]) and a small sherd from thin-walled small vessel with a horizontal fire polished rim (SF 113, context [824]).

The fills of ditch re-cut [183] produced 16 sherds of vessel glass, all small and mostly unfeatured sherds. The only exception is small thin-walled body sherd in yellow metal with thin trail of dark green glass (SF 111, context [613]) which is nonetheless undiagnostic to form.

Two sherds of vessel glass were recovered from context [17] (pit [20]), which contained residual Roman pottery (AD 50-160). The glass comprises 1 body sherd from a square bottle and 1 sherd from a cylindrical bottle, both Roman.

Phase 6: Post-Medieval

The glass from Phase 6 comprises 34 sherds of glass made up of 24 sherds of vessel glass and 10 sherds of window glass. Nineteen sherds, 13 sherds of vessel glass and 6 sherds of window glass, were recovered from context [802] (soakaway [626]), and comprise 6 sherds of cast window glass, and 13 sherds from 18th- or late 18th- to early 19th-century wine bottles. Five sherds of 18th- to early 19th-century wine bottle and undiagnostic sherd of vessel glass

were recovered from context [4] (construction cut [157]). Context [631], a layer of demolition rubble, produced 4 sherds of vessel glass comprising 3 sherds from a 16th- to 17th-century cylindrical beaker (SF 21) with thin cut trails in the *façon de Venise* in colourless glass (Willmott 2002, 41 & fig. 14; see also examples from Exeter: Charleston 1984, 271 & fig. 149: 75-6), and part of the base of an early to mid 17th-century beaker with optic blown wrythen ribs in colourless metal (SF 22) (Willmott 2002, 38 & fig. 7; see an example from St Ebbes, Oxford: Haslam 1984, 240 & fig. 44: 5). Finally there are 4 small sherds of window glass from context [514] (cesspit [510]-[513]). Residual Roman glass is largely absent from these later contexts although the base of small cup or globular flask of Roman date with an applied foot ring was recovered from context [154] (SF 115).

Recommendations

The glass assemblage is dominated by small sherds of vessel glass of Roman date. Much of this glass is residual in post-Roman contexts, most notably in the ditches and pits in Phase 4 and 5. There is no evidence of medieval glass. Only in Phase 6 is residual Roman glass absent. The Phase 6 assemblage is small but contains from two early post-medieval beakers (SF 21 & SF22).

The glass assemblage should be characterised and a summary description of the phase assemblages should be published. A small number of sherds could be illustrated, and these have been noted in the catalogue which follows.

Bibliography

Charleston, R., 1984 'The Glass', in J. Allen, *Medieval and pot-medieval finds from Exeter 1971-80*, Exeter Archaeol Report 3, Exeter, 258-78.

Haslam, J., 1984 'The glass', in T. Hassall, C. Halpin and M. Mellor, 'Excavations at St Ebbes, Oxford, 1967-76: Part II, post-medieval tenements and the post-Dissolution site of the Grey Friars', *Oxoniensia* 49, 232-246.

Willmott, H., 2002 *Early post-medieval vessel glass in England c 1500-1700*, CBA Research Report 132, York.

Catalogue

Phase 2a: Early Roman

Context	SF No	Sample No	Glass Type	Comments	Recommendations
240		37	vessel	Thin walled body sherd with numerous small bubbles in metal giving milky appearance. Undiagnostic to form. Very pale green metal.	

Phase 2c: Early Roman

Context	SF No	Sample No	Glass Type	Comments	Recommendations
275			vessel	Small body sherd. Undiagnostic to form. Pale blue green metal. Not measured.	
261		38	uncertain	Tiny thin triangular fragment, appears flat. Undiagnostic. Blue metal.	

Phase 3: Late Roman

Context	SF No	Sample No	Glass Type	Comments	Recommendations
177			vessel	Small strongly curved body sherd. Undiagnostic to form. Blue green metal. Roman.	
214		16	vessel	Very tiny chip. Some fine bubbles in metal. Undiagnostic. Not measured. Colourless metal.	
221		18	vessel	Small curved sherd with numerous fine bubbles in metal. Undiagnostic. Colourless metal, very slight hint of green. Not measured. Roman.	
231			vessel	Bottle or flask. Sherd from tapering neck. Undiagnostic to vessel form. Weathered surface given slightly milky appearance to glass. Pale blue green metal.	catalogue & illustrate?
894		150	window	Small sherd of possible window glass. Blue green metal.	
177			uncertain	Small thick sherd possibly flat. Undiagnostic. Blue green metal	

Phase 4: Medieval pre AD 1200

Context	SF No	Sample No	Glass Type	Comments	Recommendations
17			vessel	Bottle of square or rectangular section. Undiagnostic. Pale blue green metal.	
17			vessel	Cylindrical bottle, body sherd. Undiagnostic. Pale blue green metal.	
63	114		vessel	Pillar moulded bowl, rim sherd. Evidence for grinding of inner face of rim. Pale blue green metal. Roman.	catalogue & illustrate
160		13	vessel	Very tiny thin chip. Not measured. Colourless metal.	
163	116		vessel	Pillar moulded bowl, small sherd with single rib. Pale blue green metal. Roman.	catalogue & illustrate
163	117		vessel	Steeply angle rim with fire polished finish. Possible wheel grinding, but weathering precludes certainty. V pale yellow metal.	catalogue & illustrate
216		17	vessel	Small thin walled sherd, with fine bubbles in metal. Not measured. Colourless, hint of yellow metal. Roman.	
216		17	vessel	Small sherd, with some fine bubbles in metal. Colourless metal, hint of green. Roman.	
225			vessel	Square Roman bottle, body sherd. Blue green metal. Roman.	
225		32	vessel	4 x small colourless body sherds probably from more than one vessel. Undiagnostic. Colourless metal.	
225		32	vessel	Small body sherd. Undiagnostic. V pale green metal.	
225		32	vessel	Small very thin body sherd. Undiagnostic. Colourless metal.	
225		32	vessel	Small body sherd. Undiagnostic. Pale green metal.	
225		32	vessel	Sherd from neck body junction of small flask or bottle? Pale green metal.	
601		121	vessel	Small body sherd possibly from cylindrical vessel. Undiagnostic to form. Colourless metal.	

601		121	vessel	1 x small thin-walled sherd; 1 x chip or flake of thicker glass. Colourless metal.	
601		121	vessel	4 x tiny body sherds. Undiagnostic. Colourless metal, hint of green.	
601		121	vessel	Tiny thin body sherd, colourless metal with some tiny bubbles. Undiagnostic.	
601		121	vessel	Tiny body sherd. Undiagnostic. Pale blue green metal.	
817	118		vessel	rim sherd from a thin walled beaker. Vessel D: c 90mm. Colourless/milky white metal. Roman	catalogue & illustrate
817		153	vessel	small body sherd. Blue green metal. Undiagnostic to form.	
817		153	vessel	small body sherd. Pale blue green metal. Undiagnostic to form.	
817		153	vessel	2 x very tiny very thin walled body sherds. Colourless metal. Undiagnostic to form.	
817		153	vessel	Small thin walled body sherd. Colourless metal. Undiagnostic to form.	
817		153	vessel	4 x very thin-walled body sherds. Very pale blue metal. Undiagnostic to form.	
817		153	vessel	2 x very tiny body sherds. Colourless metal. Undiagnostic to form.	
834		143	vessel	Small body sherd. Undiagnostic. V pale green metal.	
881			vessel	Bottle of square or rectangular section, body sherd. Pale blue green metal.	
887			vessel	Part of foot of a stemmed glass or pedestal base with tubular edge. D: c 80mm. V pale blue green metal.	catalogue & illustrate
163			window	3 x sherds (2 join) of thick window glass with frosted surfaces. Modern? Pale blue green metal. Modern.	
225		32	window	Small thin flat sherd, possibly a small piece of window glass. V pale blue green metal.	
817		153	window	Window glass, small sherd, flat surfaces, regular thickness. Colourless metal.	
886			window	Small sherd of probable window glass. Undiagnostic. Blue green metal.	
834		143	waste	Small piece of melted glass waste. Blue green metal.	
868		0	uncertain	2 x flat sherds. Undiagnostic. Pale green metal.	
817		153	uncertain	2 x very small thin flat sherds. Colourless metal.	

Phase 5a: Medieval post AD 1200

Context	SF No	Sample No	Glass Type	Comments	Recommendations
154	115	0	vessel	Base of small cup or globular bodied flask, free blown with applied base ring. Iridescent weathering. Green metal.	catalogue & illustrate
156		5	vessel	3 x tiny body sherds, from more than one vessel? 1 x sherd has possible swirled or marbled pattern in metal. Undiagnostic Colourless metal, with hint of green.	
169		3	vessel	Tiny thin body sherd. Some scattered fine bubbles in metal. Undiagnostic. Colourless metal with hint of v pale yellow.	
180		2	vessel	Tiny thin body sherd. Fine bubbles in metal. Undiagnostic. Colourless metal. Not measured.	
182		1	vessel	Tiny thin body sherd. Undiagnostic. V pale yellow green metal.	
186			vessel	Possible bowl. Body sherd possibly from bowl with steep sides. Pale blue green metal. Roman.	
186			vessel	Small thick body sherd. Undiagnostic to form. Blue green metal.	
189		19	vessel	small chip vessel glass. Undiagnostic. Colourless metal, hint of green.	
226		35	vessel	3 x body sherds, very thin walled vessel. Undiagnostic. Colourless metal	
226		35	vessel	3 x body sherds, 1 tiny. Undiagnostic. Colourless metal.	
226		35	vessel	thin walled sherd. Undiagnostic. Colourless metal,	

Phase 5a: Medieval post AD 1200

Context	SF No	Sample No	Glass Type	Comments	Recommendations
				green tin.	
608		110	vessel	Tiny body sherd. Undiagnostic. Colourless metal.	
608		110	vessel	Tiny body sherd. Undiagnostic. V pale blue green metal.	
609		109	vessel	thin walled body sherd. Undiagnostic. V pale blue green metal	
610		111	vessel	tiny thin body sherd. Undiagnostic. Colourless metal.	
611		104	waste	Melted waste. Pale green metal.	
613	111	100	vessel	Small body sherd of yellow metal with thin dark green trail. Undiagnostic to form.	catalogue & illustrate
613		100	vessel	tiny body sherd. Colourless metal. Undiagnostic to form.	
644	112	105	vessel	Cup or beaker. Small rim sherd from a 4th-century cup or conical beaker, with lines of abrasion below rim. Curved cracked-off rim. Colourless metal, green tint. 4th-century.	catalogue & illustrate
645	23		vessel	Body sherd. Undiagnostic to form. V pale green metal	
646		107	vessel	2 x small blue green chips from vessel(s)? Blue green metal.	
651		113	vessel	3 x small body sherds, from at lest 2 different vessels? Colourless metal	
653		115	vessel	Small sherd or chip of blue g.reen glass.	
654		116	vessel	2 x small body sherds. Undiagnostic to form. Colourless metal.	
654		116	vessel	Small battered body sherd. Blue green metal.	
655		117	vessel	Small curved body sherd, possibly from vessel neck. Small bubbles in metal. Colourless metal.	
656		118	vessel	Cup or beaker. Tiny rim sherd, curved cracked-off rim. Could be from 4th-century cup or beaker. Colourless metal.	
815		125	vessel	Tiny body sherd. V pale blue metal.	
816			vessel	Body sherd from a cylindrical vessel. Has ground or roughened outer surface giving slightly milky appearance. Thick walled: c 2.5mm. Undiagnostic. Colourless metal.	
816		126	vessel	sherd with rounded edge. Undiagnostic to form. Blue green metal.	
822		132	vessel	1 x small body sherd or chip. Colourless metal.	
822		132	vessel	1 x thin walled body sherd. Colourless metal. Undiagnostic to form	
824	113	134	vessel	Rim, almost horizontal, slightly wavy in profile with fire polished finish. Undiagnostic to form. Pale blue metal.	catalogue & illustrate
826		136	vessel	Small thin walled body sherd. Pale blue metal. Undiagnostic to form	
826		136	vessel	Small thin walled body sherd. Some small bubbles in metal. Colourless metal. Undiagnostic to form	
827			vessel	Roman square blue green bottle. Sherd probably from base. Blue green metal.	
827		137	vessel	Tiny body sherd. Pale blue metal. Undiagnostic to form	
828		138	vessel	Thin walled body sherd, some small bubbles in metal. Colourless metal. Undiagnostic to form.	
830		139	vessel	Small body sherd. Colourless metal. Undiagnostic to form.	
634	20		window	Window glass sherd with slightly irregular surfaces. Thickness 2.5mm. V pale green metal. Post medieval.	
655		117	window	Possible window glass, small sherd. Pale blue green metal. Undiagnostic.	
816		126	window	Sherd of window glass. Modern? Colourless metal, green tint	
820			window	Possible window glass with curved edge round in profile. Date uncertain. Not matt/glossy glass. Pale blue green metal	
826		136	window	Possible window glass, small sherd. Pale blue metal.	

Phase 5a: Medieval post AD 1200

Context	SF No	Sample No	Glass Type	Comments	Recommendations
826		136	waste	Melted glass, fragment. Pale blue green metal.	
643		103	uncertain	small chip of glass. Pale green metal. Undiagnostic.	
645		106	uncertain	Tiny thin flat sherd. Colourless metal.	
815		125	uncertain	2 x tiny chips. Colourless metal.	
828		138	uncertain	2 x chips of colourless glass. Colourless metal. Undiagnostic to form.	
830		139	uncertain	Small almost square fragment of semi-opaque blue green metal.	

Phase 6: Post-Medieval

Context	SF No	Sample No	Glass Type	Comments	Recommendations
4			vessel	Small body sherd. Opaque blue grey to yellow green metal, possibly burnt. Undiagnostic to form.	
4			vessel	Free blown cylindrical wine bottle with bulged neck. 5 x sherds. Neck and body sherd. Finish missing. No mould lines. Late 18th- to early 19th-century. Dk green metal.	
631	21		vessel	Cylindrical beaker with thin cut horizontal trails. *Facon de Venise*. Body sherd. 16th- to 17th-century. Colourless metal.	catalogue & illustrate
631	22		vessel	Cylindrical beaker with optic blown wrythen ribs in colourless metal. Sherd from lower body/heel. 17th century.	catalogue & illustrate
802			vessel	Cylindrical wine bottle, body sherd. 18th- or 19th-century. No distinctive features. Dk green metal.	
802			vessel	Wine bottle(s). Sherds from one or perhaps two cylindrical wine bottle(s). No obvious mould lines, ossibly free blown. Dk olive green metal.	
802			vessel	Free blown wine bottle, part of bulging neck. Has hand tooled rim and flattened string rim. Some superficial weathering. Late 18th to early 19th century. Dk green metal.	
802			vessel	Freeblown cylindrical wine bottle. Lower body and base with deep kick. Late 18th to early 19th century. Some superficial weathering. Dk green metal.	
514		124	window	Window glass. 4 x small sherds of V pale green metal.	
802			window	Window glass. 6 x sherd of including 2 sherds with one thickened edge. Cast glass. V pale blue green metal. Post medieval	catalogue & illustrate?

Unstratified and Unphased

Context	SF No	Sample No	Glass Type	Comments	Recommendations
u/s			vessel	Pharmaceutical bottle lopsided conical kick from free blown cylindrical pharmaceutical bottle. Pale green metal. Late 17 century – 18th century Original D: c 60-65mm	
u/s			vessel	Bottle of square or rectangular section, body sherd. Undiagnostic. Pale yellow green metal.	
u/s			vessel	Bottle or flask, fragment of ribbed ribbon handle. Dark blue green metal. Roman	catalogue & illustrate
u/s			vessel	Square Roman bottle, possible base. Blue green metal. Roman	
330			vessel	Free blown cylindrical bottle with low domed kick. Possibly large pharmaceutical bottle. Pale green metal. 18th-century.	
658		120	vessel	3 x tiny body sherds. Colourless metal. Undiagnostic to form.	

BVG 10 - Table 1: Summary of Glass by Glass type and Phase (sherd count)

Period	Phase	Feature	Context	Glass Type					Totals
				vessel	window	bead	uncertain	waste	
Early Roman	2a	layer	240	1					1
		Totals		*1*					*1*
	2c	occupation	261				1		1
		occupation	275	1					1
		Totals		*1*			*1*		*2*
Late Roman	3	demolition	214	1					1
		occupation	221	1					1
		layer	231	1					1
		ditch 178	177	1			1		2
		well 892	894		1				1
		layer	163	2	3				5
		Totals		*6*	*4*		*1*		*11*
Medieval pre AD 1200	4	layer	63	1					1
		ditch 153	160	1					1
			216	2					2
			225	9	1				10
		plough soil	601	9					9
		pit 870	834	1				1	2
		pit 868	868				2		2
		pit 879	881	1					1
		pit 888	886		1				1
			887	1					1
		Totals		*25*	*2*		*2*	*1*	*30*
Medieval post AD 1200	5a	pit 20	17	2					2
		plough soil	817	12	1		2		15
			156	3					3
			169	1					1
		Ditch recut 183	180	1					1
			182	1					1
			186	2					2
			189	1					1
			226	7					7
		Ditch 603	608	2					2
			609	1					1
			610	1					1
			611					1	1
			613	2					2
			634		1				1
			643				1		1
			644	1					1
			645	1			1		2
			646	2					2
			651	3					3
			653	1					1
			654	3					3
			655	1	1				2
			656	1					1
			815	1			2		3
			816	2	1				3
			820		1				1
			822	2					2
			824	1		1			2
			826	2	1			1	4
			827	2					2
			828	1			2		3
			830	1			1		2
		Totals		*61*	*6*	*1*	*9*	*2*	*79*

Period	Phase	Feature	Context	Glass Type					Totals
				vessel	window	bead	uncertain	waste	
Post-Medieval	6	masonry	4	6					6
		layer	154	1					1
		cesspit 510-513	514		4				4
		demolition	631	4					4
		soakaway 626	802	13	6				19
			Totals	***24***	***10***				***34***
unstratified			u/s	4					4
			Totals	***4***					***4***
unphased			[330]	2					2
			[658]	3					3
			Totals	***5***					***5***
			Totals	**127**	**22**	**1**	**13**	**3**	**166**

BVG 10 - Table 2: Summary of Dated glass by Phase (sherd count)

Glass date	Phase								Total
	2a	2c	3	4	5a	6	u/s	unph	
Roman			4	1	9	1	2		**17**
late Roman					1				**1**
medieval/post medieval				2	1	6	1		**10**
16th - early 17th c						3			**3**
17th c						1			**1**
late 17th c – 18th c							1		**1**
18th c								2	**2**
18th c - 19th c						11			**11**
late 18th c - early 19th c						7			**7**
modern			3						**3**
undated/undiagnostic	1	2	4	27	68	5		3	**110**
Totals	**1**	**2**	**11**	**30**	**79**	**34**	**4**	**5**	**166**

APPENDIX 8: ROMAN SMALL FINDS ASSESSMENT

Ian R Scott

Introduction

The metals and small find assemblages from Phases 2 and 3 are small and number only 17 objects (35 fragments), and comprise 11 iron finds, 3 copper alloy, 2 glass counters and 1 lead strip. In addition there is Roman seal box (SF 43) from a Phase 5a context and a ceramic spindle whorl from a Phase 6 context.

The metal and small finds have been fully recorded. They were quantified both by object and fragment numbers. Complete nails and nail heads have been counted to give a minimum number of nails, and all fragments of nails including stem fragments were counted to give a maximum number. Undiagnostic metal fragments (Table 1: 'Unknown') were only counted as fragments and are not included in the Catalogue below.

Phase Assemblages (Table 1)

Phase 2: Early Roman

Metal and small finds from Phase 2 are limited (n = 13): The only finds from Phase 2a are a large nail and an L-shaped spike fused together (SF). Phase 2c produced 2 glass gaming pieces, 1 black (SF 11) and 1 opaque white (SF 105), otherwise the finds comprise nails, a plain copper alloy ring (SF 7*)* and a small strip of lead only.

Phase 3: Late Roman

There are just 4 finds (15 fragments) for late Roman contexts. These consist of nails, a fragment of melted copper alloy waste (SF 9) and undiagnostic fragments.

Other Phases

There are a small number of Roman finds from post-Roman contexts. These comprise the facetted head of bone hairpin (SF 104, context [875]) from Phase 4; probable bone bead spacer (SF 103, context [652]), ovoid bead in blue glass (SF 108, context [824]) and a decorated lozenge shaped seal box (SF 43, context [824]) from Phase 5a; and a spindle whorl made from a Samian sherd (SF 5) from Phase 6. The hairpin has a facetted cuboid head (Crummy 1979, 157 & fig. 1, no. 5: Type 4 pin). At Colchester pins of this type occur only in contexts dating after AD 250 (Crummy 1983, 23; see also Crummy 1979, 161-2). The glass bead is probably of similar date. The decoration of the seal box comprises a central circular element divided into quarters and radiating from this are a number of small cells with enamel. These finds should be published.

Recommendations

The metals and small finds assemblage from Roman contexts is very limited in the number a range of finds recovered. A brief note on the composition of the Roman assemblage could be published and the 2 glass gaming pieces (SF 11 & SF 105), the ceramic spindle whorl (SF 5), the bone hair pin (SF 104) and bead spacer (SF 103) and the seal box (SF 43) should be published. In view of the large residual Roman element noted amongst glass for medieval contexts, it may be that further Roman small finds and metal finds will be present in the post-Roman assemblages.

Bibliography

Crummy, N., 1979 'A chronology of bone pins', *Britannia* 10, 157-164.

Crummy, N., 1983 *The Roman small finds from excavations in Colchester 1971-9*, Colchester Archaeological Report 2, Colchester.

Catalogue

Phase 2a: Early Roman

Context	SF No	Sample No	Comments	Recommendations
83	78		Manning (1985) Type 1 nail (2 x fragts) encrusted. L: 115mm. Fused to spike with L-shaped head. Fe.	
83	78		Spike with L-shaped head. Holdfast or peg? L: 180mm. Fused to nail. Fe.	

Phase 2c: Early Roman

Context	SF No	Sample No	Comments	Recommendations
175	7		Plain ring of circular section. D: 31mm. Cu alloy	
233		24	Tiny thin strip of lead. Not measured	
261	105	38	Counter or gaming piece. Circular domed, or bun-shaped, counter in opaque white glass. D: 13; Ht: 6mm. Roman.	catalogue & illustrate
263		45	Small strip fragment. Cu alloy. Not measured.	
263		45	1 x possible Type 1 nail; 2 x stem fragments (1 tiny) all encrusted. Fe.	
263		45	Nail stem fragment. Fe.	
275	11		Counter or gaming piece. Circular domed, bun-shaped, counter in black glass. D: 15mm; Ht: 6mm. Roman	catalogue & illustrate
275			5 x Type 1 or possible Type 1 nails or nail heads; 3 x stem fragments. All encrusted. All incomplete. Fe.	

Phase 3: Late Roman

Context	SF No	Sample No	Comments	Recommendations
177		6	1 x possible nail head; 3 x possible stem fragments, all heavily encrusted/mineralised. Fe.	
190			2 x possible nail stem fragments, heavily encrusted and mineralised. Fe.	
190		10	2 x small undiagnostic lumps. Fe?	
190	9		melted waster or spill, forming irregular flat slab. Cu alloy.	
213		11	Type 1 head. Fe.	
214			Type 1 nail, possibly incomplete and very heavily encrusted. L: 60mm. Fe.	
214		16	4 x small undiagnostic fragments. Fe.	

Phase 4: Medieval, pre-AD 1200

Context	SF No	Sample No	Comments	Recommendations
875	104	147	Facetted head of a small hairpin. L: 10mm; W of head: 5mm. Bone.	illustrate

Phase 5a: Medieval, post AD 1200

Context	SF No	Sample No	Comments	Recommendations
652	103	114	Bead spacer comprising a rectangular fragment of worked bone (dyed black) with 2 drilled holes. L: 6mm; W: 6mm; Th: 4mm. Probably Roman.	illustrate
824	108	134	Bead, almost lozenge shaped and oval in section at broadest point. Deep blue metal. L: 12mm; W: 7mm. Roman, the colour suggests late Roman.	illustrate
824	43		Hinged lozenge shaped seal box with knobs at 3 corners and hinge at 4th corner. 4 holes on one surface, enamelled pattern on opposite face. L: 42mm; W: 28mm; Ht: 13mm. Cu alloy. Roman.	cleaning would be advisable. catalogue & illustrate

Phase 6: Post-medieval

Context	SF No	Sample No	Comments	Recommendations
96	5		Spindle whorl fashioned from sherd of Samian. Slightly curved in section. D: 31mm x 27mm; Th: 7mm. Ceramic. Roman.	catalogue & illustrate

Table 1: BVG 10 Summary of metal finds and small finds

Period	Phase	Feature	Context		Function								Totals
					Tools	Transport	Leisure	Structural	Nails	Misc	Unknown	Waste	
Early Roman	2a	levelling layer	83	Count				1	1				2
				Fragt Count				1	2				3
				Total Count				***1***	***1***				***2***
				Total Fragt Count				***1***	***2***				***3***
	2c	occupation layer	175	Count						1			1
				Fragt Count						1			1
		posthole	233	Count						1			1
		234		Fragt Count						1			1
		occupation layer	261	Count			1						1
				Fragt Count			1						1
		occupation layer	263	Count					1	1			2
				Fragt Count					4	1			5
		occupation layer	275	Count			1		5				6
				Fragt Count			1		8				9
				Total Count			***2***		***6***	***3***			***11***
				Total Fragt Count			***2***		***12***	***3***			***17***
Late Roman	3	ditch 178	177	Count					1				1
				Fragt Count					4				4
		pit 179	190	Count					0		0	1	1
				Fragt Count					2		2	1	5
			213	Count					1				1
				Fragt Count					1				1
		demolition layer	214	Count					1		0		1
				Fragt Count					1		4		5
				Total Count					***3***		***0***	***1***	***4***
				Total Fragt Count					***8***		***6***	***1***	***15***
Medieval post AD 1200	5a	ditch 603	824	Count		1							1
				Fragt Count		1							1
				Total Count		***1***							***1***
				Total Fragt Count		***1***							***1***
Post-medieval	6	levelling layer	96	Count	1				1				2
				Fragt Count	1				1				2
				Total Count	**1**				**1**				**2**
				Total Fragt Count	**1**				**1**				**2**
				Total Count	**1**	**1**	**2**	**1**	**11**	**3**	**0**	**1**	**20**
				Total Fragt Count	**1**	**1**	**2**	**1**	**23**	**3**	**6**	**1**	**40**

APPENDIX 9: POST-ROMAN SMALL FINDS ASSESSMENT

Märit Gaimster

Nearly 500 individual metal or small finds were retrieved from post-Roman contexts; they are listed in the table below. The finds are vastly dominated by iron nails and, with the exception of around 70 objects, all came from medieval Phase 5a contexts. This phase, however, clearly has a high degree of residuality, reflected in a continuous appearance of Roman pottery and coins. In addition, much of the non-ferrous material is highly fragmented, with only a dozen objects sufficiently diagnostic to allow a medieval or post-medieval date.

Phase 4: medieval pre-AD 1200

The sixty-four objects from this phase included a copper-alloy brooch pin (SF 88) and a rectangular lead sheet mount (SF 70). The small fragment of bone with vertical incised lines (SF 102) may be the broken-off head of a small object such as a pin or a needle (cf. MacGregor *et al*. 1999, fig. 924). Two objects may be remnants of metal cooking vessels, in the form of vessel feet of ?leaded bronze (SF 1) and copper alloy (SF 68).

Phase 5a: medieval post-AD 1200

In total, around 420 finds were retrieved from Phase 5 contexts. There is a small group of non-ferrous objects, or iron objects other than nails but the majority of these finds are highly fragmented or undiagnostic. The latter include a small copper-alloy ring (SF 46) and production waste of lead (SF 3, 71, 97 and 120) and horn (SF 77). Three finds can be clearly identified as medieval, including a small pyramid-shaped mount of copper alloy (SF 58; cf. Egan and Pritchard 1991, fig. 125, no. 1068) and parts of an iron pricket candle holder with angled stem (SF 74; cf. Egan 1998, 141; Ottaway and Rogers 2002, 2856). A rectangular double-framed copper-alloy buckle with a sheet pin is of a type more common for the late Middle Ages (SF 32; cf. Egan and Pritchard 1991, fig. 62). A crude and irregular lead disc with circular perforation (sf 89) may be a spindle whorl, a weight used to aid the spinning of wool and other fibres on a spindle; however, plain disc-shaped spindle whorls of lead were used from the Roman period and throughout the Middle Ages (cf. Hamerow 1993, 65, 70–71; Egan 1998, 258–60). In addition, an unstratified copper-alloy mount (SF 67) is decorated with what appears to be a saltire cross within a shield; this is likely to be late medieval, and may be compared with armorial harness pendants or mounts (cf. Griffiths 1995; Egan and Pritchard 1991, 181–84).

Phase 6: post-medieval

This phase produced only eleven finds; they include household fixtures and fittings as well as dress accessories and personal belongings, and represent different phases of occupation on site. The fragment of a copper-alloy strap with embossed grooves (SF 6) came from context [154]. The 17th century is represented by a wooden cutlery handle (SF 27) and a complete

copper-alloy double-edged pestle for grinding spices and other food stuffs in a mortar; a similar find, dating from *c.*1630-50, is known from Limehouse in London (Egan and Keys 2005, 65 and fig. 33). An iron pintle for suspending doors or shutters (SF 98) and a copper-alloy finger ring with rectangular cut-glass setting (SF 81), as well as numerous copper-alloy sewing pins (SF 80), were associated with tobacco clay pipe from the late 18th century. Finally, occupation in the 19th or early 20th centuries is reflected in fragments of a ?silver plated snuff box (SF 37) and a shell button (SF 75).

Recommendations

The metal and small finds form an integral part of the archaeological data from the site, and should be included where relevant in any further publication. This is particularly so for the small group of identifiable or diagnostic finds discussed above, which include the iron candleholder, the copper-alloy dress accessories and possible lead spindle whorl from Phase 5, and the household and personal objects from Phase 6. For the purpose of publication, the medieval mount with ?armorial decoration (SF 67) would require cleaning to further identify the motif; the possible 18th-century finger ring (SF 81) will need further identification. In addition, a number of corroded and/or fragmentary objects, retrieved from environmental sampling, may warrant x-raying to enable identification; these are all marked in the table below. Considering the high degree of residuality, some finds may need to be seen by a Roman small finds specialist.

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Table 1 Post-Roman small finds

Phase 4: medieval pre-AD1200

context	sf	description	pot date	recommendation
17	1	fragment of substantial ?leaded bronze vessel foot; rectangular and slightly dished with central ridge externally; W 45mm	R residual	
	68	tapering piece of cast copper alloy; ?fragment of vessel foot; L 35mm	R residual	
		iron nail; floor-nail type with flat triangular shank and narrow head; L 85mm+	R residual	
160	87	copper-alloy ?object; two sheet fragments	R, 1180-1220	x-ray
	102	worked bone; fragment only with three vertical incised lines; W 4mm; L 12mm+; possibly fragment of a bone pin or needle	R, 1180-1220	
		iron nails; two incomplete	R, 1180-1220	
215		iron nails; two incomplete	R residual	
225	88	copper-alloy brooch pin; traces of original fixing; L 25mm; ?Roman residual	R residual	
		iron nails; four incomplete	R residual	
601		iron nails; ten incomplete	n/a	
602	89	lead ?spindle whorl; irregular ring shape with central hole for suspension; diam. 28mm	R residual	
		iron nails; seven incomplete	R residual	
728	70	lead sheet mount; rectangular; four nail holes visible; W 35mm; L 50mm+	R residual	
817		copper-alloy ?sheet/mount; fragment only	R, 1180-1200	x-ray
		iron nails; 16 incomplete	R, 1180-1200	
831		iron nails; three incomplete	n/a	
834		iron ?object; heavily corroded lump; 40 x 40mm	R, 1140-1200	x-ray
880	12	iron tethering ring with pin for fixing; diam. 53mm	n/a	
894		iron nails; eight incomplete	R residual	

Phase 5a: medieval post-AD 1200

context	sf	description	pot date	recommendation
49	3	substantial piece of lead casting waste; 50 x 100mm; ?Roman	R residual	
155		iron nails; four incomplete	R, 1240-1350	
156	77	horn-working waste; section of cattle horn sawn at both ends; L 35mm	R, 1180-1200	
		iron nails; six incomplete; three are small tacks	R, 1180-1200	
169		iron nail; incomplete	R, 1180-1225	
180		iron nails; six incomplete	R residual	
186		iron nail	R, 1140-1200	
188		iron nails; five incomplete but well-preserved	1080-1200	
608		iron nails; two incomplete	R, 1180-1200	
609	24	copper-alloy sheet/?rectangular mount; two possible holes for fixing visible on x-ray; W 40mm; L 60mm+	1180-1200	
	69	copper-alloy lace-chape; incomplete; L 15mm; originally corroded to sf 24	1180-1200	
		iron nails; three incomplete	1180-1200	
610	96	lead window came; two reeded fragments;	1180-1200	further ident

		?post-medieval intrusive		
		iron nail; incomplete	1180-1200	
611		iron nails; seven incomplete	R, 1240-1300	
612		iron nails; six incomplete	1240-1300	
613	58	copper-alloy lozenge/pyramid-shaped mount with internal rivet; W 15mm; ht. 18mm	R, 1240-1300	
	97	lead waste; two fragments	R, 1240-1300	
		iron ?object; bar with ?transverse arms; L 85mm+	R, 1240-1300	x-ray
		copper-alloy ?ring; fragment only	R, 1240-1300	x-ray
		iron nails; seven incomplete	R, 1240-1300	
616		iron nail; incomplete	1170-1350	
643	90	copper-alloy ?object; two fragments only	R, 1240-1350	x-ray
		copper-alloy ?object; minute fragment only	R, 1240-1350	
		iron nails; 13 incomplete	R, 1240-1350	
644		iron nails; two incomplete	n/a	
645	91	copper-alloy sheet/mount; W 12mm; fragment only; possible buckle plate?	R, 1240-1270	x-ray
	120	lead waste; folded sheet; L 40mm	R, 1240-1270	
		iron nails; 18 incomplete	R, 1240-1270	
646		iron nails; eight incomplete	R, 13th c	
		iron pin/wire; four pieces	R, 13th c	
647		iron nails/tacks; 26 incomplete	n/a	x-ray
		iron ?nails; four corroded lumps	n/a	x-ray
650		copper-alloy ?object; fragment only	R, 1170-1270	x-ray
		iron nails; 14 incomplete	R, 1170-1270	
651		iron nails; seven incomplete	R residual	
		iron nails/tacks; 40 pieces and fragments	R residual	x-ray
652		iron nails; ten incomplete; including ?horseshoe nails	n/a	x-ray
653		copper-alloy ?object; three small fragments	R, 1180-1200	x-ray
		iron nails; ten incomplete	R, 1180-1200	
655	25	copper-alloy strap; incomplete; W 9mm; L 35mm+	R residual	
	99	iron ?sheet mount; incomplete; 40 x 40mm; possible *in-situ* rivet for fixing	R residual	x-ray
		iron nail; incomplete	R residual	
656		iron nails; 13 incomplete	R residual	
657	92	tinned-iron pin/wire; fragment only; L 33mm	R, 1140-1200	x-ray
	101	stone hone; long and slim with chafered edge; Ardingley sandstone; incomplete; W 20mm; L 100mm+	R, 1140-1200	
		iron nails; 11 incomplete	R, 1140-1200	
761	32	copper-alloy buckle; D-section rectangular double frame with one circular-section narrowed and offset side for leather strap, the other with pin notch; central bar with sheet pin in narrowed centre flanked by decorative ridges; W 36mm; L 28mm	1080-1150	
815	35	iron strap; tapering of hammered sheet; L 85mm+	R, 1180-1200	
		iron nails; six incomplete	R, 1180-1200	
816	74	iron pricket candleholder; angled stem with pricket and one rolled arm present; L 85mm	n/a	
		iron nails; 28 incomplete	n/a	
818	93	copper-alloy strip; fragment only; W 2mm	R, 1180-1200	x-ray
		iron nails; 15 incomplete	R, 1180-1200	
819	82	copper-alloy objects; three fragments	R, 1180-1220	x-ray
		iron nails; six imcomplete	R, 1180-1220	
820		iron nails; four incomplete	R residual	
821		iron nails; seven incomplete	n/a	
822		iron nails; five incomplete	R, 1140-1200	
823	94	copper-alloy pin/wire; fragment only; L	R, 1080-	x-ray

		24mm	1100/50	
		iron nails; ten incomplete	R, 1080-1100/50	
824		iron nails; three incomplete	R, 1140-1200	
825		iron nails; 18 incomplete	Roman	
826		iron nails; 15 incomplete	R, 1150-1200	
827	46	small copper-alloy ring; diam. 14mm, ?Roman	R, 1140-1220	further ident
		copper-alloy ?object; fragment only	R, 1140-1220	x-ray
	100	iron ? mount; incomplete; 20 x 40mm	R, 1140-1220	
		iron nails; eight incomplete	R, 1140-1220	
828	55	copper-alloy circular-section bar or handle, fragment only; diam. 5mm; L 25mm+	R residual	
	71	substantial piece of lead casting waste; 60 x 70mm, ?Roman	R residual	
	72	iron strap; heavily corroded and in two pieces; W 23mm; L 24mm+,	R residual	
		iron nail with domed circular head; L 65mm	R residual	
		iron nails; two incomplete	R residual	
829	73	iron strap; slightly tapering; W 33mm; L 200mm+; ?door strap/strap hinge	n/a	
830		iron nails, 11 incomplete	R, 1240-1300	
833		copper-alloy; two minute specks only	R, 1240-1300	discard
		iron nail; incomplete	R, 1240-1300	

Phase 6: post-medieval

context	sf	description	pot date	recommendation
9	75	shell button; slightly dished; small sunken centre with two holes for fixing; diam. 15mm; 19th to 20th centuries	1670-1690	
154	6	copper-alloy strap; incomplete and twisted; decorated with simple embossed grooves along both edges; W 4mm; L 80mm+	R, 1180-1220	
514	80	copper-alloy pins; numerous fragments; Caple Type C with traces of white-metal coating	ctp: 1760-1800	
	81	copper-alloy finger ring with rectangular 4 x 5mm cut-glass setting; incomplete	ctp: 1760-1800	further ident
	98	iron pintle, incomplete; ht. of pivot 50mm	ctp: 1760-1800	
		substantial iron strap; tapering; two pieces; W 25mm; ?strap hinge	ctp: 1760-1800	
		slightly dished iron strap; tapering; three pieces; W 28mm; ?strap hinge or structural fitting	ctp: 1760-1800	
703	27	wooden scale-tang cutlery handle; very fragmentary with slightly pistol-shaped end and four copper-alloy rivets; L 75mm	1630-1700	
723	28	copper-alloy pestle; complete double-ended with plain shaft decorated with single ridge below end bulbs of ; L 195mm	n/a	
802	37	?silver plated copper-alloy snuff box; rectangular with hinged lid; engraved on all sides with parallel horizontal lines; illegible stamp on inside of lid; 35 x 68mm	1830-1900	
	38	copper-alloy coin; heavily corroded and degraded; unidentifiable	1830-1900	

Unstratified

context	sf	description	pot date	recommendation
+	2	?copper-alloy object; small cluster of five		further ident

		uneven but spherical shapes , each *c* 7mm diam.		
	30	copper-alloy ?buckle frame; incomplete or ?unfinished; W 26mm; med/pmed		
	31	copper-alloy ring; diam. 15mm		
	67	copper-alloy mount; incomplete; rectangular tab at end for one substantial rivet; embossed decoration of saltire cross within ?shield; W 24mm; L 20mm+, medieval		clean and further ident
		iron nails; two incomplete		discard
	76	bone implement with long, slender point; carved from horse metapodial splint bone; L 180mm; ?awl		

Assessment Of Stone Objects

By Ruth Shaffrey

Summary

An assemblage of seven pieces of stone was retained during excavations at 2-4 Bedale Street. One jet armlet was recovered from ditch re-cut [183] ([180]) and the remainder from fills of ditch [603]. All these contexts have been provisionally phased as medieval although some of it is probably Roman in origin.

Description

The worked stone falls into two categories: tesserae and jewellery. Two chalk tesserae were found in different fills of ditch [603] ([644], [820]); there is nothing unusual about them. The jewellery consists of three armlets (one of probable jet, two of shale) and two jet beads. The probable jet armlet is very highly polished, hence the identification, however jet was less common for armlets than shale, and can't be positively identified without closer analysis. The two beads are both of cylindrical form, one short bead with a single groove, and one longer bead with nine grooves.

Ctx	Descrip	Size	Notes	Lithology	Cont Type	Phase
180	Armlet	Measures 9mm wide	Highly polished with oval section. Ridge goes around the width	Jet	Fill of ditch re-cut [183]	5b: medieval
644	Tessera	Measures 26 x 27 x 19mm	L-shaped	Hard chalk	Fill of ditch [603]	5b: medieval
655	Armlet	Measures 6mm wide	Tiny fragment of probable armlet. Curved with diamond shaped section	Shale (wet)	Fill of ditch [603]	5b: medieval
655	Bead	Measures 3.5mm diameter x10mm long	Long cylindrical bead with 9 lines evenly spaced around the circumference	Jet	Fill of ditch [603]	5b: medieval

820	Tessera	Measures 23 x 13 x 9mm		Hard chalk	Fill of ditch [603]	5b: medieval
823	Bead	Measures 4mm diameter x2.5mm thick	Short cylindrical bead with single line round the middle. Cylindrical perforation	Jet	Fill of ditch [603]	5b: medieval
824	Armlet	Measures 8mm wide	Small fragment with clear ridge on inside where attached to lathe. The outside has a deep protruding band around the centre	Shale (wet)	Fill of ditch [603]	5b: medieval

Potential

The stone has some potential to add to the site narrative.

Recommendations for further work

It is recommended that the stone be compared with nearby assemblages. It might be preferable to write up the jewellery, particularly the beads with any similar objects of other materials.

APPENDIX 10: COINS ASSESSMENT

Paul Booth

Twenty-two Roman coins were seen from this site (in addition a further possible coin (SF 38) was noted on X-ray sheet K12/136 but was not present with the others). The coins were scanned quite rapidly alongside the X-rays, where present; five coins from soil samples (SFs 79, 83, 85, 86 and 95) had not been X-rayed. The coins are generally in poor condition, all being encrusted to a greater or lesser degree, some very heavily. Identifications were recorded as far as was possible without further cleaning; none of the coins was identifiable to the level of specific catalogue numbers (eg RIC or LRBC). In view of the condition of the coins some of the provisional identifications, based on factors such as size, must be regarded as tentative.

With these provisos, the assemblage can be characterised as broadly late Roman in emphasis. Only two coins were large copper alloy pieces of 1st-2nd or early 3rd-century date, while a third was of a late 2nd or early 3rd century empress (Julia), but most of the obverse legend and bust on this piece were unclear, precluding detailed identification at this stage. Of the rest, four coins were fairly certainly assigned to the later 3rd century, three having radiate obverse busts (one possibly of Claudius II), and 11 to the 4th century. Most if not all of the latter are likely to date after AD 330; two are specifically dated AD 330-335, one is probably of the House of Valentinian (AD 364-378) and one, with a possible second, is of the latest period of regular coin shipment to Britain (AD 388-402). The remaining probable 4th century coins are not closely dated, although on the basis of size alone SF 95 is most likely to belong to the period *c* AD 350-364. The final four coins can only be dated later 3rd-4th century on the general criterion of size.

Overall, the assemblage seems to span most of the Roman period, though the date of the earliest pieces is not yet known and early Roman phases may be relatively poorly represented in comparison with material from some of the other Thameslink sites. The presence in such a small group of one or possibly two very late Roman coins may be significant. Further work will be dependent on cleaning. All the coins need to be cleaned if their identifications are to be refined at all. Subsequent to cleaning, revision of identifications and a summary report would be required.

SF No	Ctxt	Denomination	Est Date	Dimensions	Rev	Mint	Obv	Condition	Comment
4	US	?	3-4C	16mm				encrusted	UP 17'
26	657	?	3-4C	17mm				encrusted	
29	742	4C	330+	15mm			head r	encrusted	
33	762	?	1-2C	26mm				encrusted	UP 11A'
34	829	radiate	260-296	18mm			radiate head r	encrusted	from X-ray
38		?							on Xray sheet K12/136 but not in box - poss not a coin?
40	822	radiate	259-268?	16-19mm			? Claudius II	encrusted	obv & rev legends very confused ion X-ray
41	824	Constantinopolis	330-335	17mm	victory on prow	Trier TRP	CONSTANTINOPOLIS	W/W slightly encrusted	mm from X-ray
42	824	radiate	260-296	17mm			radiate head r	encrusted	
44	827	4C	330-335	15mm	?soldiers and 2 standards		DN CONSTAN[ ]AUG	rev encrusted	rev type from X-ray
45	827	4C	4C?	15mm				encrusted	
47	827	4C?	330+?	12mm	?		head r?	encrusted	poss 388+?? - much less likely later 3C
49	827	?2/3C empress	e 3C?	18mm			IULIA[female head r	encrusted	any one of several IULIAs, from 193-235
50	887	blank	1-2C	28mm				encrusted	very dense
51	887	?victory	364-378?	18mm	?securitas reipublicae		head r	slightly encrusted	
52	828	?	388-402?	12mm	victory advancing l?			encrusted	irregular?
54	828	?radiate	3-4C	16-17mm				encrusted	
56	828	?4C	4C?	13mm				encrusted	
79	817	none	4C	18mm				slightly encrusted	SS 135, not clear if Ho Const or Val?
86	160	none	4C?	11mm				encrusted	SS 135
95	817	none	4C	9mm				encrusted	SS 153
85	268	none	3-4C	19mm				encrusted	SS 42, more likely 4C
83	262	none	250-296?	14-19mm				encrusted	SS 40, certainly later 3C if present shape is original

APPENDIX 11: IRON SLAG AND OTHER HIGH TEMPERATURE DEBRIS ASSESSMENT

Lynne Keys

Introduction and methodology

A small quantity of material (7.8kg) – including material from soil samples – was examined for this report. The slag and related high-temperature debris was examined by eye and categorised on the basis of morphology. Each slag or other material type in each context was weighed; additionally, a magnet was run through soil adhering to slags and through sample residues and so hammerscale was detected. Quantification data and details are given in the table below in which weight (wt.) is shown in grams.

Table 1 Quantification table: Iron slag and related high-temperature debris

cxt	^s^	identification	wt	comment
155	4	magnetised residue	2	cinder, charcoal etc
156	5	cinder	7	
160	13	hammerscale	0	flake
160	13	iron	1	
160	13	magnetised residue	1	
169	3	cinder	0.5	
169	3	iron	1	
177	6	cinder	12	
180	2	cinder	1	
182	1	fuel ash slag	1	
182	1	undiagnostic	10	
186	7	iron-rich undiagnostic	5	
188	8	magnetised residue	5	some hammerscale flake, charcoal
189	19	iron	4	
189	19	microslags	1	
189	19	residue sub-sample	6	
189	19	slag splash	3	
190	10	undiagnostic	1	
213	11	cinder	1	
214	16	sample residue	75	undiagnostic, mortar, fired clay
224	31	fuel ash slag	1	
224	31	undiagnostic	3	
225	32	fuel ash slag	1	
225	32	iron-rich undiagnostic	14	

226	35	cinder	18	
226	35	iron	3	
226	35	sample residue	8	undiagnostic, cinder etc.
230	20	cinder	1	
514	124	microslags	33	hammerscale spheres & flakes, dribbles
514	124	sample residue	465	lots tiny smithing spheres & flake, tiny pieces coal, fired clay, bone, t.pipe
601	121	sample residue	54	small undiagnostic, cinder
601	121	sample residue	1198	grit, broken flint, fired clay; no slag
601	121	sample residue	2564	2-0.5mm. Very tiny grit, 10% tiny pces broken flake
601	121	sample residue	2521	2-0.5mm.All very tiny - grit, 10% tiny pces broken flake
601	121	undiagnostic	56	
602	120	magnetised residue	10	includes some hammerscale spheres & flake
608	110	hammerscale	0	two spheres
608	110	sample residue	2	tiny undiagnostic, iron, fired clay, cinder, grit
608	110	undiagnostic	3	
609	109	hammerscale	1	spheres & microslags
609	109	iron	7	
609	109	sample residue	3	tiny mixed
610	111	cinder	4	
610	111	iron	6	
612	102	fuel ash slag	3	
613	100	cinder	2	
613	100	iron	14	
616	101	cinder	1	
616	101	hammerscale	0	one sphere
616	101	iron	4	small fragments
616	101	magnetised residue	0	
643	103	cinder	6	
643	103	iron	5	small fragments
643	103	iron-rich undiagnostic	7	
643	103	magnetised residue	3	includes flake hammerscale n& occasional spheres
644	105	iron	3	small fragments
644	105	magnetised residue	2	microslags & hammerscale flake
644	105	sample residue	10	includes very occasional broken hammerscale

				flake
645	106	cinder	2	
645	106	iron	8	small fragments
647	107	cinder	2	
647	107	hammerscale	0	one sphere
647	107	magnetised residue	9	fire heated grit and stones
647	108	iron-rich undiagnostic	1	
647	108	sample residue	4	cinder, vitrified hearth lining, charcoal
650	112	cinder	8	
650	112	hammerscale	0	
650	112	magnetised residue	1	
650	112	magnetised residue	11	three tiny spheres
650	112	undiagnostic	5	
651	113	magnetised residue	10	cinder, undiagnostic, mixed bits
652	114	fuel ash slag	10	
653	115	iron	28	tiny fragments
653	115	undiagnostic	13	tiny fragments
654	116	cinder	30	
654	116	microslags	1	
654	116	undiagnostic	16	tiny fragments
656	118	fuel ash slag	2	
656	118	sample residue	0	cinder, flake hammerscale, one sphere
656	118	sample residue	11	tiny undiagnostic, grit, fired clay
657	120	cinder	2	
657	120	iron-rich undiagnostic	17	tiny fragments
815	125	undiagnostic	33	tiny fragments
816	126	cinder	1	
817	127	hammerscale	1	flake & one sphere
817	153	cinder	6	
817	153	undiagnostic	33	tiny fragments
818	128	hammerscale	1	three flakes , one large sphere
819	129	cinder	8	
819	129	iron	4	tiny pieces
821	131	charcoal	2	
822	132	cinder	4	
823	133	fired clay	5	
823	133	undiagnostic	43	with cinder
824	134	cinder	29	
824	134	fuel ash slag	2	

824	134	microslags	0	includes two spheres
825	135	cinder	3	
825	135	hammerscale	0	tiny spheres
825	135	undiagnostic	1	
826	136	cess	6	
826	136	cinder	4	
827	137	cinder	1	
828	138	undiagnostic	4	
830	139	cinder	1	
831	140	cinder	1	tiny fragments
831	140	microslags	0	
831	140	undiagnostic	11	tiny fragments
833	141	cinder	4	
833	141	hammerscale	1	spheres
833	141	iron	2	tiny pieces
833	141	microslags	0	all cindery
834	143	iron	1	
836	144	ferruginous concretion	2	
836	144	iron-rich undiagnostic	21	
875	177	coal	200	frags and cess
894	150	cinder	1	

Total wt. = 7801g

Discussion of the slag

No smelting slags were present in the assemblage. The slag consisted of small pieces of undiagnostic slag and the microslags produced by secondary smithing; no large (bulk) slags, in particular smithing hearth bottoms, were present in the assemblage.

Microslags can be hammerscale flakes from ordinary hot working of a piece of iron (making or repairing an object) and/or tiny spheres from high temperature welding used to join or fuse two pieces of iron; both were present in the assemblage. If smithing was taking place nearby one would expect at least some smithing hearth bottoms (a plano-convex slag cake which builds up under the tuyère hole where the air from the bellows enters) to be present. Their absence suggests the assemblage represents re-deposited material.

Discussion of the slag by phase

Phase 4

Ditch [153] (fills [160], [224], [225]) contained only 21g of material not diagnostic of any smithing activity in the vicinity.

Some tiny bits of undiagnostic slag and hammerscale were present in the medieval plough soil layers [601], [602] and [817]. The samples from [601] weighed a total of 6.39kg, approximately ten percent of which was broken hammerscale flake, some smithing micro-spheres and other microslags. Layer [817] had just 1g of flakes and spheres while [602] contained just a few broken flakes and very sporadic spheres.

No slag was present in the fill of ditch [837].

Phase 5a

The fill of re-cut ditch [183] contained 76g of tiny pieces - including some smithing microslags – but the quantity is not significant.

The tentatively-dated 12th-13th century ditch re-cut [603] contained 436g of material from samples, all of which were very small pieces and with only a small quantity of flakes and spheres present.

Phase 6

The backfill, [514], of brick-lined cesspit (demarcated by walls [510], [511], [512], [513]) contained 498g of microslags, mainly smithing spheres and flakes, as well as slag dribbles. Bulk slags are absent so it is possible the larger pieces of slag were removed for recycling elsewhere before the smaller pieces and finer material were thrown into the pit.

Recommendations for future work

The assemblage requires no further work other than a mention of the slag where this is deemed relevant in any publication.

APPENDIX 12: BUILDING MATERIALS ASSESSMENT

Kevin Hayward

Introduction and Aims

Eight boxes and 13 crates of ceramic building material, stone, mortar and daub were retained from excavation from the site of Bedale Street, Southwark, part of the Thameslink group of excavations GR TQ 3255 8027 (BVG10). This large assemblage (4,043 examples 351.9kg[5]) was assessed in order to:

- Identify (under binocular microscope) the fabric and forms of the Roman and medieval ceramic building material, (brick, roofing tile, floor tile; mortar; daub; painted wall plaster) in order to verify, refine or revise the phasing of the site and to produce a list of spot dates. Most of this comes from the fill of substantial 12th/13th century ditch [603].
- Identify the form, fabric and date of the post-medieval (cess pit) brick features
- Identify (under binocular microscope) the fabric and forms of stone samples to determine the geological character and source and (where possible) the function of the stone from Roman, Saxon and medieval layers.
- Review the plaster retained from the assemblage
- Make recommendations for further study, illustration and publication.

Methodology

At least one whole brick sample was retained from each structure in order to determine their construction date. For the remaining contexts especially from the earlier Roman, medieval and post-medieval features, tile, brick, stone, plaster, mortar and daub was retained. The application of a 1kg mason's 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). The building material was examined using the London system of classification with a fabric number allocated to each object. Catalogues from all the Thameslink sites shared the same entry fields, abbreviations and fabric codes, thus ensuring continuity and comparison of fabric.

Ceramic Building Material 2,583 examples 296kg

Roman (excluding daub) 2,204 examples 211.4 kg

As with adjacent Thameslink sites such as BVK11 and BVL 10 (Hayward 2011) huge dumps of Roman ceramic building material made from many different fabrics were recovered. These not only came from Roman dumped layers but also post Roman soil horizons and

[5] Including 1,362 examples (16.5kg) of mortar, daub and plaster

medieval features especially the fill of the large 12th to 13th century ditch [603]. Here, their proportion (95 %+) swamped the small 12th/13th century medieval component (peg tile; floor tile and brick), making it difficult to date the numerous fills of this ditch.

Fabrics

The key fabrics and their proportion summarised below (see Figure 1) are broadly consistent with the percentages from other sites at Southwark (Pringle 2009, 191) but with one major difference - the large proportion of distinctive early (AD 50-80) white, grey and pink Eccles fabric. Overall, earlier mid first to mid second century fabrics dominate with later 2nd and 3rd century sandy and calcareous fabric groups nos 5 and 6 forming only a tiny component (1.5% by number of fragments).

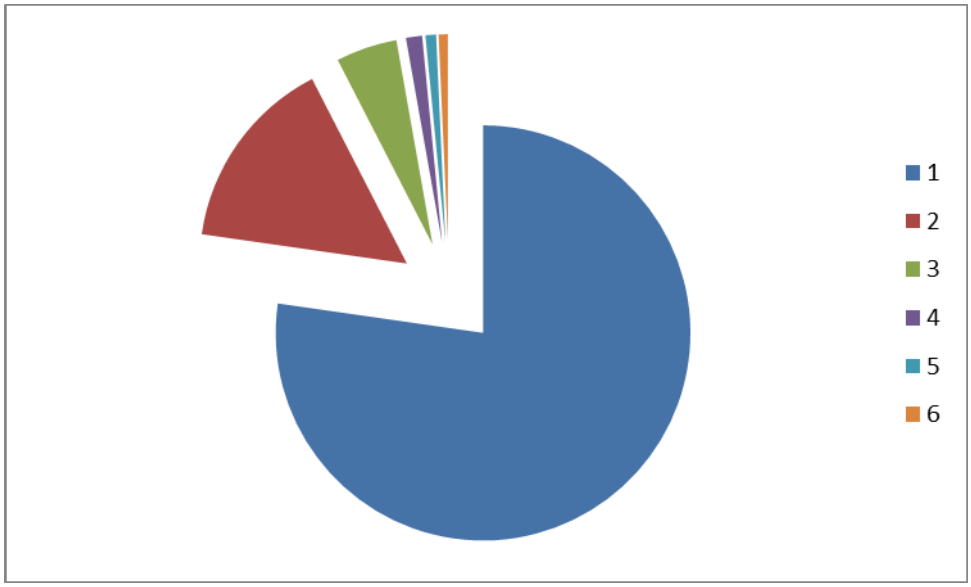

Figure 1 proportions of Roman fabric (by number of fragments) at Bedale Street

1= Early London sandy group 2815 (AD 50-160); 2= Eccles fabric 2454 (AD 50-80); 3= Radlett group 3023 (AD 50-120); 4= Silty/Hampshire Groups (AD 50-140); 5= Late London sandy fabrics 2459b (AD120-250); 6= Late Calcareous fabrics (AD140-300)

Fabrics

Early London Sandy Fabric Group 2815 (AD 55-160) 1,683 examples 181.2 kg

2452; 2459a; 3004; 3006

By far the most common fabric (77% by weight) both here and Roman London is the early (AD 50-160) *2815* red group using local brickearth with coarse moulding sand. The very fine vitrified sub-type fabric *2452* is especially common – an observation also seen in an adjacent site at 11-15 Borough High Street, BVK11, where complete bessalis brick from an apsidal structure was present and fragments of the same were seen at Railway Approach, BVL10 (Hayward 2011). It accounts for 95% (78kg) of the brick, all of it fragmentary apart from three complete bessalis bricks from wall [93], most of the fragmentary combed box-flues, and

tesserae, 72% of the tegulae but just 58% of imbrex. No stamps were observed and only the occasional signatory mark.

Later London Sandy Fabric Group 2459b (AD120-250) 21 examples 4.3kg
By contrast examples of ceramic building material with much finer moulding sand associated with the mica dusted rich later London group are poorly represented. However, where they have been identified they occur either in Roman occupation horizons [38], later post-medieval ditch fills [48] [49] [741] or post Roman ditch fills [160] [185], but not in the fill of the main post-medieval ditch [603]. The tegulae often have very small narrow flange profiles such as flange profile type 12 [160] or flange profile type 40 [38] [185] (see Table 2 below) that characterise other late Roman fabrics (see Calcareous fabric). Finally a small group of cavity walled materials including combed box flue and water pipe cluster in [38] [48] [49] and represent 2nd to 3rd century dumped material from a heated structure.

Eccles Sandy Fabric *2454; 2455; 3022* (AD50-80) 352 examples 21.6 kg
This very fine early cream-pink fabric manufactured around the area of the Eccles villa site in Kent during the mid-late first century forms a very important component (9.2% by weight) of the assemblage at Bedale Street. This proportion is much higher than what has been uncovered at many sites in the City and at Southwark (<5%) and with the exception of the occasional brick and tessara consists almost entirely in roofing material (broken tile, tegulae and imbrex). The very thick imbrex (22-26mm) are manufactured out of the coarse Eccles fabric *3022*, whilst the fresh tegulae with the distinctive undercut flange profiles 7, 9 and 11 and lower cut-away B [52] [105] [154] [177] [216] use the finer *2454* fabric. The more complete examples of these tegulae and imbrex concentrate in Roman [54] [105] [177] and post Roman features [216] rather than the extensive fills of medieval ditch [603]. Indeed, the proportion of these Eccles roofing fragments from some of these earlier features can often exceed 50%. The selective dumping of early (AD 50-80) Eccles roofing material from the Roman phases would point to a quite separate demolition event to that seen elsewhere at BVG10.

Comparable flange profiles have been identified in Eccles tegulae from Railway Approach BVL10 (Hayward 2010) and may represent the same demolition event.

Radlett Iron oxide Group early *3023; 3060* (AD 50-120) 114 examples 20kg
3023b; 3060b (AD 170-230) 1 example 200g

Roman ceramic building made from the very early Hertfordshire[6] fabric group *3023* (AD 50-120) with frequent black iron oxide and small lumps of silt forms the third most common group at BVG10 (20kg). The material is often in an abraded state and either has very fine moulding sand or has straw impressions. With the exception of the occasional brick, mainly from the medieval fills [834] [836] of medieval ditch [837], the material consists of roofing material. Imbrex from [213] [827] and [833] are typically thin (12-19mm). The profile of the large tegulae flanges are consistent with early forms seen in the sandy group *2815* including 1 [86] [827], 2 [177] and 5 [651] [896].

Just one example of the coarser later (AD 170-230) iron oxide group *3023b* was identified from the medieval fill [827] of the 12th-13th century ditch [603]

Silty Fabric *3018* (AD 100-120); *3238* (AD 71-100) 19 examples 2.2 kg
Banded silty Wealden fabrics from Kent are rare forming only a background component to the overall assemblage. Nevertheless there are small pockets of tile and brick from the fills [155] [156] [160] [185] of post Roman ditch [153] and medieval wattle pit [834]. Of note was a small ridge tile from medieval layer [154].

Hampshire fabrics *3009* (AD 100-AD120) 2 examples 264g
A solitary tile fragment manufactured from the distinctive early second century silty Hampshire fabric is present in the fill [213] of a Roman pit [179].

3054 (AD 70-AD140)*; 3056* (AD 50-360) 3057 (AD 100-AD140) 7 examples 1.7kg
This group of early chaff grog tempered bricks only appear as a background component to the overall assemblage, A heavily pocketed red iron oxide rich fabric from the medieval fill of ditch recut [155] is probably the rare *3056* as is the chaff tempered *3057* (AD 100-140) brick from a post Roman fill of ditch [153] [160]. A small group of grog tempered brick and tile *3054* are present from medieval layers [828] [833] [834]

Calcareous Fabrics 2453; *2457; 3055* (AD140-300) 18 examples 2.8kg

As with the site at Railway Approach, BVL10 (Hayward 2011), the small proportion of pale-grey to pale-yellow calcareous building material recovered from Bedale Street is restricted to roofing material (imbrex and tegulae). These were manufactured in the later Roman period (AD 140-300) for the London market from clays along the Thames estuary. They cluster mainly in the fills [816] [819] [830] [833] [858] of the large medieval ditch [603] and consist of small very round tegulae (profile 26) or tall narrow forms (profile 31) with gently sloping

[6]Most of the iron oxide *3023/3060* fabrics seen at sites in Southwark have the same very fine moulding sand or straw impressions seen in tile, brick and box flue along the Darenth Valley (e.g. Fordcroft) and may in fact come from a Kent source rather than one to the north of city.

upper cut-aways. Some of the tegulae and imbrex have a dusting of red brickearth moulding sand.

The rare pink mottled *3055* fabric was identified from the fill [185] of a post Roman ditch [153].

Red silt/corky Fabric AD 50-200 1 example 526kg
Not yet designated a Museum of London fabric code, this fabric has a porous red silty character and can be found throughout London and Southwark and appears to be second century in date. One example is present in the fill of a Post Roman pit [65].

Reigate fabric *3050* (AD 140-230) 1 example 171g
This distinctive busy late fabric with rock inclusions had only one representative example as a tile fragment in the medieval fill of ditch re-cut [226]

Unknown fabrics 3 examples 849kg
It was not possible to match two fabrics with the LAARC reference collection. The first, consisting of very large (2-5mm) and numerous white calcareous inclusions set within a fine early London fabric in a tile from [154] may simply be a variant of the *2452* fabric (AD 55-160). The other, a brick corner with large fragments of black and red iron oxide from a medieval ditch [48] has been identified elsewhere in Southwark at Bermondsey Square BYQ98 [9111] (Hayward 2012a). Both require further analysis.

Form

Box Flue 28 examples 3.2kg
A small group of early combed box flue tile together with a singular roller stamped die represent the sum total of cavity walling from Bedale Street (Table 1). These are found dispersed mainly in post Roman and medieval features and therefore cannot be attributable to a particular heated structure. Rare *cuneatus* or solid voussoir brick (Brodribb 1987), *opus spicatum* paving brick, tesserae and ornamental stone (see below) reinforce this. This is in contrast to BVL10 where there were many fragments of scored, combed, half-box flue, roller stamp dies as well as more ornamental stone suggest proximity to a heated structure perhaps associated with BVK11.

Type of Die	Context	Description	Fabric	Date
Combed	Phase 3 Occupation horizon [38]	Corner of box flue tile not tapered	Late sandy *2459b*	AD 120-250
	Phase 4 fill [160] of ditch [153]	Coarse diagonal comb 25mm	Fine sandy*;* *2459a* and	AD 50-160

		across	Radlett *3023*	
	Phase 4 medieval Ploughsoil [601] [602]	Comb design CVVD	Sandy *2452; 3006*	AD 50-160
	Phase 5a fill [616] [645] [651] [653] [815] [820] [822] [823] [824] [825] [827] of 12th/13th century ditch [603]	Comb designs CVVD; CDW fine to very coarse comb curved box flue tile	Coarse sandy *3004; 3006*	AD 50-120
	Phase 5a ditch [183] re-cut fill [187] [189]	CVC comb design and voussoir box flue	3238 Sandy 2459a	AD 71-100 and AD 50-160
Roller Stamp	Phase 4 fill [160] of ditch [153]	Plain chevron design group possibly W (Betts *et al.* 1997)	Fine sandy *2459a*	Dated to early-mid 2nd century on context from other sites

Table 1 listing of combed and roller stamped box flue tiles from BVG10

Scored, Voussoir and Opus spicatum brick 5 examples 2.1kg post Roman

Purpose made scored, curved and paved Roman bricks have been identified in post Roman [95] [730] and medieval [656] [824] features at Bedale Street. All were manufactured from the early sandy fabric group *2815* (AD 50-160) and attest to the presence of demolition debris from a heated room. Small (51mm across x 19mm thick) *opus spicatum* bricks are often associated with paving in bath-houses as with the Neroian Bath-house at Silchester (Boon 1974). It is possible that the scored brick coated in pink *opus signinum* and reused in the foundation of wall [94] was originally used in the plunge bath of site BVK11 where scored bricks with an identical type of opus signinum were used to create a series of diagonal paving slabs (Hayward pers. obs.). Finally rare voussoir or *cuneatus* bricks from [656] and [730] are often associated with heated rooms and both examples have a smoothed angled 25mm edge and along with a very well made sharp brick from [730] probably had some sort of ornamental purpose.

Tubuli 2 examples 132g

Two small (32mm diameter) water pipes or *tubuli* (Brodribb 1987) were recovered from an unstratified context and medieval ditch re-cut [49]. As well as demonstrating the presence of a heated room in the vicinity, both examples are made from the same rare late sandy *2459b* fabric identified in a combed box flue tile from a Roman occupation horizon [38].

Brick 215 examples 80.1kg

Dumps of broken up early sandy *2815* brick are a feature of fill of medieval ditch [603], accounting for upwards of 62% (26.7kg) of all Roman ceramic building material from this feature. This included a large group from [827]. Other dumps of *2815* brick include the post Roman fill [156] of ditch [153] and fill [169] of medieval ditch [183]. The average thickness of the brick lies between 35 and 40mm suggesting most were small bessalis bricks such as those seen at BVK11 (Hayward pers obs.) Furthermore, three complete reused bessalis bricks recovered from wall [93] were coated in the same pink opus signinum cement as that seen in the plunge bath at BVK 11 (Hayward pers. obs.). One oddity was an extremely thick (80mm) corner of a brick in gravel mortar type 6[7] from [220] which can only have belonged to a bipedalis forming the cap or base of a hypocaust system (Brodbribb 1987).

It is of note that almost no brick was recovered from the Roman features, where instead a wide variety of roofing tile fabrics and forms were identified.

Roofing Material

Imbrex 157 examples 18kg

It is a feature of the Roman ceramic building material assemblage at Bedale Street that so much early thick (22-26mm) rounded imbrex has been recovered (8.5% by weight). Early Eccles fabrics constitute (23% by weight) of the imbrex, but there are also thinner (15-17mm thick) Radlett iron oxide fabrics, silty fabrics in addition to the very common early London sandy group. Finally there are thin representative examples of the late London group *2459b* [65] [87] and calcareous *2453* [48] [893]. Of interest is a possible tally or batch mark "X" from [651].

Taken together, the most likely explanation for the over-representation of imbrex at Bedale Street (especially in the Roman contexts) is the selective stockpiling of regularly shaped rectangular bricks which are more suitable for reuse than rounded imbrex. Removing bricks from demolition debris for this purpose would result in abnormal amounts of less easy to use building materials behind.

There is a great deal more variety in imbrex fabrics than at site BVL10 (Hayward 2011).

Tegulae 163 examples 42.2kg

One stand out feature of the building material assemblage at BVG10 is the quantity of tegulae both in their variety in fabric (6 groups) and range in flange profiles (15) (see Table 2). They are common throughout the site not only in the Roman contexts (33% by weight),

[7] This rare T6 mortar was also used to repoint the bessalis bricks into wall [93]

but also in the fill of both medieval ditches [153] and [603] (30% by weight). Context [154] for example had 6 tegulae represented by 4 fabrics, 5 different flange profiles and two cut-away types.

There are however, major discrepancies in the fabric and form of the tegulae in different parts of the site suggesting separate (episodic) dumping episodes. Many of the tegulae from the Phase 2 and 3 Roman contexts were made from the very early cream Eccles *2454; 3022* (AD 50-80) with the characteristic undercut flange profiles 7 and 9 [105] [177] together with some common sandy (AD 50-160) *2815* tegulae or Radlett fabric *3023* (AD 50-120) with the common straight or rounded profiles 1 and 2 [62] [63] [177].

The large tegulae group (136 examples) from the phase 4-5 post Roman phases including the later medieval ditch (96 examples 27kg) have a wider range of tegulae fabrics including later (AD 140-300) rare calcareous *2457* and *2453* and fine sandy *2459b* (AD 120-250). These are mainly characterised by having very thin tapered or high curved profiles 16, 26, 31 and 40. Examples from the *2815* and *3023* fabric groups are represented by many different flange profiles.

Flange Profile		1	2	5	7	8	9	11	12	13	14	16	26	31	32	40	**TOTAL**
Fabric																	
Eccles		2	-	-	1	-	8	1	-	-	-	-	-	-	-	-	12
Early sandy		22	6	1	-	1	1	-	5	4	1	-	-	1	1	--	40
Radlett		3	1	5	-	1	-	-	1	-	-	-	-	-	-	--	11
Late sandy		1	-	-	-	-	-	-	1	-	--	1	-	-	-	1	4
Calcareous		-	-	-	-	-	-	-	-	-	-	-	3	2	-	-	5
Other		-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL		28	7	6	2	2	9	1	7	4	1	1	3	3	1	1	76

Table 2 Range of tegulae flange profiles and fabrics recovered from BVG10

This is in direct contrast to the assemblage at BVL10. Here consistency in flange profile (Type 1) and larger size point to most of the tegulae dating from the late first to second century, probably as a single dumping episode.

Tile 1,616 examples 65.3 kg

A more accurate assessment of the ceramic building material fabic types and their distribution at Bedale Street is provided by fragments of undiagnostic tile, including those recovered from environmental samples. It was possible to identify all 23 fabrics, with the common sandy group *2815* accounting for 72% (by weight). The proportion of this fabric

group however varied, accounting for 80% (by weight) of the broken ceramic building material from the fill of medieval ditch [603] but significantly less (69%) in the fill of Roman and post Roman features. This reinforces the findings from the brick and roofing tile where we are dealing with at least two distinctive dumping episodes of Roman material.

Tessera 18 examples 432g (post Roman or medieval only)
Scattered throughout the site are examples of sub-rectangular red border tesserae made mainly out of the sandy fabric group *2815,* together with 2 just tesserae [656] [836] made from the white Eccles fabric *2454.* The absence of any mosaic fragments, their dispersal and infrequency would suggest that this group cannot be assigned to a particular pavement rather that it just represents background dumping.

Medieval 336 examples 30.7kg
Sizeable quantities of 12th to 13th century medieval ceramic building materials were recovered, most of which came from the phase 5a fills of ditch [603] and to a lesser extent in the fills of ditch [153] and [183] intermixed with the much larger Roman component. One medieval masonry wall [629], consisting of poorly worked blocks of chalk and Kentish ragstone, is certainly medieval in date as thin- splash glazed medieval peg tiles (fabric *2271*) (1180-1450) act as levelling layers (Hayward pers. obs.). Nearly all of the dumped material (96.2% by number) consisted of glazed roofing peg tile with only tiny quantities of glazed floor tile and medieval brick.

Brick 9 examples 3.5kg
3031 (1350-1450)
3041 (1360-1400)

A small group of well-preserved but poorly-made earthy mottled pink/white small Flemish bricks that have a fabric intermediate in composition between late medieval (1350-1450) white *3031* fabric and pinker *3042* were recovered along with early post-medieval bricks and peg tile from post-medieval demolition rubble [630] [631]. Bricks of this size (160mm x 80mm x 43mm) and fabric were used extensively in Essex (Ryan 1996) – but also in later medieval ecclesiastical building (often used in drainage) throughout London. Examples include Bermondsey Abbey (Betts 2011; Hayward 2010) and Merton Priory (Miller & Saxby, 2007). Similar bricks were also recorded at other Thameslink sites such as Railway Approach BVL10 (Hayward 2011) and together may represent demolition or partial demolition of an ecclesiastical structure outside the Thameslink areas following the Dissolution. Candidates include Southwark Cathedral or St Thomas's Hospital. This small group of bricks also have stack lines providing some indication of how these bricks were fired in kilns. Attached was a medieval light grey mortar with large chunks (8mm) of chalk.

Peg, Bat and Ridge Tiles 324 examples 26.9kg
*2587 (*1240-1450)
2271 (1180-1800)
2272; 2273 (1135-1220)

It is a feature of the site that so much of the glazed medieval tile from Bedale Street is so early and in good condition. In particular the usually rare thick peg, bat and ridge tiles made from the coarse mid 12th to early 13th century shelly *2272* and sandy fabrics *2273* (1135-1220) are proportionally more important than the thinner finer later medieval sandy *2271* (1180-1450) and iron oxide fabrics *2586* (1180-1450) and *2587* (1240-1450) (see Figure 2).

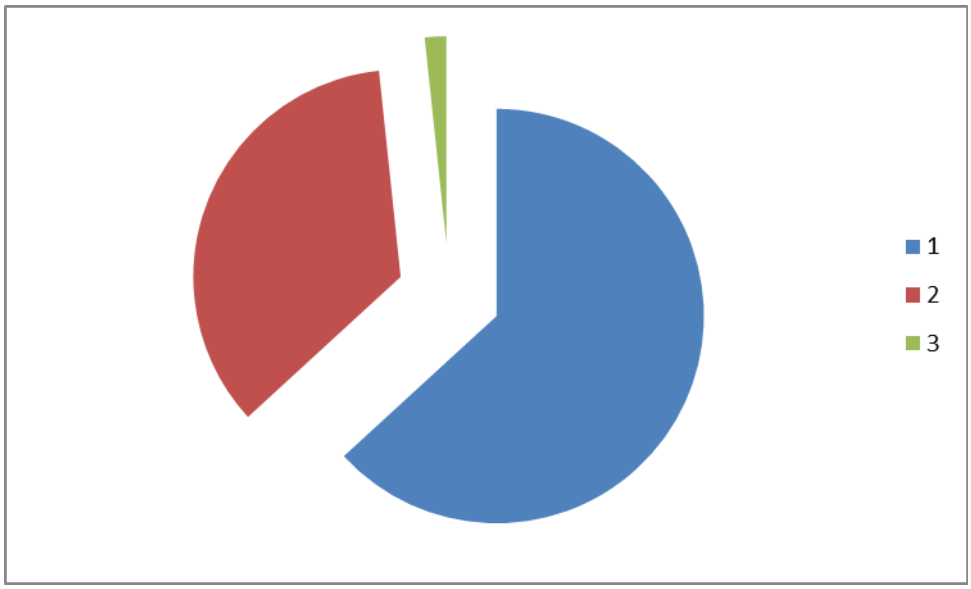

Figure 2 illustrating the importance (by weight) of early medieval fabrics 2272 and 2273 at Bedale Street
1= *2272/2273* (1130-1225) n= 16.1kg; 2= *2271* (1180-1450) n= 10.4kg; 3= *2586/2587* (1180-1450) n= 0.4kg

These early peg tiles are often very thick (18-22mm) with some near complete examples from the medieval fills [712] [749] of pit [714] some with residue attached as well as ornate (double concavo-convex) curved forms. These relatively fresh examples have cut marks on the rear with some of the (normally coarse) moulded sand removed and smoothed. Curved (bat) and glazed finger pressed ridge tiles are rare but cluster in the medieval fills [643] and [646] of ditch [603]. A very good example of the very shelly *2272* peg tile fabric came from the 12th/13th century fill [830] of medieval ditch [603]; this had a clay plug (rather like a spacer bobbin) inserted in the nail hole. It is not clear what this was plug represents.

Taken together, this sizeable, well preserved and (sometimes decorative) group of early peg tile is likely to have had a short life and probably came from an important 12th century secular or ecclesiastical structure from this part of Southwark.

Wall [629] was made of chalk ashlar separated by bands of medieval peg tile in the reduced sandy fabric *2271* (1180-1450). Because the peg tile has been reused it is not clear whether this structure is medieval or early post-medieval in date.

Floor Tile 3 examples 246g

2199 Westminster Floor tile (1225-1275)

Unknown fabric (could be 11th century tile fabric *3092)* (1060-1100)

Only three examples of glazed and unglazed medieval flooring tile were recovered from the entire site. Both came from the medieval fills [16] [17] of pit [20] from TP4. The plain yellow/green Westminster Floor Tile made from common fabric *2199* was found with lots of peg tile from [17] and the fabric is clearly 13th century (1225-1275) in date. Far more interesting is the very thin (15mm) brown splash glaze floor tile (with knife cut margins) in a very fine sandy fabric from [16] that may be a very rare Norman (1060-1100) *3092* fabric. Examples have been identified elsewhere in London in particular their reuse in the Pyx Chamber at Westminster Abbey (Hayward pers. obs.)

Post-Medieval 43 examples 53.9kg

A small group of post-medieval brick, peg, and pan tile, together with mortar were recovered from brick-lined cess pits, tanks, soakaways and their fills, attesting to late 17th to late 19th century activity.

Brick 34 examples 49.2kg

Most of the bricks recorded from these excavations had a fabric and form typical of manufacture during the 17th and 19th centuries. This was verified by the types of mortar associated with them (see below).

a) **Red Bricks** *3046; 3033; 3046nr3065* (1450-1700) 22 examples 22.6kg

Nearly all of these Tudor-Stuart red brick fabrics recovered from excavation are poorly made unfrogged very red sandy *3046* or finer *3033* both made from London brickearth between 1450 and 1750. Their width (102-107mm) and thickness (58-62mm) are typical of 17th-mid 18th century rather than Tudor construction. Where mortar is present, it is usually brown Type 2 (see below). On the basis of brick fabric, form and mortar a group of brick structures from Bedale Street including brick cess pits [510] [513] [724] [801] and wall foundation [503] form one contemporary build dated from the 17th to the mid 18th century.

One exception is a well-made red frogged brick from the fill [802] of soak away [626] which is of late Victorian date.

b) **Intermediate fabrics** *3032nr3033* (1664-1725) 1 example 1.9kg

One solitary wide (107mm) shallow (58mm), fine, hard maroon brick with occasional clinker fragments was comparable to the intermediate Tudor red and post-Great Fire brick fabric *3032nr3033* (1664-1725). It was recovered from Phase 6 made ground [500] reused in a late 18th early mid-19th century T3 mortar (see below).

c) Post Great Fire Bricks *3032; 3032R; 3034* (1664-1900) 11 examples 24.7kg

Purple and purple-red spotted *3032; 3032R* and streaked *3034* post-Great Fire bricks with numerous clinker fragments are a feature of the brick tanks [622] [623] and associated soak away [626], as well as brick tank [8], soak away [4] and floor surface [150]. They are all narrow (<98-103mm) and thick (63-68mm) broadly conforming to regulations brought in by the brick tax after 1770. This and the fact that some are frogged and (where present) always pointed with clinker rich T3 and gravel T8 mortars would suggest a late 18th century to 19th century date. Deep frogs were only introduced after 1750.

Furthermore, the brick tanks [622] [623] and soakaway from [626] and wall [159] are pointed in an earlier (1775-1850) T3 mortar, with the second group [4] [8] [150] probably very late Victorian (1850-1900) as they are pointed with a gravel hard T8 mortar.

Post-Medieval Roofing Tile 8 examples 1.2kg.

Peg Tile *2276 (1480-1900); 4 examples 450g*

Very occasional examples of the very common peg-tile fabric *2276* with fine moulded sand were recovered from dumps and pit fills [17] [330] [631].

Pan Tile *2279* (1630-1850) 4 examples 580g

A small group of fresh, curved nibbed roofing tile – a style introduced from Holland from 1630 were found from post-medieval ditch fill [525].

Terracotta 1 example 3.5kg

An unstratified example of a niched earthy brown terracotta mould inset with leaf decoration was present from an unstratified context from TP3. Both the back of the arched niche and the leaf mould were adhered with white plaster or stucco. Furthermore, the upper part of the niche had two holes suggesting attachment to a larger structure. Preliminary examination on the date of this object was not conclusive but it could either be a Tudor or Victorian decorative piece. Both are represented in Southwark e.g. Tudor Suffolk Place the earliest courtyard building in London to have terracotta moulding. Further analysis is necessary.

Daub & Mortar 1,329 examples 14.6kg

Daub *3102* 425 examples 6kg

Just one example of chevron relief patterned daub (Russell 1997) was observed from the fill [190] of pit [179] and along with some examples from BVL10 (Hayward 2011) attest to the presence of a burnt wattle and frame structure in the vicinity. Examples of moulded sill shaped daub are numerous. In all 2.3kg (33.2%) were recovered from Roman contexts.

Loomweight *3102* 1 example 0.2kg

A single tapered loomweight fragment of baked clay was recovered from a post Roman horizon [221]. It may represent earlier late prehistoric/ERB activity in the area as evidenced from possible loomweights from Roman layers at BVL10 (Hayward 2011).

Mortar *3101* 903 examples 8.4kg

A summary of mortar types as well as their period of use from the excavations at BVG10 are given below and provide a chronological framework, which along with the brick and other building materials help to subdivide the medieval and post-medieval phases at BVG10 and possibly adjoining Thameslink sites. For example, the browner softer mortar (Type 2), is similar to those found at BVL10 (Hayward 2011) associated with earlier post-medieval material and is found at Bedale Street with poorly made red brick cess pits [510] [513] [724] [801] and wall [503] (see Table 3). The slightly greyer more clinker rich (Type 3 is found in later post-Great Fire brick tanks [622] [623] and soakways [626] and well as in wall [159]. These are comparable with the Late 18th-early 19th brickwork seen at BVL10 (Hayward 2011) e.g. [500] and soak away [503]. Finally, Type 8 a concretionary gravel clinker mortar is almost certainly late 19th century and is associated with well-made frogged post-Great Fire bricks from soakaways [4], [8] and floor surface [150].

Gravel mortar types 5, 7 and 9 are often intermixed together and can be grouped as Roman bonding materials – the low density white type 5 is often found backing painted wall plaster (see above) and much of this along with some type 9 opus signinum may just represent intonaco. The opus signinum consists of hard, white cream-pink Roman concrete and varies in its constituency according to the size (2mm-30mm) of the angular ceramic building material inclusions and the amount of dark grey to black flint. They would have been used as a flooring surface, but also as a waterproof coating around bessalis bricks as seen at the nearby site BVK11 (Hayward pers. obs.). Indeed a common origin is suggested given that the same type of pink opus signinum used to coat the plunge pool from 11-15 Borough High Street, BVK11, has been identified in reused scored bessalis bricks from the foundation of wall [95] at Bedale Street. Type 7 seems to be the most common gravel mortar and is associated with dumped Roman building materials in ditch [603].

The date of Type 6 sandy brown gravel mortar is not clear. It is only present in a possible medieval wall [93] and its foundation [95] and was always adhered to and overprinting the opus signinum (type 9) covering of large or very complete Roman bricks such as bessalis [93] [95][8] which may have come from the flooring surface of BVK11. Stratigraphically, however, this wall lies above [80] which contain pottery dated between 1270 and 1350 so it is almost certainly late medieval.

Table 3 Listing of mortar types BVG10

Mortar/Concrete Type	Description	Use at BVG-10
White gravel mortar (Type 1)	White lime rich gravel mortar	Attached to rear of medieval glazed roofing tile *2271* [612]
Friable brown mortar (Type 2)	Fine fawn sandy mortar with tiny chunks of chalk	Pointed with reused and fresh Red Tudor and Stuart bricks (1450-1750) post-medieval cess pits [510] [513] [724] [801] and wall [503] 1600-1750
Soft dark grey clinker mortar with flecks of chalk (Type 3)	Less sandy than type 2 light grey with tiny flecks of clinker and chalk	Used in narrow unfrogged and frogged post-Great Fire bricks from the brick tanks [622] [623] their soakaway [626] and wall [159] 1775-1850
Soft light brown sandy mortar (Type 4)	Flecks of lime within light cream brown sandy mortar	Medieval Chalk wall [629]
Hard tufa gravel mortar (Type 5)	Low density heterogeneous gravel flint with voids and tufa fragments Type 1 from BVL10 backing of intonaco (Hayward 2011)	Associated with Roman brick and tile e.g. [824]
Earthy brown gravel clinker mortar (Type 6)	Brown gravel mortar with very large flecks of clinker	Always found on a very large Roman brick (Bipedalis) [220] and on reused complete bessalis from medieval wall [93] and its foundation [95] somewhat comparable with mortar type 4 but far more gravelly.
Dense grey-brown gravel mortar (Type 7)	Dense grey-brown gravel mortar less earthy brown than 6	Common in the fill of ditch [603] in association with very large quantities of residual Roman brick and

[8] The enormous bipedalis brick fragment (80mm+) from context [220] also has this mortar type.

		tile e.g. [611] [612] [613] [616] [643] [644] [647] [655]
Very hard gravel clinker and brick concrete mortar (Type 8)	Very hard gravel clinker brick concrete mortar	Late 19th century soakaway brick structures fabric *3032* [4], [8] and floor [150] 1850-1900
Opus signinum (Type 9)	Roman concretionary material white-pink with numerous inclusions of red angular Roman brick and tile	Becomes fashionable in 2nd century in Britannia associated with the backing of wall plaster and primary backing of *bessalis* bricks reused in wall [93] and its foundation [95]

Stone 98 examples 39.4kg

A small group of worked stone materials and rubble representing 17 different stone types are classified according to function.

Inlay and Paving 3 examples 9.1kg

Purbeck marble – *condensed micritic limestone packed full of small freshwater gastropod Vivaparus carniferous* Lower Cretaceous (Purbeckian) Isle of Purbeck e.g. Durlston Head, Swanage. Recorded from the period 5 medieval fill of the 12th/13th century ditch [823] and medieval Phase 4 ditch fill [218].

York stone – *pale green banded micaceous sandstone* Upper Carboniferous (Namurian) York The hard York stone paving stone associated with the fill [802] of soak away [626] was widely used as a late post-medieval paving, cobblestone, drainage and kerbstone material in London especially during the 19th century.

Tesserae 1 example 5g

Indurated chalk – *Fine white calcareous micritic limestone* – Upper Cretaceous chalk many possible sources Upper Cretaceous (chalk) Southern England. In one small (10x10x10mm) design tessara from the Phase 5a medieval fill of the 12th/13th century ditch [819].

Quernstone 2 examples 16g

Nediermendig lavastone – *dark grey hard coarse vesicular lavastone* – Tertiary Eifel Mountains, Rhineland used in small weathered quernstone fragments from the Phase 5a medieval fill of the 12th/13th century ditch [819] and Roman fill of well [892].

Whetstone 2 examples 123g

Norwegian ragstone - *Fissile micacous banded whetstone*

Ardingley sandstone – *glauconitic micaceous fine greensand* – Wealden (Lower Cretaceous) Kent

Both examples from the Phase 5a medieval fill of the 12th/13th century ditch [657] [815]. For form see Appendix 9 above). Essentially, Ardingley sandstone has been used in whetstones from Roman sites elsewhere in London (Hayward in prep.). Norwegian ragstones on the other hand were widely used throughout southern England for sharpening tools in the early medieval period.

Rubble 51 examples 26.9kg
Kentish ragstone – *hard dark grey calcareous sandstone*
Hassock stone – *coarse grained glauconitic sandstone*
Both outcrop together Hythe Beds. Lower Cretaceous (Lower Greensand) Maidstone area, North Downs.

Tufa- *coarse textured light cream limestone* – Holocene spring deposits e.g. River Medway

Flint – *hard fine cryptocrystalline concretionary sandstone* – Upper Cretaceous (Upper Chalk) London Basin

Chalk – *fine white micrite* Upper Cretaceous (Upper Chalk) London Basin

Bargate stone – *shelly oolitic glauconitic sandstone* Lower Cretaceous (Lower Greensand) Farnham/Godalming area.

Small fragments of Kentish ragstone, Hassock stone, chalk and flint from the Phase 5 medieval fills of the 12th/13th century ditch such as [815] [819] [823] [824] [827], probably represent building rubble from the demolition of a Roman masonry building. One or two are very large fragments of Kentish ragstone such as an unstratified block with iron nails in. Large roughly dressed rubble and ashlar fragments from [189] and [819] are comparable in size with the Kentish ragstone walling from the masonry walls from nearby BVK11. The chalk wall from [629], however, is medieval/early post-medieval in date because of the inclusions of glazed peg tile and a brown lime mortar T4. Small fragments of Tufa from the Phase 5 fills [650] [651] [655] [656] [815] of medieval ditch and other post Roman features [518] [601] [831] [893] are also almost certainly Roman in date as these are represented in sites throughout Southwark e.g. Tabard Square (Hayward in prep a.) and Winchester Palace (Yule 2005).

Finally, some mention needs to be made of possible ashlar or paving slabs from the medieval fill [815] of ditch [603]. In hand specimen this sparry, shelly sandstone resemble Bargate stone a calcareous greensand from Godalming/Farnham district of Surrey and identified in Roman contexts at Tabard Square (Hayward in prep a.).

Roofing – 30 examples 2.6kg

Cornish (Delabole slate) *hard dark-grey to maroon slate*
This slate with nail holes and brown gravel mortar are the most common stone material from Bedale Street. They are identified along with early (mid 12th-13th century) glazed medieval peg tile fabrics *2273* and *2271* from the period 5 medieval fill of the 12th/13th century ditch [612] [616] [645] [646] [653] [657] [818] [819] [825] – [827] and [830]. Together this group represents a substantial dump of 12th and 13th century roofing material in the vicinity.

Mouldings 7 examples 556g

Reigate stone – *Fine low density lime green glauconitic limestone*. Lower Cretaceous (Upper Greensand) Reigate-Mertsham including a plain shaft fragment [818] and fragments from [830] all from the period 5 medieval fill of the 12th/13th century ditch.

Caen stone **–** *pale yellow dense pelletal limestone* (Middle Jurassic – Caen, Departement Calvados) – 2 varieties

a) white hard pelletal packstone identified in an example of intricately carved micro-architecture, possibly a font, lectern or pulpit fragment from the fill of 12th/13th century ditch [819]. This material has been identified in the early phase 4.2 of Bermondsey Abbey also in a possible example of church furniture (Hayward in prep c.)

b) yellow packstone – rubble fragment from fill of ditch [180] a very common medieval construction material.

Bath-stone - *Banded shelly oolitic limestone* (Middle Jurassic (Bathonian)) - South Cotswolds – small fragments from the fill of the 12th/13th century ditch [825] [828]. This material is associated with Roman sculpture, funerary monuments and monumental architecture throughout London (Hayward in prep e) and Southwark as well as forming a background component of late Roman sites in Southwark such as Trinity Street TIY07 (Hayward in prep d); Steven Street (Hayward 2012)

Fuel 7 examples 60g
Kimmeridge Oil Shale – Upper Jurassic (Kimmeridgian) Dorset coast *fissile dark-grey-black carbonaceous shale* burnt and from the lower fill of a phase 6 post-medieval soak away [802].

Summary
Taken together this rather small stone assemblage, reclaimed mainly from the Phase 5 medieval fills of the 12th/13th century ditch, consists of common construction stone materials that are found in Roman deposits throughout London. These include Kentish ragstone, Bargate stone, Hassock stone, Tufa and flint. Occasional Roman decorative materials such

as Bath oolite, Purbeck marble paving and indurated chalk tessera attest to dumped flooring and architectural material from a high status building. These are seen throughout this part of Southwark (Pringle 2009), including vaults 2 and 5 Railway Approach (BVL 10) (Hayward 2011),

The portable whetstone objects include a crisp Ardingley sandstone whetstone and a later medieval Norwegian ragstone.

The most diagnostic part of the assemblage are the 3kg of roofing slate material from the 12th and 13th century ditch that would have derived from the demolition/repair of an earlier medieval (ecclesiastical) building in the vicinity e.g. Southwark Cathedral, or possibly the Bishop of Winchester's residence. These building(s) may have been the source of the Reigate stone shaft and the hard Caen stone identified in the very well preserved, decorative example of micro-architecture from [819]

Phase Summary

A review of the building material from BVG10 has established how much Roman ceramic building material tile and brick there is (228.2kg of all ceramic material and mortar, 78% by weight) not only in the early and late Roman layers but dominating (90-95%) the later Phase 4 post Roman assemblage and Phase 5 medieval ditches. This swamps the relatively small quantity of medieval stone, roofing tile, floor tile and brick in the ditch fills– making it difficult to establish and verify accurate spot dates for Phases 4 and 5. In view of this, subdivision of the sequence from Bedale Street into as many phases as that provided by the Roman and medieval pottery has not been attempted.

Phases 2 and 3 Roman activity

Unlike the pottery, it has not been possible to separate out the early from later Roman activity at Bedale Street. The form and the fabric of Roman ceramic building material here is, however, distinctive enough to separate it from the Roman building material identified in later Phase 4 post-Roman – early medieval dumps and in the fill of major 12th/13th century Phase 5 ditch. Materials from the Roman phases display the following characteristics.

- The very small quantities of material recovered nearly all consist of roofing tile (imbrex and tegulae) and daub with only occasional brick and just one box flue tile.
- Quantities of building material recovered from the early Roman timber framed wattle and daub structure and gravel surface are limited to occasional fragments of the distinctive very pale yellow Eccles tile fabric *2454* (AD 50-80), with thick imbrex and tegulae usually in the distinctive undercut flange profile 9 [266]. The exception was [44] which was characterised by a range of sandy roofing materials and part of a bessalis in the iron oxide rich Radlett fabric *3023* (AD 50-120). The small quantity of

wall plaster recovered from [83] and [96] may represent demolition material from this early Roman clay and timber framed building.

- Slightly more brick is present in the later Roman levels. Fragments of low density tufa were acquired from the environmental samples – typical of background spread of Southwark. These stone materials are used in some quantity at nearby Winchester Palace (Crowley 2005). Small dumps of building materials concentrate in the fill [893] [894] of well [892].
- The Roman sequence at Bedale Street represents not only occupation of a Roman wattle and timber framed building but a discrete dumping episode of early roofing material. Imbrex in particular are well represented not just in the Roman levels but in the later post Roman and medieval fills (8.5%). This is higher than would be expected (<5%) for Roman Southwark and the City. It is possible that this anomaly relates to the removal early on of more regularly shaped rectangular bricks from the demolition debris for selective stockpiling for later building projects elsewhere. These would leave abnormal amounts of less easy to use rounded imbrex and tegulae behind.

Phase 4 Post Roman and Medieval (pre-1200)

The fill of the early ditch [215] [216] [224] [225], plough or horticultural soil [601] [602] [728] [817] and numerous fills of rubbish pits [876] [881] and other ditches [705] are also dominated by just Roman ceramic building material and daub. There are however important differences in the composition by fabric and form. First, later Roman calcareous tile, manufactured between AD 140 and 300 begin to appear. Second, there are a greater proportion of sandy *2815* fabrics, especially recycled brick becoming more important. These therefore represent an entirely separate group of dumped Roman materials resulting from the post Roman demolition of individual buildings in Southwark.

Phase 5 Medieval (post-1200)

The later infilling of the 12th/13th century ditch [603], as well as ditches [31] [153] [183] and pits [16] [17] [714] [749] are characterised by a sizeable group of 12th and 13th century glazed peg, bat and ridge tiles (96.2% of all medieval building material). The normally rare distinctive very coarse, thick sandy and shelly fabrics *2272* and *2273* manufactured between 1135 and 1220 are especially common (60%) and coupled with the presence of very poorly made glazed peg tile in fabric *2271* (1180+) clearly represent the dumping of material from an important (ecclesiastical?) building in the vicinity. Cornish slate is another common roofing material from these features and has been used elsewhere (e.g. Bermondsey Abbey, Dyson *et al.* 2011) in 12th and 13th century ecclesiastical structures. There is also a small but important medieval moulded stone component including a Reigate stone shaft from [818] and a very well preserved piece of microarchitecture made of a very hard white type of Caen stone from [819]. The latter stone type is often associated with Norman – 12th century

mouldings at Bermondsey Abbey (Hayward in prep c) and Canterbury. Only occasionally is there a Westminster floor tile *2199* (1225-1275) and a very rare Norman fabric *3092* (1070-1100) from a medieval pit fill [16] [17] once again verifying the 12th to 13th century composition of these large ditch fills at Bedale Street.

The very large quantity of Roman material recovered from these ditches has a similar composition to Phase 4, with brick especially common. It is possible that the large quantities of dumped Roman brick may not just have come from the dismantling of an adjoining Roman buildings e.g. BVK11 but from brick reused in the same 11th and 12th century ecclesiastical structures as the peg tile, and moulded stone. Tiny samples of banded shelly oolitic limestone from Bath and Tufa were also seen, attesting to the demolition of Roman funerary or architectural fragments as seen elsewhere in Southwark (Pringle 2009; Hayward in prep c; in prep d; in prep e; Hayward 2012).

The one medieval structure, a N-S wall [93] [95] from the eastern part of the site, consisted of reused bessalis Roman bricks with opus signinum coating similar to those used in the Roman plunge bath from BVK11 (Hayward pers. obs.). The mortar was unique to this structure (a type 6 gravel brown recipe). Although no medieval building materials were identified in it, this wall lies above [80] which contain pottery dated between 1270 and 1350.

Phase 6 Post-medieval

Masonry wall [629] consisting of poorly worked blocks of chalk and Kentish ragstone is certainly early post-medieval in date. The levelling layers of the wall are made from post-medieval peg tile (fabric *2276*, 1480-1900) adhered with a thick lime mortar (Type 4) (Hayward pers. obs.) This structure stratigraphically pre-dates the brick-lined cess pits.

Later post-medieval activity at Bedale Street is limited to a group of brick-lined cess pits and tanks [4] [8] [510] [513] [622] [623] [724] [801], together with walls [503] [159], as well as occasional dumps of brick, peg and pan tile. The character of the bricks and mortar would suggest 17th-early 19th century construction somewhat akin to the structures seen nearby at BVL10 (Hayward 2011). On the basis of brick and mortar type three phases of building construction can be identified.

The earliest consists of red Tudor and Stuart bricks manufactured between 1450 and 1750 but pointed in a soft sandy lime mortar (Type 2) These are associated with brick cess pits [510] [513] [724] [801] and wall foundation [503] and form one contemporary build dated from the 17th to the mid18th century.

The second are a group of brick tanks [622] [623], soak away [626] and wall [159] constructed from narrow, often frogged purple and purple-red spotted *3032, 3032R* and

streaked *3034* post-Great Fire bricks with numerous clinker fragments and pointed in a grey clinker mortar (T3) that suggest a build of between 1775 and 1850.

The third group is another brick tank [8] and soak away [4] and floor [150] of the same type of brick but pointed in a hard gravelly T8 clinker mortar. A build of 1850 and 1900 is suggested.

Taken together this shows the development of brick-lined drainage structures over 200 years in this part of Southwark – a situation seen in other Thameslink sites.

Distribution

Table 4 Spot Dates BVG10

NB Please note spot dates for brick structures (bold) refer to just the brick form and fabric
The spot dates of mortar taken from these brick structures should be used as the final spot dates.

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
4	**3032; T8 mortar**	**Frogged dog-leg post Great Fire brick with T8 mortar**	**1**	**1664**	**1900**	**1664**	**1900**	**1750-1900**	**1850-1900**
8	**3032; T8 mortar**	**Unfrogged post Great Fire brick with T8 mortar**	**1**	**1664**	**1900**	**1664**	**1900**	**1750-1900**	**1850-1900**
16	2271; 3092	Glazed medieval peg tile and Norman floor tile?	2	1070	1800	1180	1800	1180-1450	
17	2199; 2271; 3006	Roman tile, Westminster Floor tile, medieval peg tile	8	50	1800	1180	1800	1225-1450	
38	2454; 2459b	Combed box flue and imbrex	3	50	250	120	250	120-250+	
44	3006; 2452; 2459a; 3102; 3022; 2454; 2452; 3023	Early Roman sandy tile, tegulae, imbrex, Eccles imbrex and daub; part of Radlett bessalis	14	1500bc	1664	1500bc	1664	55-160+	
48	2452; 2459a; New Roman	Early glazed peg tile; Early Roman sandy	16	50	1225	1135	1225	1135-1225	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	Fabric; 2459b; 2453; 3006 2454; 2273	tile, tegulae and brick; late sandy box flue and tegulae; Calcareous imbrex; Eccles tile							
49	2459b; 3022; 3006	Late Roman pipe, Imbrex Eccles and Roman tile	7	50	250	120	250	120-250+	
52	3022; 2454; 3060; 2452	Early Roman sandy tile, Radlett tile, Eccles tegulae and imbrex	5	50	160	55	160	55-160+	
53	2454	Eccles tile	2	50	80	50	80	50-80+	
58	3023	Radlett tile	1	50	120	50	120	50-120+	
62	2459a	Early sandy tegulae	1	50	160	50	160	50-160+	
63	3102; 2452; 3006	Imbrex, daub, Sandy tegulae	6	1500bc	1664	1500bc	1664	55-160+	
65	Red silt; 2459b	Early tile and late sandy tegulae	2	100	250	120	250	120-250+	
83	3100	Painted and plain wall plaster frags	10	50	400	50	400	50-400	
86	2454; 2459a; 3023; 2271	Glazed medieval peg tile; Roman tile and tegulae, Eccles Imbrex and tile	8	50	1800	1180	1800	1180-1450	
87	2452; 2459a; 2459b; 2273	Earlier medieval peg tile glazed; early and late sandy imbrex 1 brick and tile	7	50	1220	1135	1220	1135-1220+	
93	**2815 3104; 3101**	**3 complete bessalis bricks with op sig backing and reused with T6 mortar**	**3**	**50**	**400**	**50**	**400**	**100-400**	**Undiagnostic mortar brown prob med 1100-1500**
95	**2452; 2815; 3104; 3100;**	**Scored brick coated in pink op sig like**	**13**	**50**	**160**	**50**	**160**	**100-400**	**Undiagnostic mortar**

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	3101	**BVK11 painted red wall plaster fragments; T6 mortar**							**brown prob med 1100-1500**
105	3022	Eccles undercut tegulae	1	50	80	50	80	50-80+	
117	3032	Intrusive? Great Fire brick unfrogged with T3 mortar	1	1664	1900	1750	1900	1750-1900	1775-1850
118	2452	Sandy imbrex	1	50	160	50	160	50-160	
150	**3032**	**Post Great Fire brick with T8 mortar**	**1**	**1664**	**1900**	**1664**	**1900**	**1750-1900**	**1850-1900**
153	2273; 2452	Roman tile burnt early med peg tile	3	55	1220	1135	1220	1135-1220+	
154	3115M; 2271 2273; 2452; 2454; 3018; 2459a; 3018; 3022; 3023; 2452; 3022; 2271; 3238 2452VV	North Wales Slate brown grey mortar earlier medieval peg tile; imbrex early fabrics; occasional Roman brick Eccles; Roman ridge; combed box flue, tessera Unknown fabric	86	50	1950	1100	1950	1180-1450	
155	3102; 2454; 2452; 3238; 3056nr 3054; 2459a 3101	Burnt Daub; Silty, Eccles and early sandy Roman tile frags; imbrex; tegulae, 1 brick Roman mortar type 7	21	1500bc	1666	1500bc	1666	71-160+	
156	3102; 3104; 2815; 2452; 3018; 2459A; 2273; 3101	Sandy Roman brick and tile, combed box flue, imbrex, Hartfield 100-200 opus signinum and daub frags Roman mortar type 7	27	1500bc	1666	1500bc	1666	1135-1220	
158	2273; 3102; 2452; 3023; 3054	Medieval peg tile; daub, Roman tile and brick, imbrex, Radlett	9	1500bc	1666	1500bc	1666	1135-1220	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
		and Hampshire tile							
159	**3033 T3 mortar**	**Post-medieval red brick reused T3 mortar**	**1**	**1450**	**1700**	**1450**	**1700**	**1450-1700**	**1775-1850**
160	3102; 3104; 2452; 3018; 3057; 2454; 2459b	Sandy Roman tile opus signinum and daub frags; Hampshire and Wealden brick, Eccles brick; Late Roman sandy Tegulae	41	1500bc	1666	1500bc	1666	120-400+	
161	2271; 2452; 2459a; 2454; 3023	Early medieval bat tile; Early Roman tile and brick	6	50	1800	1180	1800	1180-1450	
162	3102; 2452; 2454	Daub; Eccles and sandy tile fragments	4	1500bc	1666	1500bc	1666	55-160+	
163	3102; 3006; 3022; 2271; 2452; 2453	Thin medieval peg tile; Early sandy imbrex, tile, Daub, Eccles tile	8	1500bc	1800	1180	1800	1180-1450	
164	2459a	Sandy tegulae	1	50	160	50	160	50-160	
169	3102; 2454; 3023; 2459a; 2815 3004; 3006; 2452; 3238; 2273; 3118	Sandy Roman Tile, moulded daub, Eccles and Radlett type tile, frags – brick, tile, box flue combed, imbrex; medieval peg tile; Tufa fragment	45	1500bc	1666	1500bc	1666	1135-1220	
177	3022; 2454; 2452; 3006; 3023; 3102	Lots of frags Eccles tegulae, imbrex, sandy tegulae and imbrex; Radlett tile and tegulae, moulded daub	119	1500bc	1666	1500bc	1666	55-160+	
180	2452; 3023; 2271; 3102; 3119; 3104; 3101	Frags Roman tile Radlett and sandy tile daub; imbrex, brick medieval peg tile; lump of Caen stone; op sig	27	1500bc	1800	1180	1800	1180-1450	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
		and T7 Roman mortar							
181	2452	Roman tile fragment	1	55	160	55	160	55-160	
182	2454; 2815; 2452; 3023; 3102	Frags Eccles, sandy and Radlett tile daub; tegulae; opus signinum and T7 Roman mortar	29	1500bc	1666	1500bc	1666	55-160+	
185	3102; 2452; 2454; 3055; 2459a; 2459b; 2271	Daub, frags Eccles and sandy tile; rare calcareous tile; early and late sandy tegulae; medieval peg tile	45	1500bc	1800	1180	1800	1180-1450	
186	2271; 2452; 3102; 2459a; 3023; 3117; 3100; 3101	Daub; early sandy tegulae; tile and brick; medieval peg tile; Radlett tile; chalk fragment; white wall plaster; T7 Roman mortar	23	1500bc	1800	1180	1800	1180-1450	
187	2271; 2452; 3023; 3238	Medieval peg tile; early sandy tegulae, Roman brick and Hampshire box flue voussoir	8	50	1800	1180	1800	1180-1450	
188	2454; 3023; 3102; 2273; 2271; 2452	Daub; Radlett tegulae and Eccles tile frags; medieval peg tile fragments; sandy Roman tile and tegulae	16	1500bc	1800	1180	1800	1180-1450	
189	3115M; 3102; 2459a; 3022; 2271; 2452; 2453; 3006; 3105; 3104; 3101	North Wales Slate brown grey mortar; Eccles Daub and Roman sandy brick frags; medieval peg tile; late calcareous tegulae, imbrex Roman sandy; Kentish ragstone; opus signinum, T7 mortar	37	1500bc	1950	1180	1950	1180-1450	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
190	2452; 2454; 3023; 3102; 3022; 2454; 2459a	Frags Eccles, Radlett, sandy tile and keyed daub; Eccles tegulae and imbrex	37	1500bc	1666	1500bc	1666	55-160+	
191	2452; 2459a	Roman tile and tegulae	2	50	160	55	160	55-160+	
213	3102; 2452; 2454; 3009; 3023; 3022; 2459b	Roman sandy, Eccles, Radlett and Hants tile and imbrex daub frags; late Roman sandy tile	61	1500bc	1666	1500bc	1666	120-250+	
214	3060; 2815; 3102; 2454; 2452; 3023; 2459a; 2459b	Very large pieces of daub; early Eccles, Radlett and sandy Roman tile frags; early tegulae Eccles; Radlett tapered box? Late Roman tile sandy	59	1500bc	1666	1500bc	1666	120-250+	
215	2452; 2454; 2815; 3102; 3006	Early Roman sandy; Eccles brick and tile daub frags	20	1500bc	1666	1500bc	1666	55-160+	
216	3112R; 3102; 2454; 2452; 3006	Burnt Purbeck marble paving; daub; early sandy brick and tile Eccles tile frags; Eccles tegulae and early sandy tegulae	29	1500bc	1666	1500bc	1666	55-400+	
217	2273; 2457; 3023; 2452	Calcareous tegulae, medieval peg tile sandy and Radlett tile	6	50	1220	1135	1220	1135-1220	
220	2452; 3006	Roman tile, tegulae and brick	3	50	160	55	160	55-160+	
221	3102; 2454	Loomweight, daub, and lots of Eccles tile frags	19	1500bc	1666	1500bc	1666	50-80+	
224	2815; 2452	Roman brick and tile sandy frag	2	50	160	55	160	55-160+	
225	3102; 2454;	Lots of frags Roman	86	1500bc	1666	1500bc	1666	100-	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	2815; 3004; 3104	sandy tile ;one Eccles tile and daub; op sig						160+	
226	2273; 2452; 2454; 3102; 3100; 2452; 3014	Mixture of Early med glazed peg tile; wall plaster, daub, early sandy tile and imbrex brick, Eccles imbrex frags; Reigate fabric	17	1500bc	1666	1500bc	1666	1135-1220+	
227	2454	Fleck of Roman Eccles tile	1	50	80	50	80	50-80+	
230	2452; 3102	Fragments of Early sandy Roman tile and burnt daub	17	1500bc	1666	1500bc	1666	55-160+	
233	3102	Fragments of daub	13	1500bc	1666	1500bc	1666	50-400+	
242	2454	Imbrex fragment – Eccles	1	50	80	50	80	50-80+	
263	3102; 3022	Fragments of daub and Eccles tile	3	1500bc	1666	1500bc	1666	50-80+	
266	2452; 3102; 2454	Fragments of daub and Early sandy tile; Burnt clay; Roman tegulae Eccles profile 9	11	1500bc	1666	1500bc	1666	55-160+	
267	2454	Eccles brick	1	50	80	50	80	50-80	
271	3102	Daub	2	1500bc	1666	1500bc	1666	0-100	
500	**3032nr3033**	**Type 3 grey mortar reused over it**	**1**	**1664**	**1725**	**1664**	**1725**	**1664-1725**	**1775-1850**
503	**3046nr 3065**	**Type 2 mortar orange sandy poorly made chaff brick red**	**1**	**1450**	**1750**	**1450**	**1750**	**1450-1750**	**1600-1750**
510	**3101; 3046**	**Type 2 mortar orange sandy poorly made chaff red brick**	**3**	**1450**	**1750**	**1450**	**1750**	**1450-1750**	**1600-1750**
513	**3046**	**Type 2 orange sandy poorly made chaff red brick**	**2**	**1450**	**1750**	**1450**	**1750**	**1450-1750**	**1600-1750**

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
514	**3046**	**Post-med brick frags**	**9**	**1450**	**1750**	**1450**	**1750**	**1450-1750**	
525	2279	Pan tile	4	1630	1850	1630	1850	1630-1850	
601	2815; 2454; 2452; 3006; 3104; 3101; 3118	Early sandy Roman tegula and brick and Eccles tile; Box flue comb; op sig; T7 mortar; Tufa fragment	135	50	400	100	400	100-400+	
602	2452; 2815; 3006; 3023; 2454; 2271; 2459a; 2459b; 3101; 3104; 3100	Early sandy imbrex, tile and tegulae, box flue tile combed Eccles tile, early and late sandy brick, unglazed med peg tile op sig; T7 mortar; plain wall plaster	120	1500bc	1800	1180	1666	1180-1450	
608	3116; 3102; 2452; 3006; 2271	Belemnite fossil in flint; Daub; Roman sandy tile and tegulae, imbrex; medieval peg tile	6	1500bc	1800	1180	1800	1180-1450+	
609	2271; 2454; 2452; 3023; 3102; 3101; 3014	Glazed medieval peg tile; daub; Eccles tile and early Roman sandy tile; T7 mortar and op sig	22	1500bc	1666	1180	1800	1180-1450+	
610	3102; 2452	Daub and early sandy Roman tile	3	1500bc	1666	1500bc	1666	55-160+	
611	3123R; 3023; 2454; 2459a; 2271; 2815; 2586; 2271; 3104	German lavastone quern frag; Roman tile and medieval peg tile; op sig.	27	50	1800	1180	1800	1180-1450+	
612	3115M; 2452; 3102; 3101; 2271;	North Wales Slate roof; lots of early medieval bat and peg tile roofing;	59	1500bc	1950	1100	1950	1240-1450+	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	2272; 2587; 3101; 3104	T4a white med gravel mortar attached peg tile rare Roman tile frags and daub T6; T5 mortar and op sig							
613	2815; 2271; 3102; 3033; 3101	Lots of medieval glazed peg tile; daub and Roman sandy tile frags; T2 mortar attached to 3033 brick; T7 mortar Roman	28	1500bc	1800	1450	1800	1500-1800	
616	3115M; 2271; 2586; 3104; 3102; 2454; 3101; 3100; 3117; 3105	North Wales Slate roof; lots of Medieval peg tile; opus signinum; Early Roman sandy and Eccles tile frags; daub; combed box flue; lots of T5 and T7 mortar plain and painted wall plaster; Kentish rag and chalk	147	1500bc	1950	1100	1950	1180-1450+	
622	**3101; 3032R**	**Mortar Type 3 grey clink Narrow Unfrogged Post Great Fire bricks**	**3**	**1664**	**1900**	**1664**	**1900**	**1750-1900**	**1775-1850**
623	**3101; 3032R; 3034**	**Mortar Type 3 grey clink Narrow Unfrogged post Great Fire bricks**	**3**	**1664**	**1900**	**1664**	**1900**	**1750-1900**	**1775-1850**
626	**3032R**	**No mortar well made frogged post Great Fire bricks**	**2**	**1664**	**1900**	**1800**	**1900**	**1800-1900**	**No mortar**
629	**3101; 2271**	**Mortar Type 4 pale yell sandy med 2271 peg tile bricks**	**10**	**1180**	**1800**	**1180**	**1800**	**1300-1700**	**1300-1700**
330 prob	3031nr3042;	Post-medieval peg tile;	4	1350	1900	1480	1900	1480-	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
630	3033; 2276	late medieval brick; Tudor brick						1700	
631	3031nr3042; 3033; 2276	Post-medieval peg tile; late medieval brick; Tudor brick	10	1350	1900	1480	1900	1480-1700	
632	2271	Medieval peg tile	2	1180	1800	1180	1800	1180-1450	
641	3023	Radlett Tegulae	1	50	120	50	120	50-120+	
643	2454; 2815; 3102; 2271; 2273; 2586; 3101; 3104	Fragment Eccles tile; early sandy fabrics; daub; medieval glazed peg tile; op sig and T7 mortar	36	1500bc	1800	1180	1800	1180-1450	
644	2454; 3023; 2815; 3102; 2273; 3006; 3101; 3104; 3105	2 frags Eccles tile; tile, medieval peg tile, sandy imbrex and tile; huge quantities of T7 mortar; T6 and T5 mortar; op sig; Kentish ragstone	669	1500bc	1666	1500bc	1666	1135-1220+	
645	2271; 2273; 2815; 2454; 3102; 3006; 3101	Medieval peg and ridge tile; Roman tile Eccles and sandy daub; imbrex; tegulae T7 mortar	56	1500bc	1800	1180	1800	1180-1450	
646	3115M; 2271; 2273; 2454; 2815; 3102; 3101	North Wales Slate roof; daub; medieval peg and ridge tile; Eccles tile; T7 mortar	24	1500bc	1800	1180	1800	1180-1450+	
647	2454; 2815; 3023; 3006; 3102; 3101; 3106	Eccles brick frag Radlett; fragment sandy tile; daub T7 mortar; Hassock stone	24	1500bc	1666	1500bc	1666	55-160+	
650	2452; 2454; 3102; 2271; 2273; 3006;	Frags early Roman and Eccles tile and tegulae and brick, 1 medieval	85	1500bc	1800	1180	1800	1180-1450	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	3101; 3104; 3117; 3118	peg tile, daub; frags of op sig and T7 mortar; Chalk and Tufa fragments							
651	3102; 3104; 2454; 2815; 3023; 2452; 2459a; 3101; 3118	Fragments of daub op sig; Eccles and sandy tile; T7 mortar; Tufa fragments	56	1500bc	1666	1500bc	1666	55-160+	
652	3102; 2815; 3101	Daub and Roman tile; T6 mortar	22	1500bc	1666	1500bc	1666	50-160+	
653	2452; 2459a; 2454; 3023; 3238; 3102; 3101	Frags early Roman sandy tile; silty imbrex, Radlett and Eccles tile, daub combed box flue tile; T7 mortar	20	1500bc	1666	1500bc	1666	71-160+	
654	3102; 2454; 3006; 2815; 2459a; 3101; 3104	Daub; Eccles; sandy tile; op sig T7 mortar	52	1500bc	1666	1500bc	1666	100-400+	
655	2815; 2454; 3102; 2459a; 3101; 3118	Daub; Eccles; sandy tile; imbrex; T7 mortar; Tufa	46	1500bc	1666	1500bc	1666	100-400+	
656	2815; 3006; 2454; 3102; 2452; 2459a; 3101; 3104; 3118	Daub; Eccles sandy tile; Voussoir Brick; Roman brick; tessera; imbrex; op sig and T7 mortar; Tufa fragment	55	1500bc	1666	1500bc	1666	100-400+	
657	2454; 3022; 2815; 2271; 2273; 3101	Eccles and sandy tile; medieval glazed peg tile; T7 mortar	99	50	1800	1180	1800	1180-1450	
704	2273; 2452	Large part complete early medieval peg tile and Roman brick	6	55	1220	1135	1220	1135-1220	
705	2459a; 3101	Reused brick; Type 7 mortar	2	50	160	50	160	50-160+	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
712	2271; 2273	Group of large well preserved glazed medieval peg tiles, 1 ornate	6	1135	1800	1180	1800	1180-1450	
724	**3046; 3101**	**Type 2 brown sandy mortar attached to poorly made chaff tempered brick**	**2**	**1450**	**1750**	**1450**	**1750**	**1450-1750**	**1600-1750**
728	2452; 2454	Roman sandy and Eccles tile/imbrex	2	50	160	55	160	55-160+	
730	3023; 2452; 3006; 3022; 3004	Roman early sandy brick; tile and Eccles	6	50	160	55	160	55-160+	
733	2459a	Roman brick	1	50	160	50	160	50-160+	
734	2271; 3006	Glazed medieval peg tile and Roman brick	2	50	1800	1180	1800	1180-1450	
741	2459b; 2452; 2454; 3006	Late sandy tegula, Eccles tile and sandy brick/tile	4	50	250	120	250	120-250+	
742	3023; 3006	Radlett tile and sandy tegulae	2	50	160	50	160	50-160+	
749	2273	Group of 2 well preserved early medieval peg tile with residue	4	1135	1220	1135	1220	1135-1220+	
762	2271; 2815	Medieval glazed peg tile and Roman tile	2	50	1800	1180	1800	1180-1450	
801	**3101; 3033; 3046**	**Type 2 sandy mortar; Tudor and Stuart reds**	**3**	**1450**	**1750**	**1450**	**1750**	**1450-1750**	**1600-1750**
802	**3120; 3032; 3034; 3033**	**Burnt Kimmeridge shale; York stone paving; well made Frogged post Great Fire like [626]; Victorian red frogged**	**2**	**50**	**1950**	**50**	**1950**	**1850-1900**	**No mortar**

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
809	3120; 3102; 2452; 2453; 3023	Kentish rag frag attach br gravel mortar; daub Calcareous imbrex, early sandy brick, tile, tegulae	15	50	1666	50	1666	140-300+	
815	3120; 3116; 2272; 2271; 3102; 2815; 3004; 2452; 3118; 3101; 3104; 3120	Norwegian ragstone whetstone and chalk att brown gravel mortar; moderate early medieval glazed peg tile, daub; early sandy; combed box flue tile frags; imbrex; Roman tile and brick and tegulae; Tufa fragments; T7 mortar and op sig; possible Bargate type paving	116	1500bc	1800	1180	1800	1180-1450+	
816	2271; 2273; 3022; 2815; 2452; 2453; 3023; 3006; 3102; 3101	Medieval glazed peg tile; Eccles tile; sandy tesserae; tegulae; Calcareous tegulae; Radlett tile; Silty tile; Type 7 mortar	57	1500bc	1800	1180	1800	1180-1450	
817	3118; 2452; 2454; 3018; 3102; 2815; 3104; fired clay	Fragment Tufa brown gravel mortar; daub; Eccles tile early Roman sandy tile and brick Hartfield imbrex frags; op.sig imbrex	47	1500bc	1666	1500bc	1666	100-400+	
818	3115M; 3107; 3102; 2454; 2815; 3022; 3100; 3101; 3105; 3119; 3105	North wales roofing slate and Reigate stone shaft Roman brick, tile and daub frags; Eccles tile; grey painted wall plaster frag; T7 mortar; hard Caen	42	1500bc	1950	1100	1950	1100-1600	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
		pulpit/microarchitecture; Kentish ragstone rubble							
819	3102; 2271; 2273; 2815; 2459a; 3060; 2453; 2452; 2459b; 2454	Daub; medieval peg tile; early and late Roman tegulae, tesserae; Roman tile, Eccles Imbrex, Calcareous tile	45	1500bc	1800	1180	1880	1180-1450	
820	3102; 2271; 2459a; 3100; 3101; 2273; 2453; 2815; 3006; 3009; 3023	Keyed daub; medieval peg tile and sandy, box flue Roman brick, tegulae and imbrex frags; white plaster; T7 mortar; Calcareous and Radlett tegulae; Hampshire silt brick	54	1500bc	1800	1180	1800	1180-1450	
821	2454; 3023; 2815; 3102; 3109	Sandy, Eccles and Radlett tile plus daub; oolitic limestone fragment	14	1500bc	1666	1550bc	1666	50-400	
822	3102; 2452; 2815; 3101; 3104; 2459a; 3006	Sandy tesserae; daub and imbrex; tegulae; op sig fragments; T7 mortar; box flue curved frag, tile	35	1500bc	1666	1500bc	1666	55-160+	
823	3112R; 3115M; 3102; 2459a; 2815; 3104; fired clay; 2454; 3101; 3022; 3023; 2815	North Wales roofing slate and Purbeck marble paving brown gravel mortar; sandy Roman brick tile T7 mortar, coarse combed box flue; sandy tegulae; Radlett and Eccles tile	21	1500bc	1950	1100	1950	1100-1600	
824	3105; 2271; 2587; 2273;	Kentish ragstone rubble T5 mortar attach; lots	98	1500bc	1800	1180	1800	1180-1450+	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	2452; 2454; 3102; 3101; 3238; 3006	of medieval peg tile; Eccles and sandy Roman tile and brick frags; daub; Type 5 Tufa coarse mortar prob Roman; box flue combed; imbrex; t7 mortar							
825	3115M; 3102; 2452; 2459a; 3023; 2454; 3109; 3101	North Wales roofing slate; moulded daub; nail hole in early sandy Roman tile and brick; Eccles tile, Roman water pipe; box flue combed frags; oolitic limestone fragment; T7 mortar	59	1500bc	1950	1100	1950	1100-1600	
826	3115M; 2452; 3104	North Wales roofing slate; early sandy Roman brick and tile frags; op sig fragment	25	55	1950	1100	1950	1100-1600	
827	3105; 2452; 2454; 3238; 2459a; 3022; 3006; 2273; 2271; 3023; 2459a; 3104; 3100	Kentish ragstone rubble; early Roman tile sandy tegulae, Eccles, silty frags; medieval peg tile; sandy tessera frag; Radlett brick; sandy imbrex; op sig backing for plaster; wall plaster backing	92	50	1800	1180	1800	1180-1450	
828	3102; 3104; 3022; 2454; 3023; 3006; 2452; 2271; 3106; 3101; 3104	Frags of daub, opus signinum; early sandy Roman tile, imbrex, Eccles tile; Roman tegulae, tesserae, medieval peg tile;	45	1500bc	1800	1180	1800	1180-1450+	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
		Hassock stone fragment; T7 mortar and op sig							
830	3115M; 3102; 2452; 3023; 2454; 2457; 2271; 2272; 2273; 3101	North Wales roofing slate tr brown grey mortar; early Roman tile and brick; Eccles and Radlett tile frags; Late Calcareous Tegulae; large group of medieval peg tiles; T7 mortar	63	1500bc	1950	1100	1950	1180-1450	
831	3102; 2452; 2454; 3006; 3118; 3101; 3014	Daub; early sandy tile and brick, Eccles tile fragments; Tufa fragment; op sig; T7 mortar	29	1500bc	1666	1500bc	1666	55-160+	
833	3102; 2452; 2459a; 3004; 2271; 3054; 2457; 3023; 2273; 3101	Roman tile and brick frags, daub; medieval peg tile; Hampshire grog and late calcareous tile; lots of sandy tegulae, imbrex; T7 mortar	41	1500bc	1800	1180	1800	1180-1450	
834	2452; 2459a; 3006; 3102; 3238; 3022; 2587; 2271; 2273; 2454; 3018; 2459b; 3117; 3106; 3104	Medieval peg tile; early sandy Roman tile, brick, tesserae; imbrex; silty and curved Eccles tegulae frags; daub; Tessarae; late sandy imbrex; Hassock and chalk fragment; op sig fragment	63	1500bc	1800	1180	1800	1240-1450+	
836	2452; 2454; 3023; 3104; 3102; 3117;	Eccles tesserae; daub, opus signinum, Early sandy and Eccles	70	1500bc	1666	1500bc	1666	100-400+	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	3100; 3101; 3104	tesserae, imbrex, brick frags; wall plaster backed with opus sig; chalk fragment; pink painted wall plaster frag; lots of T7 mortar and 1 op sig							
858	2273; 2459a; 2452; 2454; 2453	Early medieval peg tile; late calcareous tegulae; Eccles tegulae; sandy tegulae and brick	9	50	1220	1135	1220	1135-1220	
868	2452; 2454; 2459a; 3023	Radlett tile early sandy tile and brick; Eccles brick	9	50	160	55	160	55-160+	
871	2452; 3238	Roman tile and brick	3	55	160	55	160	71-160+	
874	2452; 3006	Roman tile nail hole sandy	2	50	160	55	160	55-160+	
875	3102; 3104; 2452; 2454; 3023	Moulded daub; opus sig; early sandy, Radlett and Eccles tile frags	13	1500bc	1666	1500bc	1666	100-160+	
881	2453; 2459a; 2452; 3102; 3018	Silty Roman tile; calcareous tegulae; Roman brick; daub; sandy combed box flue	16	1500bc	1666	1500bc	1666	140-300+	
886	2452	Sandy imbrex	2	55	160	55	160	55-160+	
893	3123R; 3102; 2452; 3006; 2459b; 3023; 2453 3118; 3106; 3101	German lavastone quern frags; Late sandy Imbrex; early sandy tile and tegulae; Radlett tile frags; late Calcareous imbrex; Chalk and Tufa; T7 mortar	27	1500bc	1666	1400bc	1666	140-400+	
894	2452; 3023; 3102; 2454;	Daub, Eccles Roman tile, Radlett and early	25	1500bc	1666	1500bc	1666	55-160+	

Context	Fabric	Form	Size	Date range of material		Latest dated material		Spot date	Spot date mortar
	3101	sandy tesserae and tile frags; imbrex and brick early sand; T7 mortar							
896	3023	Radlett tegulae	1	50	120	50	120	50-120	

Summary

The very large group of brick, tile, daub and stone recovered from Bedale Street was dominated by dumped Roman brick and roofing tile and early medieval roofing tile, most of which accumulated in the prominent 12th and 13th century ditch [603]. Structures, on the other hand, were limited to the occasional medieval [92] [95] and early post-medieval wall [629] and a small group of brick cess pits, tanks and culverts which on the basis of mortar and brick type could be divided up into three phases (i) 17th to mid 18th (ii) Early-mid 19th century (iii) Late 19th century.

The Roman assemblage was noteworthy for a number of reasons. First, a distinctive early group (AD 50-80) of roofing material characterised by Eccles imbrex and undercut tegulae profile 9 that dominated the small ceramic building material assemblage from the Roman timber framed wattle and daub structure and occupation and demolition horizons [214] [221] [230], pit fills [213] [190] and ditch fill [177]. The character of this group was very different to that of the dumps re-deposited in post Roman and medieval ditches, where brick and the early Roman sandy fabric *2815* dominated (AD 55-160) and suggested a quite separate early dumping episode. Second, the range (15) of tegulae profiles and fabrics (6) (see Table 2). In particular how certain fabrics can be assigned to a particular flange profile. Third, there are re-cycled bessalis bricks possibly from the plunge bath from BVK11 (Hayward pers obs.) re-used in the medieval wall [92] [95] as they have the same scoring and opus signinum observed in-situ.

In terms of high-status materials, cavity walling is under-represented containing only a small quantity of combed box-flue tile, *opus spicatum* and just one roller stamped box flue. Only the occasional Purbeck marble slab, fragments of Tufa and bath-oolite were recovered but no exotic white or polychrome marbles as seen in BVL10 (Hayward 2011).

The fill of the medieval ditch is dominated by the normally rare very coarse sandy peg tile fabric *2273* (1135-1220), but with no post-medieval brick, peg-tile and floor tile. Some of this material was decorated with ridge tile and peculiar shaped curved elements in the medieval fills [643] and [646] of ditch [603]. Coupled with the presence of some early micro-architecture, a white Caen stone, identified in 12th-13th century architecture at Bermondsey Abbey, Westminster Tile (1225-1275) and a possible Norman tile (1070-1100), the fill cannot

extend into the 15th century verifying the pottery evidence (Jarrett 2012). It probably, along with some of the reused Roman brick, belonged to an important medieval ecclesiastical structure e.g. Southwark Cathedral (Divers *et al.* 2009) or the repair or extension of the nearby 12th century Winchester Palace (Seeley *et al.* 2006).

Recommendations

In terms of individual items of artistic, petrological and historical significance there are only a handful of items that require further investigation, photography, illustration and inclusion into publication - these are:

- The small example of micro-architecture from possibly a font, lectern or pulpit fragment from the fill of 12th/13th century ditch [819]. This material has been identified in the early phase 4.2 of Bermondsey Abbey also in a possible example of church furniture (Hayward in prep c). Parallels need to be examined to identify its true function.
- The origin and function of the unstratified terracotta mould [+] in particular whether it is Victorian or much earlier e.g. Elizabethan.
- Further investigation in to the origin and function of a group of decorated curved peg tiles in the rare 12th century fabric *2273* from medieval fills [643] and [646] of ditch [603].
- The origin of a group of late medieval bricks from [631].
- Where else early dumps of roofing material in the distinctive very early (AD 50-80) white Eccles fabric can be located in Southwark and especially in other Thameslink sites.

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APPENDIX 13: WALL PLASTER ASSESSMENT

Berni Sudds

The small assemblage of Roman wall plaster excavated from Bedale Street amounts to 28 fragments, weighing 1,663g. The material includes two fairly skilfully executed schemes ([83]/[95]; [827]) but is either re-deposited or residual.

Methodology

The assemblage of wall plaster has been counted, weighed and an analysis and quantification of the fabric and thickness of individual layers has been undertaken. The fabric composition and grade were recorded using standardised letter and number codes. A copy of these codes and their expansions is included with the archive. The finish of the plaster and competence of decoration was also noted, informing on the status of schemes and any related structure. In the same way the presence of any keying, impressions of structural elements was also noted, further informing on the technology and level of skill of application. An Access database has been generated recording these attributes.

In common with general terminology employed for Roman wall plaster elsewhere (Mora *et al.* 1984, 10) the term 'arriccio' is used to describe the coarse base coats, applied successively to the wall, and the term 'intonaco' refers to the fine top coat, comprising the finished surface. The composition, grade or coarseness and thickness of each coat of plaster have been recorded using standardised letter and number codes. A copy of these codes and their expansions is included with the archive.

Common colour terms were used to describe the different pigments used and the term buon fresco is only used where evidence exists that the plaster was painted whilst still damp, namely where the colour has seeped into the surface. Finally, where painted the decoration on Roman wall plaster is commonly divided into the following three zones, henceforth referred to in this report; the dado, representing the bottom of wall; the main or middle zone, often with most accomplished and detailed decoration; and the upper zone or frieze (Davey and Ling 1982, 31).

Distribution and Discussion

Table 1 summarises the Roman wall plaster recorded from Bedale Street. The majority would appear to be residual from immediately post-Roman or medieval deposits and where attributable to Roman horizons is evidently re-deposited. Although originating from unknown

structures the assemblage is still broadly representative of the built environment of the local vicinity.

Context	Phase	Deposit type	No	Weight (g)	Comments
0	-	Unstratified	2	184	Smoothed red painted opus signinum.
83	2a	Dump/ levelling layer	1	16	Unwashed. Same as CXT. [95]? Little gravel.
83			4	114	Yellow lower arriccio, white upper arriccio. Intonaco covered with fine layer of sandy mortar/ soil. Similar to intonaco of ID 618. Reused as mortar?
83			4	25	Thick intonaco. White with over painted red, including panel/ border edge. As ID 617 intonaco covered with a layer of soil/ mortar. Reused as mortar or part of a demolition dump.
95	4	Masonry foundation	8	324	Unwashed. Same as CXT. [83]. Red ground over painted with green on one example. Red and black scheme with green panel borders?
155	5a	Fill of re-cut ditch [183]	1	78	Flecks of red, black and possibly yellow on white ground. Imitation marble. Very crisp surface and paint.
186	5a	Fill of re-cut ditch [183]	3	62	Natural
602	4	Ploughsoil	1	111	Thick opus signinum layer over thinner layer of lime, sand and gravel. Upper surface of opus signinum flat but rough (?abraded). Render/ waterproof plaster?
616	5a	Fill of ditch [603]	1	36	Rough finish to flat surface. Degraded plaster or render?
827	5a	Fill of ditch [603]	2	690	Thick plaster, possibly from masonry structure. Thick lower base coat overlain by thin upper opus signinum arriccio and fine thin intonaco. Smoothed, well-finished buon fresco red over painted with thin white line. Beyond white line to one side plaster begins to curve away gradually.
836	4	Fill of ditch [837]	1	23	Abraded intonaco. Traces of original red survive and pink where seeped into intonaco.

Table 1: Summary of the Roman wall plaster.

Phases 2a and 4

The wall plaster from dump layer [83] and masonry foundation [95] appear to be from the same original structure, reused as mortar. The decoration is somewhat obscured by the concreted soil and mortar but two schemes may be evident. The first is white with a red panel border, possibly from a two-dimensional panel scheme on white ground and the second is a red ground scheme over painted with green, probably from a red and black two-dimensional panel scheme bordered by green bands edged with white lines. The two are unlikely to have formed elements of the same scheme but may have formed part of the main zone of decoration within different rooms of the same building.

The red and black scheme can be well-paralleled in the Flavian and Trajanic period (Davey and Ling 1982, 33 and 97). Similar schemes, also dated to the late 1st century, close to site in Southwark, include early Flavian schemes from a large masonry structure (Building 2) to the east of Borough High Street and from the waterfront dumps at Winchester Palace (Davey and Ling 1982, 82 & 145; Drummond-Murray *et al.* 2002, 117-9; Goffin 2005, 105-113). Variations on this scheme have been observed throughout the north-western provinces during the late 1st and 2nd century (Ibid 33; Ling 1985, 22-23). White ground panel base schemes did co-exist with the more elaborately coloured schemes but became more commonplace from the end of the 2nd century (Davey and Ling 1982, 30-31; Ling 1985, 26). Where contemporary with more highly coloured schemes, the plainer white ground designs may have been reserved for subsidiary rooms of less status (Ling 1985, 26).

Phase 5a

The plaster recovered residually includes a technically accomplished scheme, well finished and painted buon fresco with a deep red over painted with a white line. This scheme is more likely to be early, 1st or 2nd century in date, and may a have originated from a masonry structure. The plaster has a curve to one side of the white line, probably from an internal architectural feature of aperture. A white ground scheme depicting imitation marble was also recorded, flecked with splashes of black, red and yellow. This technique was common in all periods, in both the dado and main zone (Davey and Ling 1982, 31-2). The scheme would almost certainly have had black or red painted borders delineating zones and plain from decorated. Local parallels for simple flecked marble schemes on white ground include Buildings 8, 15, 38 (first phase) from excavations in north-west Southwark (Goffin 2003, 139-140) and Building 6 at 15-23 Southwark Street (Goffin 1992, 159).

Recommendations

As well-paralleled stylistically in the vicinity and either residual or re-deposited no further analysis or discussion of the assemblage is recommended.

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APPENDIX 14: ANIMAL BONE ASSESSMENT

Kevin Rielly

Introduction

Animal bones were found throughout the occupation sequence although with notable concentrations within the medieval ditch re-cut fills. The great majority of the bones were recovered by hand. However, a large proportion was taken from a number of samples, these mainly provided from the Roman and medieval levels.

Methodology

The bone was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of longbone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered. The sample collections were washed through a modified Siraf tank using a 1mm mesh and the subsequent residues were air dried and sorted.

Description of faunal assemblage

The site provided a grand total of 1,272 hand collected animal bones with an additional 4,574 taken from the samples (excluding the fish bones, see Appendix 15). These bones have been assigned to their respective phases (tables 2 and 3) and will be described below according to general occupation periods. Throughout these phases the bones tend towards a good level of preservation (referring to surface condition) with no collections exhibiting high levels of fragmentation. Table 1 shows the quantity of bones which were less well preserved, including those with minor through to severe surface damage. The majority of these were in the former category. Notably most phases provided relatively few such bones with the exception of phase 3 (Late Roman) perhaps suggesting either a greater level of redeposition and/or a greater proportion of waste items left open to the elements. The proportion of bones with dog gnawing will obviously have a bearing on the latter eventuality. The largest proportion of such bones was found in the latest levels, yet without any obvious signs of abrasion, it can be assumed that these bones had been fairly rapidly buried.

Phase:	**2**	**3**	**4**	**5**	**6**
Modification					
Abraded					
N	1	11	1	13	1

%	7.1	29.8	2.1	1.5	4.3
Gnawed					
N	0	0	3	62	29
%	0	0	6.4	7.3	12.5

Table 1. Percentage abundance of abraded and dog gnawed bones in each phase assemblage (hand collected only), with percentages based on total counts shown in Table 2.

The dating of the various bone bearing deposits is generally good, with most accommodated within the date ranges of the phases in which they have been assigned. Of greater concern is the notable presence of earlier pottery (Roman) within a large proportion of the medieval levels. Such mixing is common amongst those parts of Southwark and the City with underlying Roman horizons and it can be assumed that there will be a certain mixing of early and later animal bones as well as pottery. However, it would appear that the quantity of medieval sherds far outnumbers the Roman sherds in these deposits. In addition there is no obvious indication of a high level of mixing, as shown by various states of abrasion within the same context or a relatively greater level of fragmentation.

Early Roman (Phase 2)

There was a series of dump deposits, possibly intended as ground preparation for construction purposes, followed by a single clay and timber building in the northern part of the site. Contemporary levels included a gravelled area to the south and a burnt horizon to the north-east. The demise of this building was shown by demolition levels alongside further dumping and some cut features in this and other parts of the site. There were just 14 bones dated to this phase, these arising from deposits representing each stage of this sequence, although with the majority (10 fragments) from the latest levels. The greater part of this collection, with the exception of a singe cat pelvis, belong to the major domesticates (see Table 2), represented by a general mix of skeletal parts. There were some chicken and goose bones in the samples (see Table 3) plus a few small rodents including house mouse from one of the occupation deposits contemporary with the building.

Phase:	**2**	**2\3**	**3**	**4**	**4 or 5**	**5a**	**5b**	**5**	**5 or 6**	**6**
Feature:						pit	ditch	All		
Species										
Cattle	5	1	16	20	9	39	218	257	37	14
Equid				1	1	1	116	117	3	
Cattle-size	5	1	15	19	5	33	168	201	22	25

Sheep/Goat	1		3	4	1	13	203	126	6	15
Pig	1		2	2		10	42	52	3	11
Sheep-size	1			2	1	9	46	55	1	91
Roe deer							1	1		
Dog				4	1	1	5	6		1
Cat	1									4
Hare										3
Rabbit										2
Small mammal				1			2	2		
Mallard			1			1		1		5
Chicken				1	1	2	8	10	1	47
Goose		1			1	2	8	10		5
Goose-size							1	1		
Partridge										1
Pheasant										1
Turkey										6
Woodcock						1		1		
Total	14	3	37	54	20	112	728	840	73	231

Table 2. Hand collected species abundance by phase

Late Roman (Phase 3)

Dumping and levelling in the western part of the site is followed by the digging and use of 4 pits, all with fills dated between AD 150 and 300. A series of other cut features were found in other parts of the site culminating again with a series of levelling dumps. The quantity of bones was rather small, just 37 fragments, with about half arising from the aforementioned western pits, dating between AD 100 and 160 (mostly from [179] with 17 bones) and the remainder from dumps/fills and in particular from the latest levels within possible pit [117] (9 bones). These were generally dated between AD 200 and 400. The bones include the usual domesticates, as well as duck, this arising from one of the earlier pits. The samples provided some chicken and small rodent bones as well as a roe deer maxilla fragment, all taken from the early pits.

Medieval Pre-AD1200 (Phase 4)

This phase is remarkable for the construction of a large ditch which traversed the site WNE/ESE. Its time of initial construction is as yet unknown. Other features include a concentration of pits in the northern and southern parts of the site, which in turn were sealed by successive layers of made ground and ploughsoil or garden soil deposits. The fills from the

ditch and from these other cut features and layers generally date to the 11th/12th centuries. Most of the bones were taken from the ditch (47 out of the 54 fragments) and most of these belonged to the major domesticates, with cattle predominant. These deposits also provided the earliest dog and equid remains found at this site. The species list is completed by the addition of chicken and goose and then some small rodents (including vole) and amphibians from the samples.

Phase:	**2**	**3**	**4**	**5a**	**5b**	**5**	**6**
Feature:				Pits	ditches	All	
Species							
Cattle	1	3	7	18	95	113	1
Equid	0		1		12	12	
Cattle-size	21	10	64	177	903	1080	1
Sheep/Goat	2	2	4	12	104	116	
Pig	4	2	10	18	117	135	1
Sheep-size	51	16	100	171	1703	1874	7
Roe deer	0	1	0			0	
Dog	0		0		11	11	
Cat	0		0	1	7	8	
Rabbit	0		0		1	1	
Small mammal	4		3	3	109	112	
Mole				1	1	2	
Rat					1	1	
Field vole				1		1	
Vole			2	2	5	7	
House mouse	2				5	5	
Mouse					1	1	
Small rodent	1	1	1	13	31	44	
Chicken	3	2	1	2	41	43	
Chicken-size	14	2	3	7	66	73	5
Small corvid					1	1	
Mallard				3	5	8	
Goose					1	1	2
Goose-size	1				7	7	
Partridge				1		1	
Woodcock				1	1	2	
Thrush					3	3	
Large thrush					2	2	
Small thrush					1	1	

Small passer					7	7	
Uniden bird				4	14	18	
Amphibian			17	13	69	82	
Frog					4	4	
Toad				1		1	
Indeterminate		3	4	47	360	407	1
Grand Total	104	42	217	496	3688	4184	18

Table 3. Sieved species abundance by phase

Medieval Post-AD1200 (Phase 5)

The major feature was a re-cut of the original ditch following the same line, which produced numerous fills dating between 1080 and 1350. In addition there were a series of pits and post-holes truncating the Roman horizons to the north of the ditch accompanying a north-south wall. The fills of these features were generally dated between 1050 and 1200. In addition an east-west orientated foundation trench was situated in the north-eastern part of the site. This phase provided by far the largest collection of bones, with the great majority arising from the re-cut ditch, this in turn divided into three sections, [31], [183] and [603], producing 32, 122 and 564 hand collected bones respectively. The greater proportion of the fills in the larger of the two re-cuts, [183] and [603], were dated between the late 11th and 12th centuries, these also accounting for the major part of the bone collections. While the latest dated finds (13th to mid 14th centuries) were generally found within the topmost fills, there is a measure of mixing, most notably within two of the lowest deposits in [603], that is [830] and [833] each with pottery dates between 1240 and 1300. It should also be mentioned that the great majority of these ditch fills and indeed the aforementioned pit fills, produced small quantities of Roman potsherds, these invariably dated to the 3rd/4th centuries. Within the largest collection, from [603], there was a notable concentration within those fills including and below fill [815] (19 out of 35 fills with bones), these providing 419 out of 564 fragments i.e. 74.3%.

Feature	Context	Cattle	Sheep/Goat	Pig	N
		%	%	%	
Pits	All	62.9	21.0	16.1	62
Re-cut ditch	All	58.8	29.8	11.4	369
	[183]	69.7	21.2	9.1	66
	[603]	55.6	31.7	12.7	284
	[603] lower fills	58.4	33.3	8.3	195
	[603] upper fills	49.4	28.0	22.6	89

Table 4. Percentage abundance of major domesticates within Phase 5, where lower fills in [603] equal those below and including [815] and where N is the sum of cattle, sheep/goat and pig bones from that phase and % equals sum of individual species/N x 100 (hand collected bones).

These various collections were generally dominated by the major domesticates and in particular by cattle. This was shown by both the ditch and pit fills, although there appears to be a greater proportion of sheep/goat within the former (see Table 4). It was not possible to compare and contrast the earlier and later collections, largely due to the rather small quantity of bones within the later dated upper ditch fills. However, taking fill [815] as an appropriate point of division, it can be seen that the fills above this point tend to show a decline in cattle and an increase in pig (Table 4). While this is of course an arbitrary division, the results tend to follow a general pattern, at least regarding cattle usage, within London sites (see below). The sieved assemblages offer a somewhat different pattern with pig at 37.4% combining the phase 5 collections (the vast majority taken from the re-cut ditch fills), followed by roughly equal proportions of cattle and sheep/goat (about 30%). It is to be expected that the smaller species will be better represented when using a more objective recovery procedure. However, the proportion of pig within these collections is clearly biased due to the notable recovery of loose teeth, these forming 43% of the pig bones compared to 30% and 19.6% of the sheep/goat and cattle sieved assemblages respectively.

Each of the domesticates within the pit and ditch fills tend towards a wide distribution of skeletal parts, signifying the deposition and intermingling of waste from a variety of sources. Two exceptions to this general rule include the sheep/goat component from ditchfill [833] (within re-cut [603]) and the cattle bones from pit fill [713] (pit [714]). The former was composed of 7 head parts (3 skulls and 4 mandibles) and a tibia; while the cattle bones included 12 head parts (7 skulls and 5 mandibles) alongside a scapula and a radius. The sheep skulls in the former deposit include 2 polled and 1 horned specimen, while the cattle skulls in the latter probably represent at least 4 individuals. These can be interpreted as concentrations of butchers' waste, no doubt denoting the presence of a butcher's shop and/or market in the vicinity of this excavation during this period. There is a notable quantity of butchery amongst these and other cattle skull pieces within these collections, generally involving various methods concerning removal of the horns. Of interest, in this respect, was the recovery of a cattle horncore shaft piece from another ditch fill [156] (from re-cut [183]), which had been sawn twice across the shaft so forming a short tube. The use of the saw clearly denotes craft waste, this instrument was rarely used for butchery purposes prior to the late 18th century (see below), and this piece most probably derives from a horn working establishment.

A major aspect of the Phase 5 collections is the abundance of equid remains. There is a total of 117 fragments, of which all but one was recovered from fills within the re-cut ditch. These are divided amongst [603], [183] and [31] with 99, 16 and 1 fragment respectively. Notably,

the majority of the [603] collection was taken from the lower fills (below [815]), these providing 97 fragments. Concentrations were found in both [183] and [603] with clear evidence of articulation across adjacent fills (see Table 5). The former collection, all 16 bones were found in [186], [188] and [189] representing at least 2 adult individuals; the latter, from fills [830] and [833] amounted to 78 bones, again representing at least 2 adult individuals. The size and wear patterns on teeth derived from each concentration suggest the presence of animals aged between about 9 and 10 years of age. A few bones (4 in [830]/[833] and 1 in [818], also in [603]) exhibited dog gnawing marks but otherwise there is little sign of post deposition damage, with the majority of the bones complete or nearly complete. In addition none of the bones displayed butchery marks. It can be supposed that these animals represent a collection of knackered animals, accumulated over some 100 to 200 years. These may have been disposed of in this ditch, disarticulation following the action of scavengers and perhaps later disturbance of some kind, maybe related to the re-cutting of the ditch. Some disarticulation related to man's activity, perhaps at the knacker's yard, cannot be discounted. Skinning would not necessarily leave any marks on the bone or indeed a measure of defleshing, if carried out with care.

Re-cut ditch	Fills	N	Articulation
[183]	[186] and [188]	8	Pair of pelves, between [186] and [188]
	[189]	8	Pair of humerii
[603]	[734]	5	2 lumbar vert, sacrum and both pelves
	[819]	4	Astragalus and 3 other tarsals
	[830]	46	Complete skull with maxillae and mandibles
	[833]	32	Pair pelves, one each in [830] and [833]

Table 5. Equid remains from phase 5 re-cut ditch

The large number of bones provided by both hand collection and sieving produced a relatively wide array of other species (see Tables 2 and 3). These included a good representation of poultry species, especially chicken accompanied by goose and duck, with a lesser quantity of large and small game species. The former is limited to a single roe deer bone recovered from one of the later fills [612] (dated to the second half of the 13th century) within the ditch re-cut [603], while the latter include some rabbit, partridge, woodcock and a notable proportion of passerines, most within the thrush family. In addition the sieved collections, in particular, produced a variety of background fauna species, as mole, rat, vole and mouse, as well as amphibians, with both frog and toad identified.

Medieval/Post-Medieval (Phase 5/6)

Various features and layers cut or subsided into the ditch re-cuts have been placed in a transitional phase, due to poor dating evidence, between the medieval and post-medieval periods. A small part of the bones dated to this phase, just two fragments, were recovered from the fill of a pit [90] cut into re-cut [31]; the remainder (71 bones) arising from a widespread layer [154] lying within or overlying ditch re-cut [183]. The larger assemblage provided a domesticate assemblage with a high proportion of cattle bones, which would suggest a greater resemblance to the medieval rather than the post-medieval animal usage pattern (see below).

Post-medieval (Phase 6)

This phase provided a series of cut features and some horizontal spreads, all overlying or truncating the medieval re-cut ditches. A hand collected bone assemblage of 231 fragments was largely provided by two brick-lined soakaways [4] and [626] and a brick-lined cesspit [724], these with 188, 31 and 5 fragments respectively. The latter represents one of a series of such structures in the western part of the site, [4] truncated the aforementioned phase 5/6 layer/fill [154], while [626] overlay ditch re-cut [603]. There is a wide date range between these features, with the fills of the cesspit dated to the later 17th century and those from the soakaways to the 19th century. The bones from the soakaways are characteristically late post-medieval in date with a notable wealth of sheep/goat compared to cattle, with both species represented by relatively large animals, post-dating the improvements to domestic stock begun in the 18th century (see Rixson 2000, 215). In addition there are numerous sawn bones, following, as stated earlier, the late use of the saw for butchery purposes (Albarella 2003, 74 and Rielly in prep a). There are also two notable post-medieval features, including the presence of turkey which was introduced in the early 16th century; and the good representation of juvenile cattle bones - 5 out of the 14 bones identifiable to this species, compared to 9 out of the 218 recovered from the phase 5 ditch re-cut fills. These undoubtedly represent veal cuts and follow a trend noticed at several other post-medieval sites in London dating from the 16th century (and see Rixson 2000, 170 and 172 and Albarella 1997, 22).

Conclusions and recommendations for further work

The potential value of a site assemblage can be judged using a number of key factors, namely the quantity, state and recovery of the bones, as well as the presence of well dated contexts. Turning first to the state of the bones, it can be seen that the animal bone collections are in general well preserved, with the possible exception of the late Roman assemblage. In addition, while the bones are clearly fragmented, showing both ancient and modern breakage, there were no examples of heavy fragmentation as would be shown for example by notable quantities of small unidentifiable pieces and/or loose teeth. There are the inevitable signs of redeposition, most clearly exhibited by the mixing of potsherds from

different periods, notably displayed by the majority of the medieval deposits. This is undoubtedly a matter of some concern, particularly as the great majority of the site assemblage was retrieved from the medieval levels. However, as mentioned, the quantities of Roman potsherds are relatively small and, assuming that the bones follow the same deposition pattern, it follows that the great majority of these collections are related to medieval rather than Roman animal usage. Apart from the inclusion of these earlier wares, the dating of the medieval levels is relatively tight, within 100 to 200 years. Notably, the same dating limits clearly apply to the Roman and post-medieval horizons, with the obvious exceptions of the mixed phases, as for example the described medieval/post-medieval phase 5/6.

The quantity of bones in these phases is undoubtedly a major factor, with relatively few bones retrieved from the Roman levels and not much more from the post-medieval features. In contrast, the medieval fills, particularly from the re-cut ditch, provided a relatively large collection. These fills were extensively sampled, thus producing a large sieved assemblage to provide an objective contrast to the hand collected bones. There is undoubtedly potential concerning the analysis of medieval domesticate usage at this site, with perhaps sufficient bones to warrant a division of the phase 5 deposits in order to ascertain whether any changes took place by the 12th/13th centuries. A preliminary analysis appeared to show a decrease in beef consumption, here perhaps following a trend noticed at various later medieval collections from London sites, as for example at Caroone House (Rielly in prep a). The numbers of bones are perhaps insufficient to undertake a thorough review of domesticate exploitation strategies, however, there were numerous measurable bones which can offer some information concerning the relative size of these animals. The large quantity of equid remains is also of some interest, perhaps indicative of a local knacker's yard. Although it is also possible that this ditch had been used as a convenient dumping ground, just as the previous Roman occupants tended to dump horse carcasses just beyond the city and Southwark perimeter (see Barber and Bowsher 2000, 80). The post-medieval collection, though much smaller, nevertheless offers useful information concerning 19th century diet. The data compiled from these two collections will of course not be viewed in isolation, as there are a number of reasonably sized and contemporary assemblages from sites in Southwark. These include the bones from Tabard Square (Rielly in prep b) and from Winchester Palace (Rielly 2006).

In conclusion it is recommended that priority should be given to the medieval collections with some time spent on the post-medieval assemblage. Information concerning the Roman bones will of course be included in the final report, but it is not recommended that any further analysis should take place. It is of importance to realise that these recommendations are based on the present stratigraphic and dating evidence and that these will need to be revised if any major changes occur following further site analyses.

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APPENDIX 15: FISH BONE ASSESSMENT

Rebecca Nicholson

Introduction

A relatively small assemblage of fish remains was recovered from the excavations, almost all from the residues of the bulk sieved soil samples, which were sieved to 0.5mm and sorted to 4mm or in some cases to 2mm. Only three fish bones were hand retrieved during the excavation. Some 730 fragments have been considered for this assessment, around one third of the recovered fish bone. Retained residues (4-2mm and 2-0.5mm) have been scanned for the presence of small and tiny fish bones. Recommendations for further work, including residue sorting if appropriate, are given at the end of this report.

Assemblage Summary

The great majority of the fish remains came from the fills of the re-cut ditch (Phase 5). Smaller quantities were recovered from medieval (Phase 4) deposits while a very small number of bones came from Roman contexts. Most bones were in fair condition but very few were complete and the assemblage was dominated by vertebra, as is often the case where conditions for bone survival are sub-optimal. Several deposits included a small number of fish scales. Most samples included some fish bones, but none were especially rich in fish remains.

Phase 2: Early Roman

Only a few early Roman deposits were present at the site, and the fish assemblage was consequently small. All of the extracted fragments were in poor condition and are considered to be unidentifiable.

Phase 3: Later Roman

The recovered fish remains came from the fills of well [892] and comprised a few clupeid vertebra, probably from herring, together with a small right eyed flatfish vertebra (from plaice, flounder or dab) and a small flatfish urohyal. Several vertebrae appeared crushed in a manner consistent with chewing.

Phase 4: Medieval

Around 80 fish bones have been identified, from pit fills, ditch fills and ploughsoil. While the latter could be considered to be an insecure deposit type, the fish remains included several bones which require further identification but which were similar to Spanish mackerel (S*comber japonicus*) and drum/croaker (Serranidae), which would if confirmed be unusual finds and may indicate reworking of Roman deposits. Other taxa identified from this phase include clupeids (particularly herring *Clupea harengus*), eel (*Anguilla anguilla*), gadids including cod (*Gadus morhua*) and whiting (*Merlangius merlangus*), mackerel (*Scomber*

scombrus), smelt (*Osmerus eperlanus*), small flatfishes (including Pleuronectidae and Solidae) and stickleback (Gasterosteidae). Several cyprinid (Cyprinidae) bones represent the only exclusively freshwater fish from this phase.

Fill [875], in pit [876], was described in the field as a soft, dark greyish brown, peaty clay. It contained mineralised seeds, amorphous mineralised lumps, mineralised rodent droppings, insects and small fish bones including eel, herring, mackerel and small plaice, founder or dab. Several fish bones appeared chewed and the sample looks typical for a deposit rich in human faecal waste. The residues <4mm remain unsorted and it is recommended that the fish remains should be extracted from this sample and included in the analysis.

Phase 5: Medieval

The majority of identifiable fish remains come from the ditch recut, of which 260 have been identified and recorded so far. Identified species include clupeids (especially herring), eel, conger eel, gadids (including cod, whiting, pollack (*Pollachius pollachius*) and haddock (*Melanogrammus aeglefinus*)), thornback ray (*Raja clavata*) and other small elasmobranch(s), mackerel, gurnard (Triglidae), sea bream (Sparidae), smelt, scad (*Trachurus trachurus)*, shad (Alosa sp.), salmonid(s) (Salmonidae), flatfishes, cyprinids and pike (*Esox lucius*). The last two are exclusively freshwater fish.

Several of the 4-2mm retained fine residues include fish remains and are worth fully sorting. These include samples <139> [830]; <3> [169]; <100> [613]; <102> [612]; <131> [182], <149> [893] and <147> [875].

Discussion

The fish assemblage from 2-4 Bedale Street is small when compared with some urban assemblages (e.g. Dover Town Wall Street: Nicholson 2006; Winchester Northgate House and Library: Nicholson 2011) but is of similar size to most medieval secular assemblages from London. For its size, the Bedale Street assemblage contains a wide range of taxa, particularly from Phases 4 and 5. A few bones may derive from imported fish and this needs to be further examined. Since some of the <4mm residues remain to be sorted, the total assemblage size is at present unknown, as these residues may contain bones from smaller fish; however a quick scan suggests that the increased number of bones and taxa is unlikely to be great.

The fish assemblage from Bedale Street will form one of the few medieval assemblages reported from Southwark and is therefore worthy of full recording. It will be compared with published and unpublished reports from secular and monastic medieval sites in London such as: 199 Borough High Street, Southwark (Locker 1988); St. Thomas Street, Southwark (Jones 1988); Winchester Palace, Southwark (Reilly 2006; Locker, undated d); Albion Place

(Locker undated a), Billingsgate (Locker undated b), St Mary's Clerkenwell (Locker undated c); St Mary's Spital (Locker 1992) and St Saviour, Bermondsey (Pipe *et al*. 2011).

The focus of the analysis will be to examine as far as possible continuity and change in fishing industry from the Late Saxon to the later medieval period in the light of national trends (cf. Barrett *et al.* 2004).

Recommendations

The 7 sample residues <4mm need to be sorted. Then identification and quantification of all those remaining fish remains not considered at assessment will be made. A report will be prepared on the fish remains, comparing them to other similar assemblages from London

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APPENDIX 16: LEATHER ASSESSMENT

Kevin Trott

Fifteen pieces of leather were recovered from within ten contexts during the excavations between 2-4 Bedale Street in Southwark, London.

Three pieces from the sole unit of a single two-part turnshoe were recovered from an unstratified deposit. This type of sole exhibited edge/flesh stitching and was joined with the butted edge/flesh seam across its waist. In Newbury in Berkshire this type of shoe was recovered in early and later medieval contexts (Mould 1997, 110), also it was assumed to represent an economy measure on behalf of the shoemaker. There is extensive wear on the outer tread that was repaired with the second piece of leather called a clump. This clump displayed scarfing at mid-waist and stitch holes set 6mm apart along the outer edge. The missing upper would have been joined to the sole with the edge/flesh seam that incorporated the third piece of leather, the rand (bead) that provided a flexible, waterproof seam.

Context [154] produced two torn fragments of corresponding leather from a one-piece turnshoe. The recovered leather derived from the outer vamp with edge/flesh seam and the adjoining worn and torn sole. The torn edges suggest this shoe was originally larger than the two pieces that were retained and the lack of rand, commonly associated with this type of shoe, may suggest that this piece of footwear was incomplete when originally discarded.

A slightly curved off-cut of thin rectangular leather was recovered from Context [180]. The fragment exhibited edge/flesh seam stitch holes set at 3mm intervals that were originally used to stitch the upper to the rand and sole. This fragment was clearly part of a turnshoe upper before the majority was reused possibly for patching, before this piece was discarded as trimming waste. The surviving fragment has torn narrow ends suggesting it was once longer than the piece retained.

A very small portion of a turnshoe rand (bead) was found within Context [182]. This fragment was once part of a longer fragment that was trimmed along its stitch-lines, the indentation between the sole and upper is present on this piece.

A single complete leather washer was discovered within Context [186]. It was originally cut from 3-4mm thick piece of cowhide. It displays slightly angled small straight cuts on the flesh side, indicative of in-situ trimming (*c.*50mm diameter). The central circular cut, 25-27mm diameter, has vertical cut edge that has been slightly flattened in its use. The function of this particular leather washer probably relates to a pump seal, than a sword/knife handle, where often several washers are stacked to form the grip of the handle.

Two pieces of leather from two shoes was recovered from Context [188]. The first piece of shoe leather consisted of the torn instep fragment from a whipped stitched insole of a low cut turnshoe of a style that has been encountered in Newbury in Berkshire (Mould 1997, 111, type 30) and Coventry (Thomas 1980, 15, type 3).

The second piece of leather from Context [188] exhibits nail head impressions located around its curved edge, set at a distance of 10mm intervals. It is not possible without further research to fully identify this fragment, although it could possibly derive from the leather binding from a wooden patten shoe or from a portable object.

A thick trapezoidal cut fragment of cowhide was found in Context [216]. The condition of this fragment indicates it derived from a complete skin that was used for the production of soles. The thickness and shape suggests this piece is either an off-cut or more likely waste associated with pattern cutting (Cameron 1998, 16).

Context [226] produced a torn fragment from the worn sole of a potential turnshoe. This fragment once derived from a larger piece that would have contained more information relating to the style of shoe and possible construction/wear.

The near complete sole from a turnshoe or boot of a style encountered at 16-22 Coppergate in York (Mould *et al.*, 2003, 3313-3324) with edge/flesh stitching margins, tunnel stitching across its waist and pointed toe, was recovered from Context [830]. The sole exhibits excessive wear on the outer heal and toe-tread area, also the flesh underside has waste slag adhering. It is not clear if the slag became attached during the later life of the shoe/boot or following its disposal. Traces of knife marks on the internal perimeter heal area on the grain side suggests this sole was cut-away from the upper, probably during repair.

The torn vamp fragment from an unknown styled turnshoe was found in Context [833]. Two edge/flesh stitching holes were present with the remainder torn-away, possibly during excavation.

Recommendations

The leather fragments from the Bedale Street project in Southwark should be retained within the site archive. It is recommended that these pieces should be conserved for future consultation as some of the fragments exhibit active mould, fracturing cracks and de-laminating. If the site warrants publication the leather should be researched in relation to medieval leather working/cobbling activities in this area of Southwark. Also some of the fragments are clearly associated with domestic discards.

Although only a small quantity of leather was found the assemblage is an important indicator of what trades were present in this area of London, as well as adding information to what items were discarded and what sort of features contained this waste.

Context	Phase	Feature	Description
0			Sole unit of a two-part turnshoe, 4mm thick, 198mm in length, 55-80mm wide. Edge/flesh stitching present with wear to outer toe-tread
0			Clump with scarfing at mid-waist and stitch holes set 6mm apart on outer edge. Length 91mm, width 84-35mm, thickness 3mm
0			Rand with edge/flesh seam stitch holes
154	6	Layer	Torn outer vamp fragment from a one-piece turnshoe with edge/flesh seam stitch holes. Length 105mm, width 90mm, thickness 2mm
154	6	Layer	Torn one-piece turnshoe sole fragment. Length 71mm, width 65mm, thickness 3mm
180	5a	Fill of re-cut [183]	Torn rectangular off-cut strip fragment with edge/flesh seam stitch holes from a turnshoe vamp or quarter. Length 41mm, width 2-5mm, thickness 2mm
182	5a	Fill of re-cut [183]	Torn rectangular rand fragment from a turnshoe. Length 19mm, width 3-5mm, thickness 2mm
186	5a	Fill of re-cut [183]	Perforated circular trimmed washer from a pump, 4mm thick, 50mm diameter and 25-27mm internal diameter
188	5a	Fill of re-cut [183]	Torn instep from a low-cut turnshoe with whipped stitch holes. Length 61mm, width 79mm, thickness 3mm
188	5a	Fill of re-cut [183]	Binding from a wooden patten shoe or portable object with nail head impressions set at 10mm intervals around curved edge. Length 72mm, width 70mm, thickness 3mm
216	4	Fill of ditch [153]	Cut trapezoidal off-cut of cow hide. Length 28mm, width 5-20mm, thickness 3mm
226	5a	Fill of re-cut [183	Torn sole fragment possibly from a turnshoe. Length 23mm, width 15-22mm, thickness 2mm
830	5a	Fill of ditch [603]	Near-complete sole from a turnshoe with edge/flesh stitching holes and tunnel stitching on waist. Wear

			to outer heal and toe-tread areas, slag attached to flesh underside and internal knife marks on grain. Length 290mm, width 92-115mm, thickness 3-4mm
833	5a	Fill of ditch [603]	Torn vamp from a turnshoe with edge/flesh stich holes. Length 74mm, width 81mm, thickness 3mm

Table 1: Leather catalogue

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APPENDIX 17: CHARCOAL AND CHARRED & MINERALISED PLANT REMAINS ASSESSMENT

Sheila Boardman

Introduction

Eighty-six bulk soil samples from the 2010 and 2011 excavations were assessed for wood charcoal, and charred and (where present) mineralised plant remains. The two overarching aims were to provide detailed assessments of the potential for further work on these material types and associated deposits, and to provide rapid base-level data across all the samples and contexts which can later be used in the interpretation at the site, including where material or the associated contexts and features are not deemed suitable for further investigations.

Methods

The samples were processed at Oxford Archaeology South. The current assessment is confined to the dried sample flots (greater than 250 microns in size) and hand-picked plant material (wood charcoal, charred & mineralised plant remains) from the greater than 2mm, 4mm and & 10mm residues. Unsorted residue fractions were not examined in this assessment but some limited residue sorting may be required for samples recommended for fuller plant macrofossil analysis, below. The two material types were assessed as follows.

Wood charcoal

The flots were gently dry-sieved at 2mm. Between 10 and 30 fragments from the greater than 2mm fraction (where available, fragments greater than 4mm in size) were identified using standard reference books and keys (e.g. Schweingruber 1990; Hather 2000; Gale & Cutler 2000). Further greater than 4mm charcoal fragments (previously sorted from the samples residues) were also identified where these were available. In the case of the deep ditches, the wood charcoal from approximately half of the samples was assessed in detail.

The wood charcoal results are presented in Table 1, which is organised by context and phase. The potential of individual samples/deposits for further work is coded in a similar manner to the charred and mineralised plant material, outlined below (adapted from Carruthers; and Hunter).

Charred & mineralised plant remains

The greater than 2mm sample fractions were examined in detail, and they were often totally/partially sorted (to gain accurate counts) for seeds, grains and chaff, fruit pips, nuts/nutshell and so on. The smaller 0.25-2mm fractions were scanned for cereal grain, chaff and straw, other edible plants, and the remains of wild plant taxa.

The charred plant results are summarised in Table 2. The frequency of the different plant remains is recorded using the following key:

* 1-5 items
** 6-10 items
*** 11-50
**** 50-100+

The potential of the samples/deposits for further charred and mineralised plant investigations (and fuller wood charcoal analysis) is coded as follows.

A – High potential on archaeobotanical grounds, i.e. rare or interesting plant taxa and range of material, or exceptional preservation; or high potential of archaeological grounds - due to scarcity of information from this type of material or deposit and period.

B - Good potential due to the quantity and range of material present and its reasonable preservation; i.e. the assemblage can provide a useful amount of information.

C - Some identifiable plant material but in low concentrations or very poorly preserved.

D – No identifiable material or so little that this has already fully identified/recorded (e.g. a few cereal grains/seeds, or where wood charcoal is from a single taxa such as oak [*Quercus*]).

Results

Wood charcoal

The following taxa were positively identified.

Acer campestre – field maple
Betula - birch
Alnus - alder
Corylus avellana - hazel
Fraxinus excelsior – European ash
Pomoideae – sub-group of Rosaceae family which includes *Malus* (crab-apple), *Pyrus* (pear), *Crataegus* (hawthorn) and *Sorbus* (rowan/whitebeam/service)
Prunus spp. – blackthorn/cherries, etc.; another Rosaceae sub-group
Rhamnus cathartica – purging buckthorn
Fagus sylvatica - beech
Quercus - oak

Viburnum cf. *lantana* – possible wayfaring tree
Hedera helix - ivy
Ilex aquifolium - holly

Some tentative identifications (made very rapidly) will require checking before publication of these results.

With very few exceptions, the dominant tree present across all the BVG samples, from Roman to medieval/post-medieval periods, was oak (*Quercus*), although variations in the numbers of oak heartwood, sapwood and round wood fragments can be seen, and in the other taxa present.

Charred plant remains

The majority of the BVG10 samples produced low to moderate (or even larger) quantities of charred cereal grains, but often with little or no cereal chaff/straw and few weed seeds. As such, these samples warrant little further work, beyond useful summaries of the different cereal grain species by deposit/phase etc. The recommendations in Table 2 and below relate to samples with chaff/straw, weeds, and/or other interesting cultivated plants.

Discussion and Recommendations

Wood charcoal

The wood charcoal data has the potential to address questions relating to the following research areas:

> Preferred fuel woods in use at the site in different periods
> Character of the local environment
> Exploitation of local resources
> Changes in the local vegetation during the occupation of the site
> Local and regional tree and shrub vegetation and its exploitation, though comparisons with other wood/charcoal assemblages, and local and regional pollen data.

From the assessment data, it is possible to see that oak sapwood and branch wood, and round wood in general, is increasingly used as fuel into the medieval period, and certain species (such as beech) become more common, while other disappear. It is proposed to build on this data in the next stage of the work. Some tentative identifications need to be confirmed, and a limited amount of additional work will broaden the range of the results and thus the conclusions which can be drawn from them.

Charred plant remains

The charred plant remains provide data relevant to the following research questions:

The nature of the food remains at the site
Exploitation of local resources
Cultivation practices, including areas possibly utilised and changes through time
The character of the local environment and how this changed over time
The local and regional picture and how this assemblage compares to other sites in the region

Comparison with other sites

A summary of the results from analyses at other OA/non OA Thameslink sites (including Hunter 2012a-c; Mean, 2010) is being prepared and much published data is also available.

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Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus cathartica	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	37	240	2a	Roman	dumping/ levelling	250µm	40			*	*	*	*							***h	*			4	0	C
BVG	29	229	2a	Roman	dumping/ levelling	250µm							*							**				1	20	C
BVG	44	271	2b	Roman	fill of Pit 272	250µm	20	**												*				1	0	D
BVG	33	238	2b	Roman	fill of ditch 239	250µm	25				*						cf *			*				5	0	D
BVG	23	228	2b	Roman	gravel surface	250µm	35		cf *				*							**					60+	B/C
BVG	41	267	2b	Roman	gravel surface	250µm	10													**h					25	C
BVG	46	275	2c	Roman	fill of PH	250µm	4					*								**h			*		20+	C
BVG	22	227	2c	Roman	occupation	250µm	10			*										***h				1	30+	C
BVG	38	261	2c	Roman	occupation	250µm	32	cf *			*r	*	**							***h					35	C
BVG	45	263	2c	Roman	occupation	250µm	6						*							**					10	D
BVG	24	233	2c	Roman	fill of PH 234	250µm	30				*									*				1	15	D
BVG	39	266	2c	Roman	demolition horizon	250µm	35	*		*	*									****hs		*		2	500+	B
BVG	30	232	3	Roman	dumping/ levelling	250µm	40									*				**h					0	D
BVG	34	237	3	Roman	occupation	250µm	15													***h					0	D
BVG	21	231	3	Roman	dumping/ levelling	250µm	30			*										**h					70+	B/C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus cathartica	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	20	230	3	Roman	burnt horizon	250µm	20				*r									***hs					>100	B
BVG	18	221	3	Roman	occupation	250µm	30	cf *			*	*								***r		cf *		1	80+	A/B
BVG	16	214	3	Roman	demolition horizon	250µm	10				*	*								***h					30+	C
BVG	43	269	3	Roman	fill of Pit 270	250µm	12													*				1	0	D
BVG	42	268	3	Roman	fill of Pit 270	250µm	15		*			*	*		*					**h					0	C
BVG	40	262	3	Roman	dumping/ levelling	250µm	10	cf *		*	***					*				***hs				1	130+	B/C
BVG	11	213	3	Roman	fill of Pit 179	250µm	35		cf *		cf *		*							***hr				2	500+	B
BVG	10	190	3	Roman	fill of Pit 179	250µm							*						cf *	***hsr				2	*c.*30	C
BVG	6	177	3	Roman	fill of Ditch 178	250µm	40		cf *		*									***h					200+	B/C
BVG	36	249	3	Roman	dumping/ levelling	250µm	10			*	*									***hs				4	40+	C
BVG	150	894	3	Roman	fill of well 892	250µm	30				*									****hsr					50+ Look at this sample or <149>?	B/C
BVG	149	893	3	Roman	fill of well 892	250µm	30				*		*					cf *		**hs				1	50+	B/C
BVG	32	225	4	Medieval - pre AD 1200	fill of ditch 153	250µm	40	*					*						*	***h					100+	B

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus catharticus	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	31	224	4	Medieval - pre AD 1200	fill of ditch 153	250µm	15						*			*				**h				1	0	D
BVG	17	216	4	Medieval - pre AD 1200	fill of ditch 153	250µm	35		*	*	**									**r					80+	B/C
BVG	15	215	4	Medieval - pre AD 1200	fill of ditch 153	250µm	32		*							*		*		***h					>300	B
BVG	13	160	4	Medieval - pre AD 1200	fill of ditch 153	250µm	15	cf *									*			***s					>130	B
BVG	140	831	4	Medieval - pre AD 1200	fill of Pit 832	250µm	18													***hs					35	C
BVG	143	834	4	Medieval - pre AD 1200	Fill	250µm	30	cf *			*									**hr					50+	C
BVG	147	875	4	Medieval - pre AD 1200l	Fill of pit	250µm	36		***		*	*								*r					15	C
BVG	121	601	4	Medieval - pre AD 1200l	ploughsoil	250µm	30		**											***hsr					100+	C
BVG	120	602	4	Medieval - pre AD 1200l	ploughsoil	250µm	34													***hs					50+	C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus catharticus	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	144	836	4	Medieval - pre AD 1200?	Ditch fill	250µm	30				*									*hs					30+	C
BVG	127	817	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	25					1								***rh					100+	B/C
BVG	153	817	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	40				*					*				****hs					350+	B
BVG	137	817	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	30													***h					50+	C
BVG	141	833	5a	Medieval - post AD 1200	Fill of Pit 832	250µm	28								*					**hs					500+	B/C
BVG	142	833	5a	Medieval - post AD 1200	Fill of Pit 832	250µm	30													***hs					check flot	C?
BVG	35	226	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	40				*	*				*				***hs				1	>300	B
BVG	19	189	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	28		*		*r									***hs					>200	B

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus cathartica	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	8	188	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	18	*	*	*	*					*	*		*	***hsr					>150	B
BVG	1	182	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	15				*		*		*	*				***hs				!	10	C
BVG	7	186	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	25		cf *											***h				1	70+	B/C
BVG	2	180	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	20				*r				*		*			***hs		*		1	200+	B
BVG	4	155	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	8							?				*		**h				*	100+	B/C
BVG	5	156	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	9			*	*									**h					100+	B/C
BVG	3	169	5a	Medieval - post AD 1200	fill of re-cut Ditch 183	250µm	8			*								*		**hsr					200+	B
BVG	139	830	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	21													**hs					50+	C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus catharticus	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	138	828	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	28												cf *	**hsr				1	40+	C
BVG	134	824	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	35													**h				2	30+	C
BVG	136	826	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	38		cf *		*								cf *	**hsr					50+	C
BVG	133	823	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	25		*		*									**hr				1r	30+	C
BVG	135	825	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	28												*	**sr					50+	C
BVG	132	822	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	27			cf *	*								cf *	*h					30	C
BVG	131	821	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	38			*		*								***hr					100s	B/C
BVG	130	820	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	26			*			*							**hr					100+	B/C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus cathartica	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	129	819	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	30				*		*							**h				1r	100+	B/C
BVG	128	818	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	38													***hr					100+	B/C
BVG	126	816	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	30				*									**hs					100+	B/C
BVG	125	815	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	30				*	*							**	***hs					40+	C
BVG	113	651	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	25		*											**					100+	B/C
BVG	119	657	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	25								**					**					30+	C
BVG	118	656	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	26								*				**	*hs					30+	C
BVG	117	655	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	40			*r										**s					30	C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus cathartica	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	116	654	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	20													**hs					200+	B/C
BVG	115	653	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	34				*r							*		**s					200+	B
BVG	114	652	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	20		**											**hs					50	C
BVG	112	650	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	40					*					*			*s					100+	B
BVG	110	608	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	28										*		*	**					40+	C
BVG	109	609	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	20		*	*								*		**				1	20	C
BVG	111	610	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	15		*	*							*			***hr					60+	C
BVG	107	646	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	40			*									1	***h				1	30+	C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus cathartica	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	108	647	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	28	*						?						***hs					70+	C
BVG	105	645	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	35		*											*hs					50+	C
BVG	106	645	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	38						*							***hsr					100+	B/C
BVG	104	611	5a	Medieval - post AD 1200	fill of Ditch 603	250µm														**hs					50+	C
BVG	103	643	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	37				**								**	*hs					40+	C
BVG	102	612	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	32				**r									*					25	C
BVG	101	616	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	32													**hsr					40+	C
BVG	100	613	5a	Medieval - post AD 1200	fill of Ditch 603	250µm	30				*				*r					*hs					50+	C

Site	Sample No	Context		Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	Acer campestre	Betula	Alnus	Corylus avellana	Alnus/Corylus	Fraxinus excelsior	Populus/Salix	Pomoideae	cf. Pomoideae	Prunus spp.	Rhamnus catharticus	Fagus sylvatica	Quercus	Viburnum cf. lantana	Hedera helix	Ilex aquilifolium	Indet.	Unidentified charcoal frags./Comments	Charcoal potential
BVG	124	514	6	Post Medieval	backfill of brick-lined cess pit	250µm	9																	100's	Nothing identifiable. All mat vitrified or too vesicular.	C

Table 1: Wood charcoal results

KEY: h – heartwood; s – sapwood; r – roundwood

* 5 frags
** 6-10 frags
*** 11-50 frags
**** 50+ frags

Footnotes: Highlighted samples (12 in total) for full analysis: Other non highlighted 'Potential B' samples may be analysed if time

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	37	240	2a	Roman	dumping/ levelling	250µm	40	50	1-2					•	**(*)														Hulled barley grain. cf. Prunus frag.	C/ D
BVG	29	229	2a	Roman	dumping/ levelling	250µm		50	Fs	•					***(l)														Nothing identifiable	D
BVG	44	271	2b	Roman	fill of Pit 272	250µm	20	50	<10	•	•		•		**														Spelt/emmer spiklet fork. Few oat/indet cereal grains. One grass	C/ D
BVG	33	238	2b	Roman	fill of ditch 239	250µm	25	50	0						*														Nothing identifiable	D
BVG	23	228	2b	Roman	gravel surface	250µm	35	50	8						***(**)														No weeds or chaff	C
BVG	41	267	2b	Roman	gravel surface	250µm	10	50	0						***(*)				•										No identifiable mat.	D
BVG	46	275	2c	Roman	fill of PH	250µm	4	50	<5						***								•	•					Couple wheat grains. V little identifiable mat.	C/ D
BVG	22	227	2c	Roman	occupation	250µm	10	50	10						***(**)														No chaff & few weed seeds.	C
BVG	38	261	2c	Roman	occupation	250µm	32	50	<10			•			***(**)								•	•	•				Few wheat, barley, legume grains.	C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	45	263	2c	Roman	occupation	250µm	6	50	0						**														No identifiable mat.	D
BVG	24	233	2c	Roman	fill of PH 234	250µm	30	50	<5	*					***(**)														2-3 wheat and oat grains.	D
BVG	39	266	2c	Roman	demolition horizon	250µm	35	50	30				*	*	*(***)								*	*	*				Mostly wheat - pos FT. Pisum. Single Rumex seed	C
BVG	30	232	3	Roman	dumping/ levelling	250µm	40	50	0						*														Nothing identifiable	D
BVG	34	237	3	Roman	occupation	250µm	15	50	2-3						*														2-3 oats/indet. grains.	D
BVG	21	231	3	Roman	dumping/ levelling	250µm	30	50	50				*		***(**)				*				*	*	*				Mostly wheat.	C
BVG	20	230	3	Roman	burnt horizon	250µm	20	50	40				*	*	****(***)														Mostly wheat. No chaff. Some hulled barley & oats. Legumes.	C
BVG	18	221	3	Roman	occupation	250µm	30	50	300+					*	**(*)														Grain rich, esp. sprouted grains. A few weeds.	B
BVG	16	214	3	Roman	demolition horizon	250µm	10	50	90	*				*(*)	*	***(**)	?		**					*		*		***	Mostly glume wheat. No chaff & few weeds.	B/C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	43	269	3	Roman	fill of Pit 270	250µm	12	50	0						*														No identifiable mat.	D
BVG	42	268	3	Roman	fill of Pit 270	250µm	15	50	<10						**(*)														V little identifiable mat.	D
BVG	40	262	3	Roman	dumping/ levelling	250µm	10	50	20					*	****(**)														Few cereals. No weeds/chaff. Pos fruit stone?	C
BVG	11	213	3	Roman	fill of Pit 179	250µm	35	50	120				*		****(****)				*				*		*				Mostly glume wheat. Some barley. No chaff & few weed seeds	B/C
BVG	10	190	3	Roman	fill of Pit 179	250µm		50	45	*		*	*		****(****)				*				*		*			*	Mostly wheat - cf. spelt. Large legumes. Uncharred Fraxinus seed	C
BVG	6	177	3	Roman	fill of Ditch 178	250µm	40	50	300	*		*	*	*	****(***)				**										Cereal grain rich. Glume wheat. Few weed seeds.	B
BVG	36	249	3	Roman	dumping/ levelling	250µm	10	50	20+			*		*	**(**)									*		*			Few cereal grains & charcoal. Single	C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
																													legume.	
BVG	150	894	3	Roman	fill of well 892	250µm	30	50	20		**		**	*	****(***)				*				**						Spelt chaff. Hulled barley, oat.	B/C
BVG	149	893	3	Roman	fill of well 892	250µm	30	50	c.10						****(****)								*		*				Large charcoal Fs. Cereal. V little.	C
BVG	32	225	4	Medieval - pre AD 1200	fill of ditch 153	250µm	40	50	40		*		**	*	****(***)		figl		***	*			***	***	***				Wheat grains. Few spelt glume bases. Range of weed seeds.	B/C
BVG	31	224	4	Medieval - pre AD 1200	fill of ditch 153	250µm	15	50	1						**(*)				*										Nothing identifiable	D
BVG	17	216	4	Medieval - pre AD 1200	fill of ditch 153	250µm	35	50	10				*	*	****(***)				*			*	*			*			Tiny amt charred mat. Inc. sprouted cereals. Prunus cf spinosa & other P. sp. ID	C

										Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	15	215	4	Medieval - pre AD 1200	fill of ditch 153	250µm	32	50	20	*		*	*		****(****)				***				*	*	*				Wheat, oats & barley. Little other material.	C
BVG	13	160	4	Medieval - pre AD 1200	fill of ditch 153	250µm	15	50	20	*			*		****(***)								*						Few mixed cereal grains. Very little other material	C
BVG	140	831	4	Medieval - pre AD 1200	fill of Pit 832	250µm	18	50	15				*		***(***)								*	*					Poor sample & preservation	C
BVG	143	834	4	Medieval - pre AD 1200	Fill	250µm	30	50	30		**		**		****(***)								*	*		*			Wheat chaff, some weeds	B/C
BVG	147	875	4	Medieval - pre AD 1200	Fill of pit	250µm	36	50	<10			**	**	**	**(*)		*** *		*** *		***	*** *		**				*	Extremely rich in mineralised fruit pips. Apple, pear, bramble, grape & plum. Rich in uncharred fruit stones: Prunus species inc. sloe, cherry, plum. Some charred grain,	A

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
																													legumes & smaller seeds. Lost of sample fractions to sort.	
BVG	121	601	4	Medieval	ploughsoil	250µm	30	50	30				•		•	***(**)								•	**	•			Mostly wheat. Weedy legumes. Pt. of shale bead?	C
BVG	120	602	4	Medieval	ploughsoil	250µm	34	50	*c.*30						•	***(**)													Encrusted battered plant mat. Rye, barley & wheat.	C
BVG	144	836	4	Medieval - pre AD 1200?	Ditch fill	250µm	30	50	25+				•			***(***)													Check cereal species	C
BVG	127	817	5a	Medieval - Post AD 1200	fill of Ditch 603	250µm	25	50	20				**		•	****(***)		•		***				**	•	•			Wheat & rye mostly. 1-2 min seeds	C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	137	827	5b	Medieval - Post AD 1200	fill of Ditch 603	250µm	30	50	<30		•	••	••		***(***)								•	•	•				Wheat, oat, barley. Some chaff weeds.	B/C
BVG	153	817	5a	Medieval - Post AD 1200	fill of Ditch 603	250µm	40	50	70?				•	•	****(***)														Some grains look like spelt? FT wheat, oats, rye. No chaff. Few weeds.	B/C
BVG	141	833	5a	Medieval - Post AD 1200	Fill of Pit 832	250µm	28	50	40+		?		***(*)	•	****(****)							•							Weed & charcoal (but not cereal) rich. Uncharred fruit kernal?	B
BVG	142	833	5a	Medieval - Post AD 1200	Fill of Pit 832	250µm	30	50	40				****	•	****(****)														Sim to 141, analyse one of these or fraction of each	B?
BVG	35	226	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	40	50	30?			••	•	•	****(****)		•					••	•	•				••	15+ legumes. Sprouted wheat grains. Min fig seed? Uncharred fruit kernal, acorn & hazel nutshell	B/C

									Charred							Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	19	189	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	28	50	25	*		*	*	*	***(**)				***										Mostly wheat. Some barley & oats. Vicia faba	C
BVG	8	188	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	18	50	30	*	*		*	*	***(**)				*** *				*		*			***	Full range of cereals. Some chaff, weeds & straw (little). Prunus cf. cerasus & large Prunus fruit stone	C
BVG	1	182	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	15	50	15				*		**(**)		*		***		*		*						Rye, oats, wheat, hulled barley. Mineralised fig seed	C
BVG	7	186	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	25	50	15		*	*	**	*	**				*** *			*	*	*	*				Full range of cereals. Wheat chaff. <10 weeds. Prunus domestica & P. cf spinosa. Unch Fraxinus seeds	C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Cist frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	2	180	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	20	50	10			•	•	•	****(***)		•		*** •		•		•		•			***	Mostly oats (Avena sp). Min fig seed.	C
BVG	4	155	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	8	50	14				•		***(**)			•	***			•	***	**	•	•		•	Wheat, barley & oats. Uncharred Prunus cf. spinosa & hazel nutshell	C
BVG	5	156	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	9	50	17			•	•		***(**)				***			•	•	•	•			•	Mixed cereals. Uncharred Prunus cf. domestica & hazel nutshell	C
BVG	3	169	5a	Medieval/ Post AD 1200	fill of re-cut Ditch 183	250µm	8	50	50	•			***	•	***(**)				***	•	•		**	**		•	•	•	Wheat, barley, rye & oats. Lots of wild spp: Centaurea, Galium, legumes, Persicaria, Silene, Solanum	B

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	139	830	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	21	50	<30		*		**		****(***)		*						*	*				Oat rich, some lemmas attached. Poor otherwise. Mineralised Ceratophyllum = standing water.	C
BVG	138	828	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	28	50	30				**		****g***)							*	**	**	*				Mostly rye.	C
BVG	134	824	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	35	50	<30			**	*	**	****(**)									***	*	*			Wheat, oat & barley, mostly grain.	B/C
BVG	136	826	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	38	50	70+		*	**	***	*	****(****)								***	***					Big flot. Wheat, rye, barley & pulses (Vicia faba, Pisum). Some chaff. Prunus domestica.	A/B
BVG	133	823	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	25	50	50			*	**	*	***(**)		*					*		*	*				Mix of at least 4 cereals. No chaff. Seeds inc. Galium & min Fumaria	B

									Charred							Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	135	825	5qa	Medieval/ Post AD 1200	fill of Ditch 603	250µm	28	50	>50			**	**	***	****(***)								**	*	*				Wheat, barley, rye & pulses. Some weed.	BC
BVG	132	822	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	27	50	50?		***		***	***	***(***)								*	**	***				Not huge. Bashed up/small cereals - rye & wheat. Chaff rich, some weeds, nutshell.	A
BVG	131	821	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	38	50	many 100s		*** *	**	****	***	****(****)							**							3 giant flots. Tons of seeds, chaff and straw. Great preservation. Lots of nutshells. Do fraction of each initally. Enormous Vicia faba.	A
BVG	130	820	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	26	50	c.200		*		*		****(***)		*						***	***					Sprouted rye grains, with wheat mostly. Some weeds, a little chaff.	A/B

										Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	129	819	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	30	50	350+			***	***	*	****(***)								***		*	*		***	Legume rich. Lots rye grain. BW, barley & rye chaff. Culm nodes. Weed seeds (inc. Agrostemma).	A
BVG	128	818	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	38	50	*c.*200		***	*	**	**	****(***)								**	**		*			Four cereals spp. Legumes. Rich in FT wheat & rye chaff. Culm nodes. Large variety of wild spp. Fig?	A
BVG	126	816	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	30	50	30+	lots					****(***)														Grape pip! P'tly charred then waterlogged? Oats, wheat & barley. No chaff/weeds.	B/C
BVG	125	815	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	30	50	*c.*100				**		****(***)								**	**					FT wheat, hulled barley, oats, rye. Few weeds, 1 Raphanus capsule	C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	113	651	5b	Medieval/ Post AD 1200	fill of Ditch 603	250µm	25	50	<10						***(**)								**	**	*				Rye & wheat.	C/ D
BVG	119	657	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	25	50	c.30					*	***(**)														Oat & rye mostly. P. cf. domestic stone frag.	C
BVG	118	656	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	26	50	30+						***(***)														Mixed cereal species.	C
BVG	117	655	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	40	50	<10						****(***)														Hulled barley & wheat. Charcoal crumbly.	C/ D
BVG	116	654	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	20	50	c.10					*	****(****)								**	**					Cereal mostly wheat. Poor pres. Cf Prunus stone frag. Hazel nut shell. Charcoal ptly vitrified.	C
BVG	115	653	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	34	50	50-60	*			**	*	****(****)		*						**	*	*				Cereal either v badly pres or very good. All cereal spp. Prunus domestica	B/C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
																													stone. Oat with lemmas. A few weeds.	
BVG	114	652	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	20	50	30						***(***)								***	**	*				Wheat mostly, with rye and oat. Almost nothing else.	C
BVG	112	650	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	40	50	60						***(**)								*	*					Poorly preserved cereal. All species. Few wild species.	C
BVG	110	608	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	28	50	50+			***	*	**	***(**)														Wheat & rye mostly. Lots of legumes, inc v large Vicia fabia. Hazel nut shell.	B/C
BVG	109	609	5	Medieval/ Post AD 1200	fill of Ditch 603	250µm	20	50	<10				*	*	***(**)								**	**	*				All cereal species but low nos. Prunus stone frag. Galium seed	C/ D
BVG	111	610	5ba	Medieval/ Post AD 1200	fill of Ditch 603	250µm	15	50	80+			**	*		****(***)				*				***	**	*				Poorly preserved cereal. All species.	C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
																													Legumes. Few wild species.	
BVG	107	646	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	40	50	100+			**	*	**	****(***)	*	*		*				***	**	*				Wheat & oat most common. Legume inc. pea. Very few wild spp. Nut shell hazel	B/C
BVG	108	647	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	28	50	25				*		****(***)										*				Mixed cereal. Pos culm base. Euphorbia seed.	C
BVG	105	645	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	35	50	<20			**	*		**8*(**)														A few cereal grain and legumes	C
BVG	106	645	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	38	50	200			***	*	*	****(****)	*	*		**				***	*	*				Barley most common. FT wheat, oats & rye pres. One culm node. No chaff. Few weeds. Min seed.	B/C

									Charred						Mineralised			Waterlogged material (dried out)				Bone			Mollusc		Insect		
Site	Sample No	Context	Phase	Dating Decision	Feature Type	Mesh size Flot/µm	sample volL	min % scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Nutshell/Fruit stone	Charcoal >2mm (& >4mm)	Clst frags	seed	wood	seed	leaf / stem	wood	fruit /nut	fish	mammal S	indet	marine	other		Comments	CPR Potential
BVG	104	611	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm		50	30?				**		**(**)														Not cereal or seed rich. Flot not with Sheila	C
BVG	103	643	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	37	50	40				**		****(***)														Charcoal rich so cereal very dispersed. Rye most common	C/ D
BVG	102	612	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	32	50	20				*	?	**														Very little material.	C/ D
BVG	101	616	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	32	50	0						**(**)														Flot not with sheila	D?
BVG	100	613	5a	Medieval/ Post AD 1200	fill of Ditch 603	250µm	30	50	<20				*	*	***(**)														Poorly preserved cereal grain. Little other mat.	C
BVG	124	514	6	Post Medieval	backfill of brick-lined cess pit	250µm	9	50	***						****														Material in this sample heated to high temps/burnt more than once? Vitrified or vesicular. No IDs poss.	D

Table 2: Charred plant remains and other material types

APPENDIX 18: WATERLOGGED PLANT REMAINS ASSESSMENT

Kath Hunter

During excavations at 2-4 Bedale Street (BVG10) in 2010 and 2011 a number of bulk samples were taken to recover environmental remains including waterlogged, mineralised and charred plant remains. The assessment for the charred and mineralised remains from this site are dealt within a separate assessment (Boardman, Appendix 17). A rapid evaluation of waterlogged potential for samples taken from fills within the large ditch was carried out on samples excavated in 2010 (Meen 2010) and this was used during sample processing as a guide to deposits likely to contain waterlogged material. This assessment deals with the 30 samples from the 2010 and 2011 excavations that were processed specifically for waterlogged plant, insect and molluscan remains. The samples date to the Late Roman and medieval period. The results of the assessment, together with the volumes of soil processed, are given in Table 1.

Aims and Objectives

The aim of this assessment was to characterise the quantity and quality of plant remains preserved in deposits in order to assess the value of the material to answer site-based and regional research questions. To do this, the following categories of information were considered:

- The quantity of the material preserved
- The quality and type of preservation.
- The range of species represented.
- Indicators of human activity such as domestic and agricultural practice
- Identify indicators of the local environment.
- Other sites within the region that may have comparable assemblages.

Methodology

Samples taken for the recovery of waterlogged remains (WPR) were processed by bucket flotation (1L samples, wash-over technique) using 250µm mesh at Oxford Archaeology South. Both the waterlogged flot and residue (WPR) were stored in water in the OAS cold store at between 4ºC–8ºC.

For this assessment, approximately 15ml from each flot was scanned using low powered microscope at magnification of between x10 and x20 (MTL5). The presence and relative abundance of the plant remains was recorded along with any bone, insect, molluscs and artefact remains. The frequency of charcoal and wood fragments larger and smaller than 4mm was also noted. Charcoal and wood >4mm in all dimensions is potentially identifiable and suitable for species analysis and dating.

Where delicate or individual specimens of particular interest were found they were placed in a glass tube in water and returned to the flot in order to protect them and to enable them to be found easily at the analysis stage. As this was a rapid assessment of the plant remains the level of identification was limited. Where identified the nomenclature for the plant remains follows Stace (2010). Please note that the term seed might include achene, mericarp etc. The list of all the samples assessed and a detailed record of all the plant remains can be found in the site archive.

During the scanning process the frequency of the different types of plant remains were recorded using the following key:
* 1-5 items; ** 6-10; *** 11-50; **** 50-100+

The portion of charcoal/wood greater than 4mm in all dimensions from the total frequency are shown in brackets in the tables. Table 2 shows the samples which have been proritised for further analysis.

The criteria used to select samples for further analysis is based on a scheme developed by archaeobotanist Wendy Carruthers which allows various factors to be taken in to account when assessing samples. The priority categories used in this assessment are as follows:

A = high potential on archaeobotanical grounds (i.e. rare or interesting plant taxa or exceptional preservation) or due to the scarcity of information from this type of deposit (e.g. Neolithic contexts).

B = good potential due to reasonable preservation and/or frequent identifiable charred plant remains, i.e. the assemblage can provide a useful amount of information.

C = some plant material but present in very low concentrations or very poorly preserved. These samples would only be worth including if part of a group, or if the context is especially important or particular information is required.

D = no plant material or so few to have been fully identified and recorded. Any information recovered from C and D samples can be included in the final report if necessary.
(Carruthers 2011)

This system also allows for the provision of intermediate categories for example B/C where further information may be required about the samples such as phase or feature type.

Results

								Charred						mineralised			waterlogged						Bone			Mollusc		Insect		
Site	Sample No	Context	Dating Decision	Feature Type	Mesh size Flot/µm	sample vol/L	% scanned	Grain	Cereal NFI	Chaff	Legume	Seed	Charc	Cist /frags	seed	insect	seed	leaf / stem	wood	fruit /nut	fish	amph	mammal S	indet	marine	other		Comments	Potential
BVG	149	893	Later Roman	?fill of well 892	250µm	1	50		*				****(*)	*	?	*	*	*										Possibly mineralised *Sambucus nigra.(*elder) *Waterlogged* cf. *Ranunculus* sp.(buttercup type)Charred- Indet grain	B/C
BVG	150	894	Later Roman	?fill of well 892	250µm	1	50						****(*)				*		**** (*)									Waterlogged- *Sambucus nigra* (elder)	C
BVG	15	215	Med-Pre AD 1200	fill of ditch 153	250µm	1	50	*					****(*)				*		*								*	Waterlogged- *Sambucus nigra,*(elder), *Ranunculus* cf.*repens* (buttercup) Caryophyllaceae,indet seeds. Charred- bread type wheat grain.	B/C
BVG	17	216	Med-Pre AD 1200	fill of ditch 153	250µm	1	50						****(*)				**		*							*	*	Waterlogged- *Sambucus nigra*(elder),*Urtica urens* (small nettle),*Ranunculus* sp.(buttercup) , *Rubus* sp.(blackberry), *Caryophylaceae*	B/C
BVG	140	831	Med-Pre AD 1200	fill of pit 832	250µm	1	50		*	*			****	*		*	**		*		*							Waterlogged- *Sambucus nigra,* (elder)*Juncus* sp. (rush) indet seeds. Charred- ?wheat rachis fragment.	C/D

BVG	143	834	Med-Pre AD 1200	Fill	250µm	1	50	*					****(*)				*	***	***								Waterlogged- *Vitis vinifera*(grape),*Papaver* cf.*somniferum* (possible opium poppy),*Sambucus nigra(*elder)*, Carex* sp.(sedge) Charred-indet grain	A/B
BVG	144	836	Med-Pre AD 1200	fill of ditch 837	250µm	1	50						***				****	*	*** (*)						*		Waterlogged- active dacay evident. *Sambucus nigra* (elder),*Ranunculus* cf. *Sceleratus (*possible celery-leaved buttercup)*,Ranunculus* cf. *repens* (buttercup)*, orillis* cf. *Japonica*(hedge parsley),*Potamogeton*s p.(pondweed)*Persicaria* sp.(knotweed) cf.*Illecebrum verticillatum*(coral necklace) Cyperaceae, Caryophyllaceae	B/A
BVG	147	875	Med-Pre AD 1200	lower fill of pit 876	250µm	1	50						**				**	**	****			*					Waterlogged-laminated monocotyledonous leaf/stem.*Sambucus nigra* (elder), *Rubus* sp. (blackberry),indet. Seed.	C
BVG	4	155	Med-post AD 1200	fill of ditch recut 183	250µm	1	50	*					***(**)				***	***	*								Waterlogged-*Conium maculatum* (hemlock), *Sambucus nigra, Ranunculus* cf. *sardous* (hairy buttercup), *Glebionis segetum* (corn marigold), *Carex sp.*(sedge) Solanaceae. Charred- indet. grain	B/A

BVG	5	156	Med-post AD 1200	fill above 155 ? Recut 183	250µm	1	50	*					**				**	***	*(*)		*		*	*				Waterlogged- *Sambucus nigra, Rubus* sp.(blackberry) *Soncus* sp.(sowthistle) Charred- hulled barley grain. fuel ash slag	B
BVG	13	160	Med-post AD 1200	fill	250µm	1	50						****				*	***	*									Waterlogged- *Sambucus nigra*(elder*)*,indet seeds, dicotyledonous leaf fragments	C/D
BVG	109	609	Med-post AD 1200	upper fill of ditch 603	250µm	1	50	*					****(*)				***											Waterlogged- *Sambucus nigra (elder),Rubus* sp.(blackberry) *Papaver* sp. (poppy),frequent *Juncus* sp.(rush). Charred- cereal grain fragments	C/D
BVG	110	608	Med-post AD 1200	upper fill of ditch 603 below 109	250µm	1	50	*				*	****(**)				***		*			*						Waterlogged- frequent *Juncus* sp.(sedge)*, Papaver* sp.(poppy), Charred- Oat,indet. Grain*, Malva* sp.(mallow), *Carex* sp. (sedge)	C
BVG	111	610	Med-post AD 1200	fill of ditch 603	250µm	1	50	*	*				****(**)				**				*							Waterlogged- frequent *Juncus* sp.*Sambucus nigra* (elder), *Carex* sp.(sedge) Charred- bread type wheat, hulled barley, indet. Grain.	C
BVG	113	651	Med-post AD 1200	fill of ditch 603	250µm	1	50						****(*)				**	*										*Sambucus nigra*(elder), cf. *Stachys* sp.(woundwort)	C
BVG	114	652	Med-post AD 1200	fill of ditch 603	250µm	1	50		*				****(*)				*	*										Waterlogged- *Sambucus nigra* (elder)*, Stachys* sp. (woundworts) Charred- indet. grain	C

BVG	116	654	Med-post AD 1200	fill of ditch 603	250µm	1	50	*	*				****(*)				**	*			*							waterlogged-*Sambucus nigra,Stachys*sp.(woundwort) Charred-wheat grain	C
BVG	119	657	Med-post AD 1200	fill of ditch 603	250µm	1	50						****(*)				**							*				Waterlogged-*Sambucus nigra* (elder) *Carex* sp.(sedge), cf. *Stachys* sp.(woundwort)	C
BVG	125	815	Med-post AD 1200	fill of ditch 603	250µm	1	50	*					****(*)				*	**										Waterlogged-*Sambucus nigra (elder), Urtica dioica(common nettle) Carex* sp. (sedge) Charred- ? rye. Indet. Cereal, fuel ash slag	C
BVG	126	816	Med-post AD 1200	fill of ditch 603	250µm	1	50		*			*	****(*)		*							*		*			***		Water logged-*Sambucus nigra* (elder), Charred-*Sambucus nigra,*indet. Grain.	C
BVG	129	819	Med-post AD 1200	fill of ditch 603	250µm	1	50		*		*		****(*)															Charred- bread type wheat and possible rye grains. Indet cereal grain. 4mm legume	C/B
BVG	130	820	Med-post AD 1200	fill of ditch 603	250µm	1	50	*	*	*			****(*)				**		*									Waterlogged-*Sambucus nigra* (elder), *Ranunculus* sp.(buttercup)indet seeds. Charred- Rye grain and rachis fragment.oat. Awn fragment. Indet grain fragments.	C/B
BVG	132	822	Med-post AD 1200	fill of ditch 603	250µm	1	50						****(*)		!							*		*				Mineralised- possibly mineralised *Sambucus nigra*.(elder) Waterlogged - indet. Seed	D

BVG	133	823	Med-post AD 1200	fill of ditch 603	250µm	1	50	*				*	**** (**)				**		*		*				*	*		Algae.Waterlogged- *Sambucus nigra* (elder), Solanceae.Charred- *Persicaria* sp.(knotweed) Possible barley grain.	C
BVG	135	825	Med-post AD 1200	fill of ditch 603	250µm	1	50						****(*)				***	*	*	*	*							Waterlogged- *Urtica dioica* (common nettle), *Sambucus nigra,* cf. (elder), *Prunus spinosa* (blackthorn), cf. *Aesthusa cynapium* (fool's parsley), cf. *Stachys* sp.(woundwort), Apiaceae	B
BVG	137	827	Med-post AD 1200	fill of ditch 603	250µm	1	50	*	*				****(*)	*			*		*									Mineralised- indet concretions.Waterlogged- *Sambucus nigra.* (elder) Charred-wheat, indet grain. Very silty flot	C
BVG	138	828	Med-post AD 1200	fill of ditch 603	250µm	1	50	*					****		*		**	**	*							*	*	Mineralised- *Malva* sp. (mallow) waterlogged- *potamogeton* sp.(pondweed),*Conium maculatum*(hemlock), *polygonum*sp.(knotgrass),cf. *Stachys* sp.(woundwort) Caryophyllaceae. Charred- indet. Grain. Leather	C/B

BVG	139	830	Med-post AD 1200	fill of ditch 603	250µm	1	50						***				****	****	**	*	*						Waterlogged-*Urtica dioica (common nettle),* cf.*Illecebrum verticillatum (coral necklace),Conium maculatum* (hemlock), cf. *Lemna* sp.*(duckweed), Carex* sp.(sedge)*, Juncus*sp.(rush), *Potamogeton*sp.(pond weed), *Polygonum*sp(knotgrass)., cf.*Stachys*sp.(woundwort) Hazelnut shell.	C/B
BVG	141	833	Med-post AD 1200	fill of ditch 603	250µm	1	50						***(*)				***	****	**				*			*	**	Waterlogged-*Conium maculatum* (hemlock), *Urtica dioica* (common nettle),*Rumex* sp. (dock), *Potamageton* sp.(pondweed), *Polygonum* sp.(knotgrass), cf. *Stachys* sp.(woundwort)	C/B
BVG	142	833	Med-post AD 1200	fill of pit 832	250µm	1	50					*	****	**		*	***	***	*							*	*	Abundant,minute fragments of charcoal. Waterlogged-Active decay evident. Plant remains poorly preserved. *Urtica dioica (*common nettle*), Juncus* sp.(rush)	D

Table 1: Plant remains

All the samples assessed at this stage contained waterlogged plant remains of varying quantity and quality. Much of the material was root, stem and wood fragments and in some cases appeared to be in the early stages of humification with a peaty appearance; others contained better preserved plant material and in one case discernible fragments from dicotyledonous leaves were present suggesting a relatively good state of preservation. Of the 30 samples assessed, only one did not contain any identifiable waterlogged remains. The preservation of plant remains from the lower fills of ditch [603] was significantly better than for the upper fills and as a result more species were identifiable. This may be in part be due to the lower levels of the ditch being less affected by any fluctuations in the water table resulting in more constant anaerobic conditions required to preserve the remains. As a result the samples recommended for full analysis from this feature are from the earlier contexts (Table 2). A single *Vitis vinifera* (grape) pip, along with possible *Papaver somniferum* (opium poppy), represent the only economic plants remains from the samples. A single achene of *Glebionis segetum* (corn marigold) provides the only evidence of an arable weed thought to have been introduced to Britain from Mediterranean regions from the Roman period onwards. Other other dry land plants are represented including *Torillis* cf. *japonica* (possible hedge parsley) and *Polygonum* sp. (knotgrass). Other species are indicative of damp soils and water margins; these include *Carex* sp. (sedges) and *Conium maculatum* (hemlock). *Urtica dioica* (common nettle) is a weed of disturbed ground often associated with human activity while *Sambucus nigra* (elder) is a hedgerow and woodland margin tree. Elder seeds occur in many of the samples, including those with otherwise poorly preserved plant remains, probably due in part to the robust nature of the seed coat, which unfortunately means that it is difficult to distinguish between in-situ and intrusive seeds. A single fruit stone fragment from *Prunus spinosa* (sloe) was recovered from ditch re-cut [603] and is the only other indication of a potentially wild food resource. The presence of *Potamogeton* sp. (pondweed) and *Lemma* sp. (duckweed) in the lower fills of ditch re-cut [603] suggest that the ditch probably contained standing or slow moving water.

Other biological remains

The presence of charred and mineralised plant remains, mollusc shell, bone and insects was also noted (Table 1)

Sample No	Context	Phase	Feature Type
149	893	Later Roman	Well 892
15	215	Medieval. pre-AD1200	Ditch 153
17	216	Medieval. pre-AD1200	Ditch 153
143	834	Medieval. pre-AD1200	Fill of pit 870
144	836	Medieval. pre-AD1200	Ditch 837

4	155	Medieval post-AD 1200	Ditch re-cut 183
5	156	Medieval post-AD 1200	Ditch re-cut 183
135	825	Medieval post-AD 1200	Ditch re-cut 603
138	828	Medieval post-AD 1200	Ditch re-cut 603
139	830	Medieval post-AD 1200	Ditch re-cut 603
141	833	Medieval post-AD 1200	Ditch re-cut 603

Table 2: Samples with waterlogged plant remains recommended for full analysis

Recommendations

Collectively the waterlogged plant macrofossil data from this site may address the following research questions:

- The character of food remains on the site
- The exploitation of natural resources
- The character of the local environment
- Potential changes in local vegetation types throughout the occupation of the site
- Comparisons with the plant assemblages from other areas of excavation and other sites on a local and regional scale.

It would be useful to compare the plant remains from all of the Thameslink sites with contemporary sites from the Southwark area. These include various excavations from Borough High Street (Bird *et al.* 1978; Hinton 1988; Brown and Pickard in prep), Montague Close (Bird *et al.* 1978), Bermonsey Abbey Sites (Giorgi 1997), Tabard Street and Long Lane (Branch *et al.* 2009), Guy's Hospital (Carruthers 2002) and Union Street (Le Hegarat and Allot 2010).

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APPENDIX 19: POLLEN ASSESSMENT

Sylvia Peglar

Introduction

Eight samples from excavations at 2-4 Bedale Street, Borough Viaduct, were submitted for assessment of their contained pollen and spores. The aim of the analyses was to evaluate the state of preservation of the pollen and their approximate concentrations to ascertain the suitability of the samples for full analysis. The pollen assemblages can (with other environmental examinations) determine the local and regional vegetation type(s), and hence the environment present at the time the sediments sampled were laid down.

The excavations found sediments of a ditch [153] which were then overlain by the infill of a re-cut ditch [183]. A monolith <26> was taken through the ditch sediments and a further monolith <28> through the re-cut. Four samples were taken from each monolith.

Methods

Standard volumes of the sediment samples were prepared for pollen analysis by a standard procedure, using HCl, NaOH, sieving, HF, and Erdtman's acetolysis, to remove carbonates, humic acids, particles > 170 microns, silicates, and cellulose, respectively (Method B of Berglund & Ralska-Jasiewoczowa 1986). The samples were then stained with safranin, dehydrated in tertiary butyl alcohol, and the residues mounted in 2000 cs silicone oil. Slides were examined at a magnification of 400x (1000x for critical examination) by equally-spaced traverses across two slides to reduce the possible effects of differential dispersal on the slides (Brooks & Thomas 1967). The aim was to obtain a pollen count of at least 100 land pollen and spores. A limit of two slides or two hours counting was placed on each sample. Pollen identification was made using the keys of Moore *et al*. (1991) and a small modern pollen reference collection. Andersen (1979) was followed for identification of cereal-type grains. Indeterminable and unknown grains were also recorded as an indication of the state of the pollen preservation. Plant nomenclature follows Stace (1997).

Results and Discussion

The results of the assessments are shown in Table 1. All samples contained large amounts of charcoal particles <170 microns which were therefore not quantified. All samples were also very organic: the charcoal and organic particles remaining after preparation therefore gave rise to very low pollen and spore concentrations, especially from the original ditch [153]. Many of the pollen grains also had dark contents which prevented the identification of the grains, and values of indeterminable and unknown grains were therefore high, again especially in ditch [153]. Pollen assemblages are therefore likely to be 'skewed' with more robust taxa which can easily be identified being favoured over those taxa with more fragile and less identifiable features.

Feature [153] ditch, monolith <26>

4 samples were assessed from 4 different contexts:

0.415m from the top of the monolith, context [225]

0.325m from the top of the monolith, context [224]

0.165m from the top of the monolith, context [191]

0.115m from the top of the monolith, context [160]

All samples had very low arboreal pollen and very high herbaceous pollen particularly grasses (Poaceae). This suggests that all woodland had been cleared from the area before the ditch started to fill.

The pollen assemblages from the two basal samples (0.415m and 0.325m) are dominated by grasses, a taxon which is found in almost all vegetation types. The grasses together with taxa such as umbellifers (Apiaceae), sedges (Cyperaceae), daisy-type (*Aster*-type), dandelion-type (*Taraxacum*-type), meadowsweet (*Filipendula*), meadow buttercup-type (*Ranunculus acris*-type) and ribwort plantain (*Plantago lanceolata)* are characteristic of damp meadows/pastures. However, a few cereals are also present together with a couple of grains of buckwheat (*Fagopyrum*) and weeds which may be associated with arable cultivation including cornflower (*Centaurea cyanus*) and crucifers (Brassicaceae). Some of the taxa present are also ruderals and are found on waste ground, fallow land, footpaths and around habitations: grasses, mugwort (*Artemisia*), daisy-type, dandelion-type, crucifers (cabbage family), chickweed family (Caryophyllaceae) and nettles (*Urtica*).

The sample from 0.325m has a very high number of dandelion-type grains, a very distinctive taxon even when badly broken, corroded, crumpled or degraded. Its high value may therefore be due to the poor state of the pollen, suggested by the very high percentage of indeterminable grains (29.8%). It could also be due to a piece of anther being incorporated into the sediment sample, or it could be indicative of widespread waste ground at this time.

The assemblages from the upper two samples from <26>, 0.115m and 0.165m, are similar to the basal two but have higher cereals particularly oats/wheat-type (*Avena/Triticum*-type) and also rye (*Secale*) and their associated weeds, cornflower, crucifers and goosefoot family (Chenopodiaceae). Sample 0.115m also has two grains of *Vicia* probably broadbean (*Vicia faba*). Taxa characteristic of waste and fallow ground (as above) are also prevalent. This suggests that there may have been some change in the ratio of damp meadows/pasture to more arable cultivation.

Feature [183] ditch re-cut, monolith <28>

4 samples were assessed from 2 different contexts:

0.315m from the top of the monolith, context [189]
0.165m from the top of the monolith, context [189]
0.115m from the top of the monolith, context [188]
0.065m from the top of the monolith, context [188]

Only a very few crumpled degraded grains were found in the basal sample 0.315m. Results from the upper three samples are shown in Table 1 but again pollen concentrations were low. Pollen assemblages from the 3 samples are very similar to one another and like those of the upper 2 samples from <26>. They are characterised by the high numbers of cereal-type grains and their associated weed flora particularly cornflower, crucifers, goosefoot family indicating the prevalence of arable cultivation. Evidence for some meadows/pasture and waste/fallow land is also present as in <26>. In sample 0.065m there is a grain of flax (*Linum bienne/L.usitattissimum*).

The <28> samples also have a few aquatic taxa – the spines of hornwort (*Ceratophyllum*), duckweed (*Lemna*) and pondweed (*Potamogeton*) showing that there was standing water in the ditch during the time the upper 3 samples were laid down. There are also several eggs of the intestinal worm *Trichuris*. They are of varied sizes and may come from both animals and humans, but they do show that the ditch was being contaminated by faecal waste. Of note is the occurrence of grains of elder (*Sambucus nigra*) a small tree often found growing on fertilized ground and waste places.

The anlyses have shown that there was a very open landscape during the time in which the ditch and the re-cut ditch were filling. Damp meadows/pasture were present particularly near the base of the original ditch, but arable cultivation with cereals and buckwheat and flax (at the top of the re-cut ditch) being grown was extensive. It is possible that some of the cereal grains could have derived from waste material being thrown into the ditches but it seems more likely that they were being grown close by. It is impossible to date the sediments from their pollen content. The archaeology has determined that the original ditch filled post-Roman and the ditch re-cut fill has been dated to the 12th/13th centuries. All the crops found (cereals, buckwheat, broadbeans and flax) are known from at least Saxon times and would therefore corroborate these dates.

Recommendations

Due to their poor concentrations and preservation it is not recommended that further analyses are made on this material. It might be possible to include a few more taxa if further work was done, but this would entail a lot of time and may not be worthwhile.

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Feature		**Ditch re-cut [183]**			**Ditch [153]**			
Monolith		**<28>**			**<26>**			
Context		**188**			**160**	**191**	**224**	**225**
Depth from top (cm)		**6.5**	**11.5**	**16.5**	**11.5**	**16.5**	**32.5**	**41.5**
Trees & shrubs								
Betula	Birch		1	1		1	1	
Pinus sylvestris	Pine		2					
Quercus	Oak	4	2	2	2	2	1	
Alnus glutinosa	Alder	1	3	3		1	2	
Fagus sylvatica	Beech	1				1		
Fraxinus excelsior	Ash					1		
Corylus avellana	Hazel	1	5	2			2	1
Rosaceae und.	Rosaceous shrubs	2						
Rubus fruticosus-type	Blackberry-type		1					
Sambucus nigra	Elder	2	1	2			1	
Salix	Willow	3	3	3			2	1

CALLUNA VULGARIS	Heather		1	1				
TOTAL TREES AND SHRUBS		**14**	**17**	**13**	**2**	**6**	**9**	**2**
	% total pollen	**9.7**	**12.0**	**9.7**	**1.6**	**5.4**	**9.1**	**3.3**
HERBS								
Cereals und.	Cereal-type und.	2	3			2		
Avena / Triticum-*type*	Oats /wheat-type	7	14	16	13	18	1	5
Hordeum-*type*	Barley-type	11	14	7	4	4	3	
Secale cereale	Rye	4		3	1	2		
Cereals as % total pollen		**16.7**	**21.8**	**19.4**	**14.0**	**21.4**	**4.0**	**8.3**
Poaceae und.	Grasses (-cereals)	55	52	46	76	55	35	24
Apiaceae	Umbellifers	13	4	8	1		2	3
Cyperaceae	Sedge family		1				2	2
Anthemis-type	Mayweed	8	11	13	6	5		
Artemisia	Mugwort		1	1				1
Aster-type	Daisy-type	7	7	3	1	3	7	2
Centaurea cyanus	Cornflower	2	1	3	1	3		1
Centaurea nigra-type	Knapweed-type	1				1		
Taraxacum-type	Dandelion-type	1	5	8	5	6	24	9
Brassicaceae	Cabbage family	3	3		7	3	3	4
Caryophyllaceae	Chickweed famly	1				1	4	
Chenopodiaceae	Goosefoot family	2	1	4	4	3	2	
Convolvulus arvensis	Bindweed			1				
Filipendula	Meadowsweet	1					1	1
Fagopyrum esculentum	Buckwheat							2
Linum bienne/L.usitattissium	Flax	1						
Lotus-*type*	Bird's-foot trefoil-type			1				
Plantago lanceolata	Ribwort plantain	2	3	1	3		1	1
Plantago major/P. media	Greater/hoary plantain			1				
Polygonum aviculare-type	Knotgrass-type	1						
Prunella-type	Self-heal			1				
Ranunculus acris-type	Meadow buttercup-type	2						1
Rubiaceae	Bedstraw family							1
Rumex acetosa-type	Sorrel-type	2	2		2			
Rumex crispus-type	Docks	2						
Vicia cf.*V. faba*	cf. broadbean		1		3			
Urtica	Nettle			1			1	1
Total Herbs		**128**	**123**	**119**	**127**	**106**	**86**	**58**
	% total pollen	**88.9**	**86.6**	**88.8**	**98.4**	**94.6**	**86.9**	**96.7**
PTERIDOPHYTES								
Pteridium aquilinum	Bracken		2	1			2	
Dryopteris-type	Und. ferns	2		1			2	
Total Pteridophytes		**2**	**2**	**2**	**-**	**-**	**4**	**-**

	% total pollen	1.4	1.4	1.5	-	-	4.0	-
Total land pollen & spores		**144**	**142**	**134**	**129**	**112**	**99**	**60**
Aquatics								
Ceratophyllum spine	Hornwort	3		6				
Lemna	Duckweed			1				
Potamogeton	Pondweed	1						
Indeterminable pollen & spores		**24**	**18**	**21**	**46**	**21**	**42**	**16**
	% total pollen + indeterminable	**14.3**	**11.3**	**13.5**	**26.3**	**15.8**	**29.8**	**21.1**
Unknown pollen & spores		**3**	**3**	**3**	**-**	**1**	**2**	**1**
***Trichuris* egg**		**9**	**3**	**4**				**1**

Table 1. Pollen (number of grains counted) from 2-3 Bedale Street, Borough Viaduct (BVG10).

und.= undifferentiated

APPENDIX 20: DIATOMS ASSESSMENT

Nigel G. Cameron

Introduction

Diatom preparation, evaluation and analysis has been carried out on seven diatom samples from a large ditch at Bedale Street, Southwark (BVG10), part of the Thameslink project. The earlier ditch [153] and the re-cut [183] are both filled in the medieval period. The diatom samples were taken from the fills of the original ditch and from the basal fills of the re-cut. The purpose of carrying out diatom analysis is to investigate the conditions within the ditch at the time these sediments were laid down. It is of particular interest to know whether there is a brackish component to any of the fills and whether the water, which is assumed to have been present, was clean or polluted (Rebecca Nicholson pers. comm.).

Methods

Diatom counting and analysis followed standard techniques (Battarbee *et al.* 2001). Diatom floras and taxonomic publications were consulted to assist with diatom identification; these include Hendey (1964), Werff & Huls (1957-1974), Hartley *et al.* (1996), Krammer & Lange-Bertalot (1986-1991) and Witkowski *et al.* (2000). Diatom species' salinity preferences are discussed in part using the classification data in Denys (1992), Vos & de Wolf (1988; 1993) and the halobian groups of Hustedt (1953; 1957, 199), these salinity groups are summarised as follows:

1. Polyhalobian: >30 g l^{-1}

2. Mesohalobian: 0.2-30 g l^{-1}

3. Oligohalobian - Halophilous: optimum in slightly brackish water

4. Oligohalobian - Indifferent: optimum in freshwater but tolerant of slightly brackish water

5. Halophobous: exclusively freshwater

6. Unknown: taxa of unknown salinity preference.

Diatom data were plotted using the ‘C2’ program (Juggins 2003).

Results & Discussion

The locations of the diatom samples are listed below in Table 1. The quality of diatom preservation for all seven diatom samples is summarised in Table 2. The results of percentage diatom counting are shown for Monolith Sample <28> in Figure 1 (diatom species diagram) and Figure 2 (summary diatom halobian group diagram). For the diatom assemblages in Monolith Samples <26> and <28>, which were poorly preserved and unsuitable for percentage counting, the evaluation of diatom taxa is shown in Table 3.

No.	Monolith	Context	Depth (m) below top of monolith
1	<26>	160	0.11-0.12
2	<26>	191	0.16-0.17
3	<26>	224	0.32-0.33
4	<26>	225	0.41-0.42
5	<28>	188	0.11-0.12
6	<28>	189	0.16-0.17
7	<28>	189	0.31-0.32

Table 1. Samples prepared for diatom analysis from a large ditch at Bedale Street, Southwark (BVG10)

Diatom sample No.	Diatom presence	Diatom numbers	Quality of preservation	Diversity	Assemblage type	Potential for % count
1	+	ex low	ex poor	low	aero bk mar	none
2	+	ex low	ex poor	low	aero bk mar	none
3	+	low	poor	mod	aero bk mar	none
4	+	low	poor	low	aero bk mar	none
5	+	low	v poor	low	hal bk fw aero	none
6	+	mod	mod good	high	fw bk mar	good
7	+	mod	mod to poor	mod	fw hal mar	mod good

Table 2. Summary of diatom evaluation results for the sediment sequence from Bedale Street, Southwark (BVG10) (+ present, mod – moderately high, ex low – extremely low, aero – aerophilous, fw – freshwater, bk – brackish, hal – halophilous, mar - marine)

Diatom Sample Number **Diatom Species / Salinity Group**	**1**	**2**	**3**	**4**	**5**
Polyhalobous					
Cymatosira belgica		+			
Paralia sulcata			+	+	
Podosira stelligera	cf				
Thalassionema nitzschiodes	cf		+		
Mesohalobous					
Cyclotella striata	cf	+	++	+	++
Denticula subtilis		+	+		
Navicula gregaria					+
Synedra tabulata					+
Mesohalobous to Halophilous					
Navicula lanceolata					+
Halophilous					
Gomphonema olivaceum					+
Navicula cincta	+		+		+++
Navicula mutica	++		++		
Oligohalobous Indifferent					
Cocconeis placentula				+	++
Cymatopleura solea			+		
Ellerbeckia arenaria					+
Hantzschia amphioxys	+	++	++	+	+
Meridion circulare			+		
Nitzschia amphibia					+
Pinnularia borealis	+				
Unknown Salinity Group					
Gomphonema sp.			+		
Navicula sp.			+	+	+
Nitzschia sp.			++	+	+
Pinnularia sp.		+	+	+	
Surirella sp.					+
Indet. centric fragments			+		+
Indet. pennate fragments	++	+	++	+	++
Unknown Naviculaceae	+				

Table 3. . Assessment of diatom species abundance for Bedale Street, Southwark (BVG10) samples in monoliths <26> and <28> where diatom numbers are very low and the assemblages are poorly preserved.

+ species present; ++ species relatively common; +++ species more common.

Monolith Sample <26>

Four subsamples and slides were prepared for diatom analysis from Monolith <26> (Table 1). Diatoms are present in all four samples. However, the diatom assemblages are poorly preserved and percentage diatom counting is not possible for any of the samples in Monolith <26> (Table 2). The diatom assemblages found in the sequence are, however, informative. Elements of the diatom assemblages suggest that water was, at least periodically, present in the ditch. All four samples have traces of allochthonous marine and estuarine mesohalobous taxa (N.B. in the top sample, taken from context [160], the identifications of very poorly preserved valve fragments which were ascribed to marine and brackish taxa are tentative) (Table 3). The presence of polyhalobous and mesohalobous diatoms suggests that there was a degree of estuarine influence with brackish water incursion into the ditch throughout the period of sediment accumulation. The estuarine (mesohalobous) planktonic species *Cyclotella striata,* which is typical of the tidal Thames, is for example relatively common in sample 3. Allochthonous polyhalobous (marine) plankton found in Monolith <26> includes *Cymatosira belgica*, *Paralia sulcata* and *Thalassionema nitzschiodes*.

A significant component of the diatom assemblages in all four samples are desiccation tolerant, aerophilous diatom species. These are found for example in ephemeral aquatic habitats and semi-aquatic environments such as the exposed sides of ditches. Aerophilous taxa may also be found in soil and washed into ditch sediments. The halophilous aerophiles *Navicula mutica* and *Navicula cincta* are for example common or present in samples 1 and 3. The oligohalobous indifferent aerophile *Hantzschia amphioxys* is present or common in all four samples from Monolith <26> and the aerophile *Pinnularia borealis* is present in the top sample.

The relatively common occurrence of fragments of undifferentiated *Nitzschia* spp. in sample 3 (0.32-0.33m depth) may be related to elevated nutrient levels in the ditch water, however, this is uncertain and the poor quality of valve preservation means that species identification is not possible in this case.

Non-planktonic freshwater taxa, that are not aerophilous, are also present in small numbers in samples 3 and 4 from Monolith Sample <26>. These include the rheophilous (flowing water) species *Meridion circulare*, the epiphytic species *Cocconeis placentula* and the benthic epipelic (mud surface) diatom *Cymatopleura solea*.

Monolith Sample <28>

Three subsamples and slides were prepared for diatom analysis from Monolith Sample <28>. Diatoms are present in all three samples and the diatom assemblages indicate the presence

of water in the ditch throughout the period of sediment accumulation. However, the diatom assemblage of the top sample may reflect periodic drying out of the aquatic environment. Diatoms are poorly preserved, but are present, in the top sample of the sequence (sample 5, 0.11-0.12m depth). This top sample, from context [188], shows the influence of the tidal Thames, with the presence of *Cyclotella striata* for example. Other, non-planktonic, mesohalobous and mesohalobous to halophilous taxa in sample 5 include *Navicula gregaria, Synedra tabulata* and *Navicula lanceolata*. As indicated above there is a significant component of halophilous (*Navicula cincta*) and oligohalobous indifferent (*Ellerbeckia arenaria, Hantzschia amphioxys*) aerophiles which may reflect drying out of the habitat, or inwash of material. The oligohalobous indifferent component of diatoms in sample 5 includes the epiphytic species *Cocconeis placentula*.

Percentage diatom counting has been carried out on both diatom samples (samples 6 and 7) prepared from context [189], a silty clay, (Figures 1 and 2). The most common diatom component of both diatom assemblages is of oligohalobous indifferent taxa which comprise over 40% of the taxa in both samples. A moderate to high diversity of diatoms is present with the freshwater epiphyte *Cocconeis placentula* comprising 22% and 17% of the total diatoms respectively at 0.31m depth and 0.16m depth. Other common oligohalobous indifferent diatoms include *Meridion circulare*, a species associated with flowing water; the halophilous species *Melosira varians* is also associated with flowing water. The diatom assemblages of samples 6 and 7 suggest that the presence of water in the ditch during this period of sediment accumulation was more stable than during the later period represented by sample 5 (context [188]). The freshwater diatoms *Nitzschia amphibia* *Nitzschia palaea* found in the upper sample for which percentage diatom counting was carried out (0.16m depth) and undifferentiated *Stephanodiscus* sp. (poorly preserved) in the lower sample (0.31m depth), along with other poorly-preserved undifferentiated *Nitzschia* spp. and occurrences of diatoms such as *Gomphonema parvulum* suggest elevated aquatic nutrient levels. The oligohalobous indifferent species *Achnanthes hungarica* (0.16m) is an epiphyte of the aquatic macrophyte genus *Lemna* and is therefore found in eutrophic waters. The mesohalobous, mesohalobous to halophilous and halophilous taxa *Navicula lanceolata* (17% of the total diatoms at 0.16m depth), *Melosira varians* (7% of the total diatoms at 0.16m depth), *Navicula gregaria* and *Navicula salinarum* are eutrophic taxa that are associated with nutrient enriched waters.

Periodic contact with the Thames Estuary is indicated in both samples with relatively high numbers of the planktonic mesohalobous species *Cyclotella striata* (6% to 10%) in both samples. Benthic mesohalobous taxa include *Navicula gregaria, Navicula salinarum* and *Nitzschia sigma*. In addition, the evidence for contact with the tidal river is supported by the presence of components of allochthonous marine taxa such as *Cymatosira belgica, Plagiogramma van-heurckii* and *Rhaphoneis minutissima* in both samples.

Conclusions

Diatoms assemblages are present, but poorly preserved in all four samples from Monolith Sample <26>. However, the diatom assemblages support the assertion that water was, at least periodically, present in the ditch. The relatively high number of aerophilous diatom taxa may indicate that the aquatic environment was an ephemeral one, or that desiccation-tolerant species were inwashed from the banks or wider catchment of the ditch. The presence of polyhalobous and mesohalobous diatoms in the samples from Monolith <26> indicates that there was a degree of estuarine influence, with brackish water incursion into the ditch throughout the period of sediment accumulation. Tentatively, the presence of poorly-preserved, undifferentiated *Nitzschia* spp. in sample 3 may reflect increased nutrient concentrations in the aquatic environment, however this is uncertain and the evidence for nutrient enrichment here is slight. Non-planktonic freshwater taxa that are present in samples 3 and 4 from Monolith Sample <26> are associated with flowing water, epiphytic and epipelic habitats.

Diatoms are present in all three samples prepared for diatom analysis from Monolith Sample <28> and the diatom assemblages indicate the presence of water in the ditch throughout the period of sediment accumulation. However, the diatom assemblage of the top sample (0.11m depth) may reflect periodic drying out of the aquatic environment. Diatoms from context [188] shows the influence of the tidal Thames There is a significant component of halophilous and oligohalobous indifferent aerophiles which may reflect drying out of the habitat, or inwash of material. The oligohalobous indifferent component of diatoms at 0.11m includes the epiphytic species *Cocconeis placentula*.

Percentage diatom counting has been carried out on both diatom samples prepared from context [189], a silty clay, from Monolith Sample <28> (Figures 1 and 2). The most common diatom component of both diatom assemblages is of oligohalobous indifferent taxa which comprise over 40% of the taxa in both samples. Epiphytic and rheophilous taxa are present. The diatom assemblages of these samples suggest that the presence of water in the ditch during this period of sediment accumulation was relatively stable. A range of eutrophic freshwater diatoms present in both samples indicate that there were elevated aquatic nutrient levels. This is also is supported by relatively high numbers of eutrophic diatoms in the mesohalobous, mesohalobous to halophilous and halophilous taxa halobian groups. Periodic contact with the Thames Estuary is indicated in both samples with relatively high numbers of planktonic mesohalobous species and also with benthic mesohalobous taxa. In addition, the evidence for contact with the tidal river is supported by the presence of components of allochthonous marine taxa in both samples from context [189].

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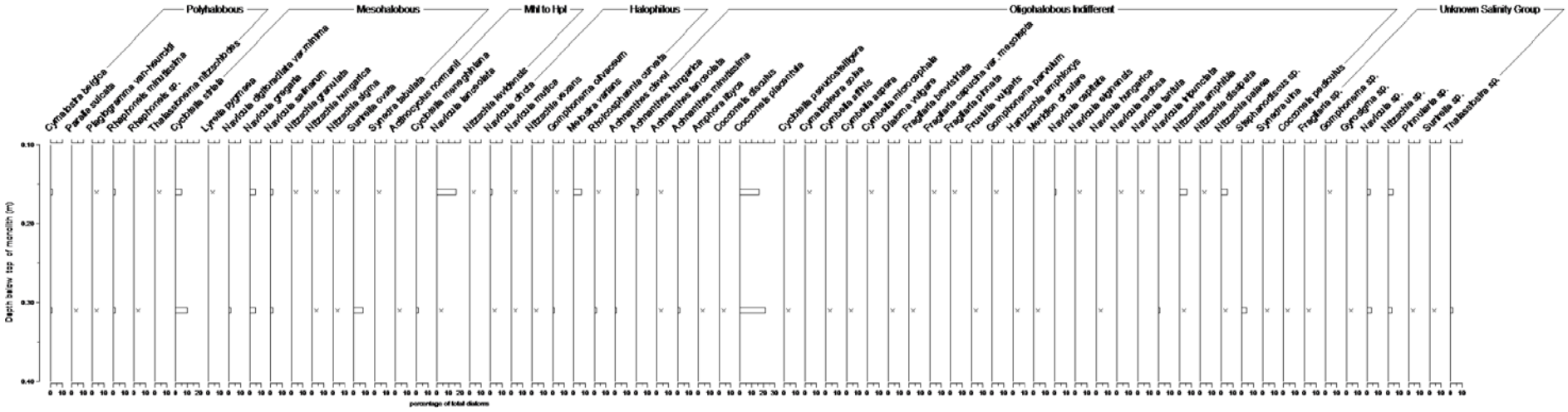

Figure 1: Diatom species diagram

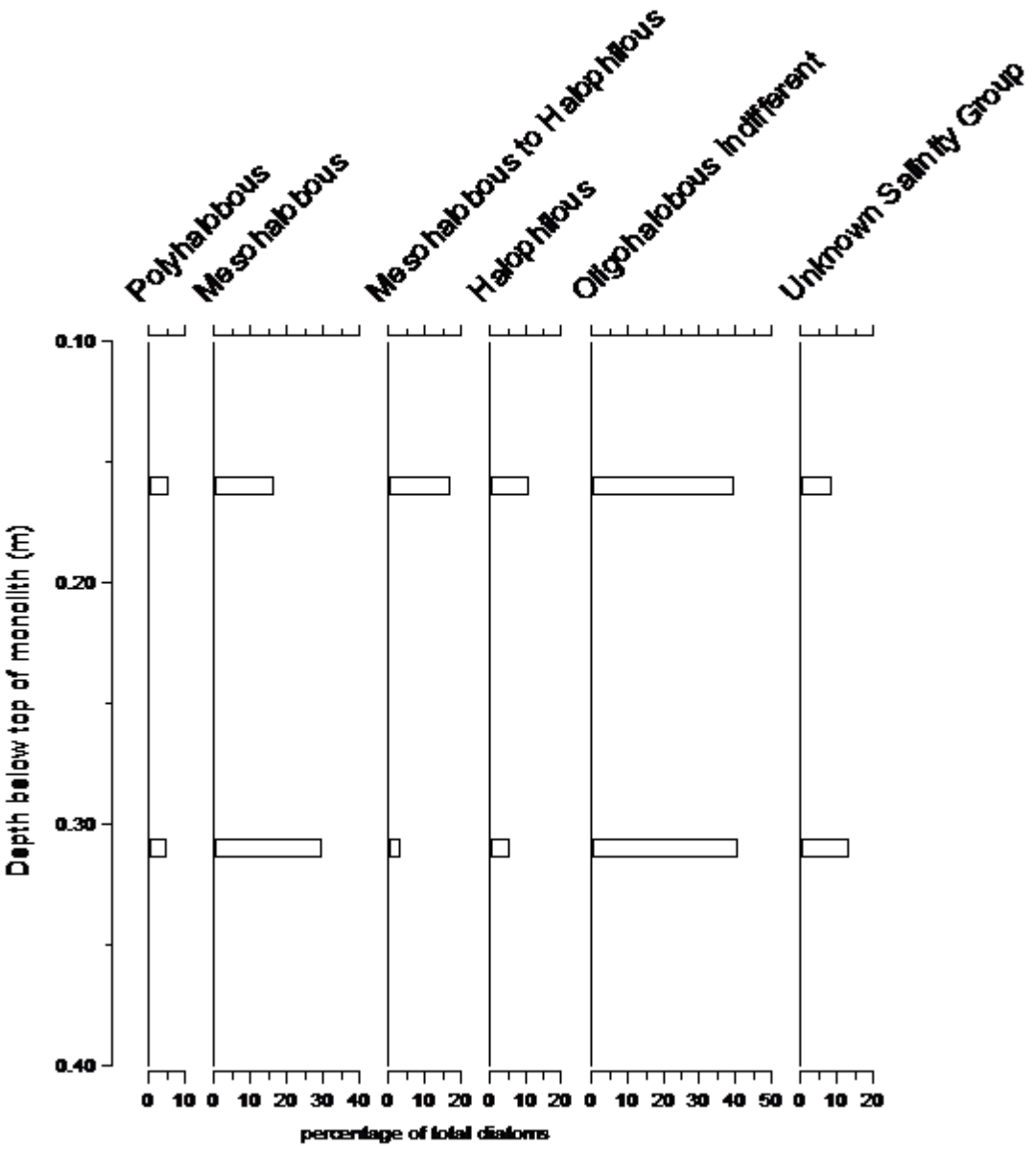

Figure 2: Summary diatom halobian group diagram

APPENDIX 21: INSECT ASSESSMENT

David Smith

Introduction

This report is an assessment of the potential for insect remains from a number of samples taken from a range of deposits at 2-4 Bedale Street, Southwark. Sample 147 context [875] came from the fill of a medieval pit which was described on site as 'cessy', with a 'peaty' fill. Sample 144, context [836] came from a lower ditch fill which has been dated as Early Medieval elsewhere on site. Sample 19 context [189] was from the primary fill of a later (Medieval) re-cut of the same section of ditch.

It was hoped that an assessment of the insect remains from these samples would provide information on the following:

1) Are insects present?
2) Are the insect faunas of interpretative value and warrant further investigation?
3) Do the insects suggest the nature of the environment in the area around the features?
4) Do insects suggest that settlement material was dumped into the features?

Methods

The samples were processed using the standard method of paraffin flotation as outlined in Kenward *et al.* (1980). The system for 'scanning' faunas as outlined by Kenward *et al.* (1985) was followed in this assessment.

When discussing the faunas recovered, the following considerations should be taken into account:

1) Identifications of the insects present are provisional. In addition, many of the taxa present could be identified down to species level during a full analysis, producing more detailed information.

2) The various proportions of insects suggested are very notional and subjective. As a result, these faunas should be regarded as incomplete and possibly biased.

Results

The insect taxa recovered are listed in Table 1. The taxonomy follows that of Lucht (1987) for the Coleoptera (beetles).

The numbers of individuals present for each taxa is estimated using the following scale: + = 1-2 individuals, ++ = 2-5 individuals, +++ = 5-10 individuals, ++++ = 10-20 individuals, +++++ = 100s of individuals. The nature of the preservation and the potential for archaeological interpretation is outlined in Table 2.

The majority of the insect fauna recovered were Coleoptera (beetles). However, large numbers of the resting stages of *Daphnia* 'water fleas' and the head capsules of midges (probably Chironomidae) were also present. The faunas examined were all poorly preserved and highly fragmented. Sample 19 produced a moderately sized insect fauna but those from samples 144 and 147 were comparatively small.

Discussion

Pit fill <147> [875]

This sample produced a very small insect fauna which is difficult to interpret. There are a small number of taxa which are often associated with human settlement such as the 'mould beetles' Lathridiidae and Cryptophagidae and the 'woodworm' *Anobium punctatum* (Kenward & Hall 1995). A small number of pupae from the fly *Sepsis* spp. were also recovered. This fly is often associated with sewage and faecal material. However, it is difficult to give a more specific interpretation of the nature of the contents of this feature beyond this.

Ditch fill <144> [836]

This sample produced a small sized insect fauna which is difficult to interpret. It contains a small number of taxa such as *Agabus* and *Hydroporus* 'diving water beetles' which are associated with slow flowing water (Nilsson & Holmen 1995; Foster & Friday 2011). Small numbers of Lathridiidae and Cryptophagidae may again suggest settlement waste. Small numbers of *Sitona* 'clover' weevils and *Aphodius* 'dung beetles' were also recovered, perhaps suggesting grassland and meadow in the area (Koch 1992; Jessop 1986) though these could again have come from the incorporation of settlement or stabling waste into these features (*sensu* Kenward & Hall 1997).

Ditch fill <19> [18])

This sample produced insect fauna which was moderately sized. It contained relatively large numbers of indicators for slow flowing waters such as *Haliplus, Ochthebuis* and *Hydreana* species (Hansen 1986). The elmid 'riffle beetle' *Oulimius* spp. is often associated with relatively clear and fast flowing waters, though it is more tolerant of slower conditions than other many of the other elmid species (Holland 1972). Relatively large numbers of Aphodius dung beetles were also recovered, along with a single *Sitona* 'clover weevil', suggesting that pasture and grassland occurred in the area. Limited numbers of *Lathridiidae* and *Oxytelus* species may suggest that settlement waste also contributed to the contents of this ditch.

Comparisons and Recommendations

A relatively large number of well preserved insect faunas from medieval and post-medieval deposits have now been studied from the City of London on the north bank of the Thames, however, there are very few such studies from Southwark itself (Smith 2012).

Three insect faunas recovered at Bedale Street are all very poorly preserved and have limited interpretive value beyond indicating that settlement debris was present on site and that grassland may have been in the area.

It is therefore suggested that only limited further work is undertaken on the insect remains from this site and only if the results from other environmental indicators suggest that it is warranted.

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Table 1. Insect fauna recovered from Bedale Street, Southwark

CONTEXT NUMBER	**875**	**836**	**189**
SAMPLE NUMBER	**147**	**144**	**19**
SAMPLE WEIGHT KG			
SAMPLE VOLUME L			
COLEOPTERA			
Carabidae			
Trechus spp.	-	-	+
Pterostichus spp.	-	+	++
Haliplidae			
Haliplus spp.	**-**	**-**	**++**
Dytiscidae			
Agabus spp.	-	+	-
Hydroporus spp.	-	+	-
Hydraenidae			
Ochthebius spp.	-	-	+
Hydraena spp.	-	-	+
Helophorus spp.	-	+	+
Hydrophilidae			
Cercyon spp.	-	+	+

Staphylinidae			
Olophrum spp.	+	-	-
Omalium spp.	-	-	+
Oxytelus spp.	-	+	+++
Platystethus spp.	-	-	++
Trogophloeus spp.	+	-	+
Stenus spp.	+	-	++
Philonthus spp.	-	+	-
Tachinus spp.	-	-	+
Elateridae			
Agriotes spp.	+	-	-
Cantharidae			
Cantharis spp.	+	-	-
Dryopidae			
Oulimnius spp.	-	-	+++
Cryptophagidae			
Cryptophagus spp.	-	++	-
Lathridiidae			
Lathridius minutus (Group)	++	-	+
Corticaria spp.	-	-	+
Anobiidae			
Anobium punctatum (Geer)	+		
Scarabaeidae			
Aphodius spp.	+	+	+++
Chyrsomelidae			
Phyllotreta spp.	-	-	+
Curculionidae			

Sitona spp.	+	++	+
DIPTERA			
Sepsidae			
Sepsis spp.	++	-	-

Key to estimate of taxa occurrence:

+ = 1-2 individuals

++ = 2-5 individuals

+++ = 5-10 individuals

++++ = 10-20 individuals

+++++ = 100s of individuals

Table 2. Summary of the nature of the insect faunas from Bedale Street, Southwark

Sample number	Degree of preservation	Comparative size of faunas	Water conditions	Landscape	Overall interpretative potential of sample
144	poor	small	*Agabus* and *Hydroporus* may suggest slow flowing waters	*Aphodius* 'dung beetle' and *Sitona* 'clover weevils' may suggest the presence of grazing animals and grassland. Small numbers of *Cryptophagus* and *Lathridius* may suggest settlement waste.	Very limited
147	poor	small	none	*Lathridius* and *Anobium punctatum* may suggest settlement waste. Sepsis spp. pupae may suggest cess.	Very limited
19	poor	Small / moderate	*Oulimnius* may suggest flowing water to some extent	*Aphodius* 'dung beetle' and *Sitona* 'clover weevils' may suggest the presence of grazing animals and grassland. *Oxytelus* and Lathridiidae may suggest incorporation of settlement waste.	Limited

APPENDIX 22: SHELLS ASSESSMENT

Rebecca Nicholson & E.C. Stafford

MARINE SHELLS

Rebecca Nicholson

Introduction

A relatively small assemblage of marine shell was recovered, almost all from the residues of the bulk sieved soil samples, which were sieved to 0.5mm and sorted to 4mm or in some cases to 2mm. Marine shell has been recovered from most of the processed samples and over half has been recorded for this assessment, comprising about 250 shells. Recommendations for further work and for archiving are given at the end of this report.

Methodology

Shells were identified with the aid of a modern comparative collection. Shell condition was noted, as was the number of potentially measurable valves and the shell and hinge shape (following Campbell 2010 and Winder 2011). In order to characterise the assemblage, the oyster shells recovered from 15 contexts were recorded in more detail. This entailed recording traces left on the shell by infesting organisms and physical attributes, following Winder (2011). Shell extracted from the remaining samples was scanned, but proved to be almost entirely oyster in a similar condition to the recorded assemblage. All data has been recorded on Microsoft Excel spreadsheets.

Assemblage Summary

Marine shells were extracted from samples taken from 67 contexts. For this assessment the shells from 36 contexts have been identified and are recorded by number of left and right valves in the case of bivalves and number of individuals in the case of gastropods (Table 1). Shells were hand collected from four contexts ([156], [190], [213] and [214]) but comprised only one or two oyster valves per context.

The great majority of the assemblage came from the fills of the re-cut ditch (Phase 5). Native oyster (*Ostrea edulis) i*s the most frequent shellfish, but mussel (*Mytilus edulis*) occurs in nine of the recorded samples, all from phase 5 contexts while whelk (and unidentified gastropod probably whelk) came from phase 4 and phase 5 contexts (4 samples). A single immature cockle came from phase 5 contexts. Three valves from the freshwater Painters mussel (*Unio pictorum*) came from sample <7> context [186] at the lower part of the medieval ditch recut.

No sample contains more than 20 shells and most contain far fewer. In general the shell is poorly preserved, worn and flakey and in a few cases (e.g. in contexts [214] and [216]) the shells appear to have been heated. Only a very small number of shells are sufficiently intact

to allow measurement. The poor condition of many shells means that epibont infestations and encrustations can not be easily seen. However, several shells exhibit internal chambering typical of the polychete activity by *Polydora hoplura* and the pock-marked appearance typical of the sponge *Cliona cellata* is apparent on several specimens. One shell, from context [819] has been bored internally and is probably an inedible 'rottenback'. Oyster shell size and shape varies; large and very small individuals are present and while most shells are the rounded or sub-rounded form typical for native oysters, some are elongate or exhibit evidence of a change on growth mid way through life (see Campbell 2010).

	Phase 5	Phase 4	Phase 3	Phase 2	TOTAL
Cockle	1				**1**
Freshwater (Painters) mussel	3				**3**
Gastropod indet.	4	1			**5**
Mussel	17				**17**
Oyster	155	32	5	7	**199**
Whelk	3				**3**
Total Result	**183**	**33**	**5**	**7**	**228**

Table 1: Distribution of shells by phase: assessed sieved samples only

Discussion

This is a very small collection of shells most of which were recovered from largely mixed, broadly medieval, deposits. The remains seem to represent unsorted shell, possibly including domestic waste and shells rejected as unsuitable for human consumption. Both juvenile and mature shellfish were present. Given the small number of shells, their generally poor condition and the types of deposits from which they derive (largely mixed deposits within the medieval ditch) no further work is recommended, but publication of the site should include a summary report on the shellfish.

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NON-MARINE MOLLUSCS

E.C. Stafford

Introduction

Eighty-four bulk sample flots from two phases of investigation (2010 and 2011) at Bedale Street were rapidly scanned for the presence/absence of non-marine Mollusca. Several of the flots found to contain quantities of shell were examined in detail. These flots derive from two interventions through a large ditch of predating 1200 (Site Phase 4), which had been re-cut some time after 1200 (Site Phase 5).

On the broadest level the assessment aimed to:

1. Determine the presence/absence of identifiable shell
2. Provide preliminary data on taxonomic content
3. Outline requirements for further work

Method

The 84 samples submitted for assessment derive from bulk samples (8-40 litres) primarily allocated for the retrieval of macroscopic plant remains, bones and artefacts. The mollusc assessment initially comprised rapid scanning of the processed flots under a low power binocular microscope at magnifications of up to x40. More detailed scanning was carried out on a number flots that contained shell (Table 1). Estimates were made on overall abundance of identifiable individuals, as well as key taxa which were recorded on a sliding scale (e.g. + 1-3, ++ 4-12, +++ 13-25, ++++ 26-50, +++++ 51-100, ++++++ >100). Identifications were checked against a modern reference collection. Nomenclature follows Kerney (1999) and habitat information follows Ellis (1926) Evans (1972), Kerney (1999) and Boycott (1936). For the freshwater molluscs in particular; groups defined by habitat preferences consist of the following:

- **Slum species:** those able to live in water subject to stagnation, drying up and large temperature variations
- **Catholic species:** tolerate a wide range of conditions except the worst slums
- **Ditch species:** require clean slowly moving water often with abundant aquatic plants
- **Flowing water species**: require a clean stream with a current

Results and interpretation

Overall shell was moderately abundant in the flots with some samples producing *c* 200 identifiable individuals (Table 1). The condition of the shell was good and the preservation of intact shells of fragile specimens eg. *Lymnaea peregra* suggests minimal mechanical damage.

In terms of taxonomic composition the samples were very similar. The flots were dominated by freshwater species, particularly the flowing water species *Bithynia tentaculata* (mud bithynia or faucet snail) and *Valvata piscinalis* (common valve snail, along with ditch species *Planorbis Planorbis* (common ramshorn), *Planorbis carinatus* (keeled ramshorn) and *Valvata cristata* (flat valve snail).

Freshwater catholic species were present in lower abundance, mainly *Lymanaea peregra* (wandering snail) and *Gyraulus crista* (nautilus ramshorn), but also *Gyraulus albus* (white ramshorn) and *Hippeutis complanatus* (flat ramshorn).

Slum species were rare and restricted to occasional *Lymnaea truncatula* (dwarf pond snail) and *Anisus leucostoma* (white-lipped ramshorn).

Terrestrial species were occasionally present in very low numbers, comprising a mix of catholic species such as *Trichia hispida* (hairy snail), those that require some shade such as *Discus rotundatus* (radiated snail), and open country grass snails such as *Vallonia costata.* The presence of *Helix aspersa* (common garden snail), possibly introduced into Britain during the Roman period, confirms the historical date of the deposits (Kerney 1999, 205).

The abundance of well preserved flowing water and ditch species suggests an *in situ* autochthonous assemblage. The feature probably contained clean water during the period of infilling with some aquatic vegetation, possibly with a slow moving current.

Common species such as *B. tentaculata, V. piscinalis* and *V. cristata* frequent bodies of slow moving well-oxygenated water in lowland rivers, canals and drainage ditches and favour muddy substrates with dense aquatic plants; they are rare in small closed features such as ponds. *B. tentaculata* is often found in profusion amongst common water moss *Fontinalis antipyretica* and *G. crista* on the leaves of *Potamogeton* and other water plants (Ellis 1926, 83-129). *V. piscinalis* can form an important part of the diet of fish (Kerney 1999, 29).

The low numbers of slum species suggests there was no seasonal drying up or desiccation. The consistency of the taxa together with lack of mechanical damage does not point to any higher energy flood events. Although some species such as *L. peregra* and *Theodoxus fluviatilis* can tolerate slightly brackish water (Ellis 1926, 111; Kerney 1999, 24), there were no species clearly indicative of marine incursion.

Recommendations

Although shell was moderately abundant in the samples and considered to be allochthonous, the composition of the taxa was very similar between samples. The environmental signal is clear and no significant change was detected within the feature sequence. It is considered unlikely that further quantitative analysis in terms of shell counts

will add significantly the information presented in this assessment report, therefore no further work is recommended. The results of the assessment, however, do provide supporting data for other categories of remains such as the waterlogged plant remains and should be included referenced in the final report.

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Table 1: Non-marine molluscs (BVG10)

Feature no.		153	182	182	182	182	182	182		603/739	
Phase		4	5	5	5	5	5	5	5	5	5
Sample		17	35	19	8	1	7	4	141	138	139
Context		216	226	189	188	182	186	155	833	828	830
Floated volume (L)		35	40	28	18	15	25	8	28	28	
Terrestrial	**Habitat**										
Discus rotundatus	s			+	+	+					
Oxychilus cellarius	s		+								
Vallonia costata	o		++								
Vallonia sp.	o				+						
Carychium minimum	(M) o					+					
Helix aspersa	c				+						+
Cepaea sp.	c				+						
Vitrea sp.	c		+								
Trichia hispida	(M) c		+		+	+	+		+	+	
Cochlicopa sp.	(M) c					+					
Freshwater											
Theodoxus fluviatilis	F					+					
Bithynia tentaculata	F	+	++	++	++++ +	+++++	++ +	++	++++	+++	++
Valvata piscinalis	F	++ +	++ +	+++ +	+++	+++++ +	++	+	++++ +	+++ +	+
Planorbis planorbis	D			++	+	+	++		+++	++	
Planorbis carinatus	D				+++	+	++ +	+	+	+	
Valvata cristata	D	+	++	++	+	+++	+		++++	+++	+
Anisus vortex	D				++		++		+		
Gyraulus albus	C	++	+	+	+++	+	+		+++	++	+
Bathyomphalus contortus	C										+
Gyraulus crista	C	++	++ +	+++	++++	+++	++		++++	++	+
Hippeutis complanatus	C	+		+	+	+	+		+	+	
Lymnaea peregra	C		+	++	+++	+++	+		++	++	
Anisus leucostoma	S					+				+	+
Lymnaea truncatula	S		+			+			+	+	
Estimated total number of identifiable individuals		35	60	80	200	250	80	6	270	100	30

Key:

Abundance (identifiable individuals): + 1-3; ++ 4-12, +++ 13-25; ++++ 26-50; +++++ 51-100; ++++++ >100

Freshwater habitats: F = flowing water, D = ditch, C = catholic, S = slum

Terrestrial habitats: s = shade demanding, o = open country, c = catholic, (M) = species that tolerate damp conditions

APPENDIX 23: RADIOCARBON DATING REPORT

Scottish Universities Environmental Research Centre

Director: Professor R M Ellam

Rankine Avenue, Scottish Enterprise Technology Park,
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RADIOCARBON DATING CERTIFICATE

09 October 2012

Laboratory Code	SUERC-42326 (GU28363)
Submitter	Rebecca Nicholson Oxford Archaeology South Janus House Osney Mead Oxford OX2 0ES
Site Reference	Bedale Street (BVG10)
Context Reference	225
Sample Reference	32A
Material	Waterlogged Fruit Stone : Prunus cf. cerasus
$\delta^{13}C$ relative to VPDB	-23.3 ‰
Radiocarbon Age BP	890 ± 26

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standards, background standards and the random machine error.

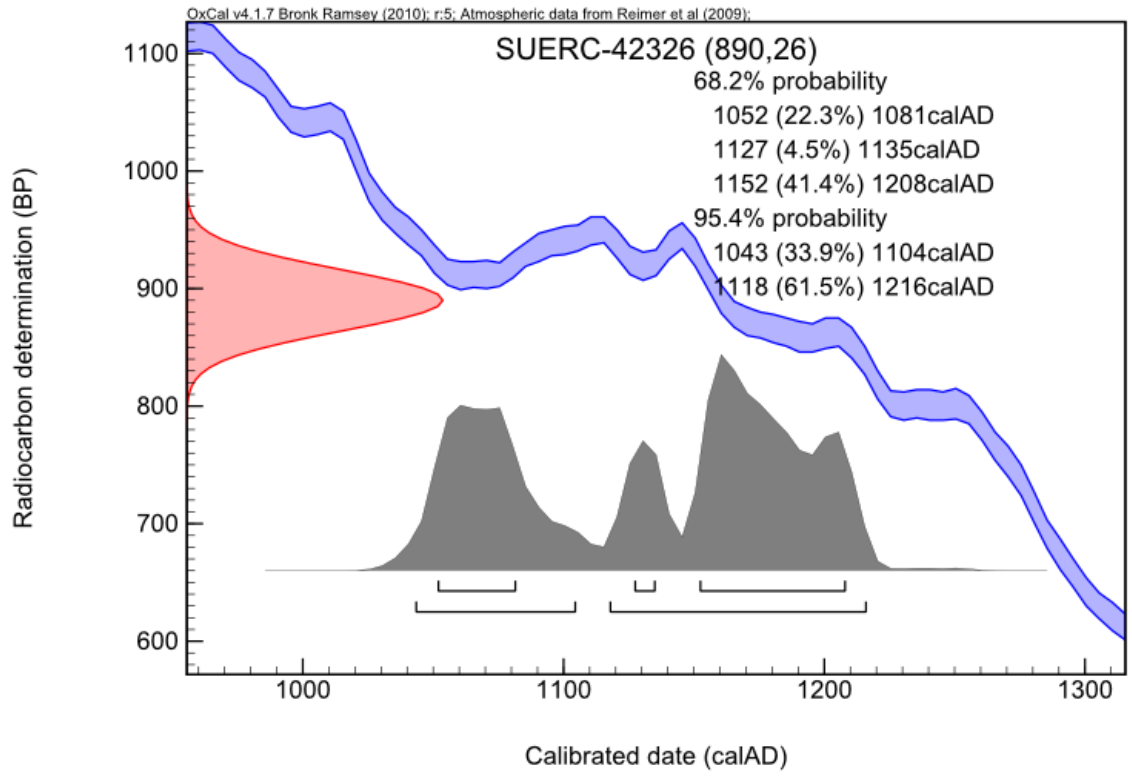
The calibrated age ranges are determined using the University of Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.1 (Bronk Ramsey 2009). Terrestrial samples are calibrated using the IntCal09 curve while marine samples are calibrated using the Marine09 curve.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

Checked and signed off by :- Date :-

Calibration Plot



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RADIOCARBON DATING CERTIFICATE

09 October 2012

Laboratory Code	SUERC-42327 (GU28364)
Submitter	Rebecca Nicholson Oxford Archaeology South Janus House Osney Mead Oxford OX2 0ES
Site Reference	Bedale Street (BVG10)
Context Reference	225
Sample Reference	32B
Material	Charred Grain : Triticum sp. (wheat)
$\delta^{13}C$ relative to VPDB	-29.5 ‰
Radiocarbon Age BP	1926 ± 23

N.B. The above ^{14}C age is quoted in conventional years BP (before 1950 AD). The error, which is expressed at the one sigma level of confidence, includes components from the counting statistics on the sample, modern reference standards, background standards and the random machine error.

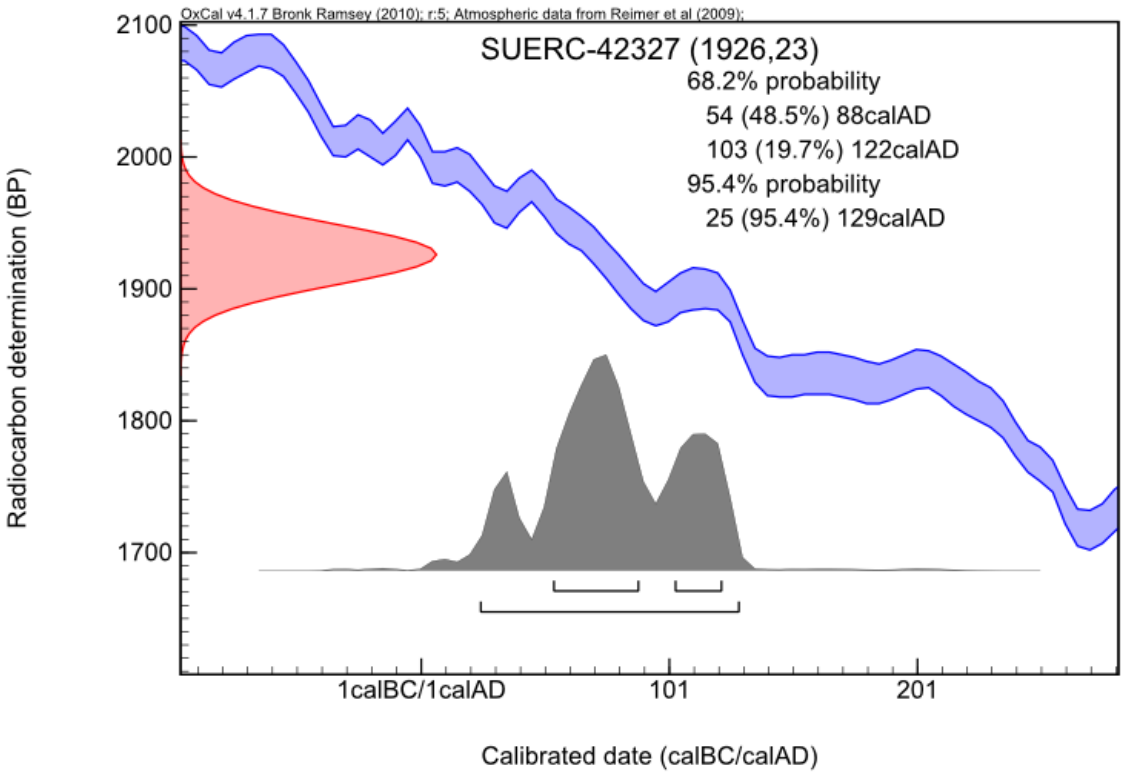
The calibrated age ranges are determined using the University of Oxford Radiocarbon Accelerator Unit calibration program OxCal 4.1 (Bronk Ramsey 2009). Terrestrial samples are calibrated using the IntCal09 curve while marine samples are calibrated using the Marine09 curve.

Samples with a SUERC coding are measured at the Scottish Universities Environmental Research Centre AMS Facility and should be quoted as such in any reports within the scientific literature. Any questions directed to the Radiocarbon Laboratory should also quote the GU coding given in parentheses after the SUERC code. The contact details for the laboratory are email g.cook@suerc.gla.ac.uk or Telephone 01355 270136 direct line.

Conventional age and calibration age ranges calculated by :- Date :-

Checked and signed off by :- Date :-

Calibration Plot



APPENDIX 24: OPTICALLY STIMULATED LUMINESCENCE DATING REPORT

Jean-Luc Schwenninger, Luminescence Dating Laboratory, Research Laboratory for Archaeology and the History of Art, University of Oxford

Field code	Lab. code	Context	Water content (%)	Palaeodose (Gy)	Dose rate (Gy/ka)	Age estimate (years before 2012)
BVG11-01	**X5301**	833	30.8	1.00 ± 0.07	1.00 ± 0.04	1005 ± 85
BVG11-04	**X5304**	836	15.3	1.65 ± 0.40	0.90 ± 0.04	1825 ± 455
BVG11-05	**X5305**	827	11.9	1.98 ± 0.20	1.06 ± 0.05	1870 ± 210

Table 1 Summary of the optically stimulated luminescence (OSL) dating results. The results are based on luminescence measurements of sand-sized quartz (180-255μm). All samples were measured in automated Risø luminescence readers (Bøtter-Jensen, 1988, 1997, 2000) using a SAR post-IR blue OSL measurement protocol (Murray and Wintle 2000, Banerjee *et al.* 2001, Wintle and Murray 2006). Dose rate calculations are based on the concentration of radioactive elements (potassium, thorium and uranium) within the samples as well as field gamma-ray spectroscopy measurements using an NaI detector calibrated against the Oxford block (Rhodes and Schwenninger 2007). The beta dose rates were derived from elemental analysis by ICP-MS/AES using a fusion sample preparation technique and gamma dose rates are based on the in-situ radioactivity measurements. The final OSL age estimates include an additional 2% systematic error to account for uncertainties in source calibration. Dose rate calculations are based on Aitken (1985). These incorporated beta attenuation factors (Mejdahl 1979), dose rate conversion factors (Adamiec and Aitken 1998) and an absorption coefficient for the water content (Zimmerman 1971). The contribution of cosmic radiation to the total dose rate was calculated as a function of latitude, altitude, burial depth and average over-burden density based on data by Prescott and Hutton (1994).

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Details of OSL analysis

Sample client code	**BVG11-01**	**BVG11-04**	**BVG11-05**
Laboratory code	**X5301**	**X5304**	**X5305**
Palaeodose (Gy)	1.00	1.65	1.98
Total uncertainty	0.07	0.40	0.20

Measured uncertainty	0.07	0.40	0.20
Calibration error (2%)	0.02	0.03	0.04
Grain size			
Min. grain size (mm)	180	180	180
Max grain size (mm)	255	255	255
External dose rate (Gy/ka)	0.368	0.211	0.323
error	0.018	0.011	0.016
Measured concentrations			
standard fractional error	0.050	0.050	0.050
% K	0.820	0.680	0.720
error (%K)	0.041	0.034	0.036
Th (ppm)	3.800	3.900	4.000
error (ppm)	0.190	0.195	0.200
U (ppm)	1.100	1.100	1.000
error (ppm)	0.055	0.055	0.050
Cosmic dose calculations			
Depth (m)	5.140	5.000	4.860
error (m)	0.200	0.200	0.200
Average overburden density (g.cm^3)	1.900	1.900	1.900
error (g.cm^3)	0.100	0.100	0.100
Latitude (deg.), north positive	51	51	51
Longitude (deg.), east positive	0	0	0
Altitude (m above sea-level))	6	6	6
Cosmic dose rate (Gy/ka)	0.111	0.112	0.114
error	0.009	0.009	0.010
Moisture content			
Measured water content (%)	30.79	15.29	11.90
Estimated mean moisture content	0.310	0.150	0.120
error	0.030	0.030	0.030
Total dose rate, Gy/ka	1.00	0.90	1.06
error	0.04	0.04	0.05
AGE (years before 2012)	1005	1825	1870
error	85	455	210

APPENDIX 25: OASIS FORM

OASIS ID: preconst1-137710

Project details

Project name	Thameslink Archaeological Assessment 4: Archaeological Excavations at 2-4 Bedale Street, London Borough of Southwark
Short description of the project	The archaeological sequence at Bedale Street comprised two phases of excavation and watching briefs in underpinning pits over 2010-2011. The earliest deposits were heavily truncated natural sands and gravels succeeded by a well defined, if truncated, phases of Roman occupation which included a clay and timber building along with episodes of pitting and exterior gravel surfaces. Cutting the Roman deposits were the most significant features found at 2-4 Bedale Street a late 12th century ditch and its later 13th century re-cut which may have run along the same course as Roman or Saxon boundary ditches. The medieval boundary defined by this ditch may be reflected in the modern street pattern. The boundary delineated by these roads could have enclosed Southwark's medieval settlement. A series of medieval cess and rubbish pits were seen to have been excavated and filled prior to, during and after the use of the ditch and its re-cut during the medieval period. Following the disuse of the ditch re-cut a chalk wall foundation was constructed on the site. A variety of post-medieval features were also revealed , including pits, brick-lined cess pits, walls and a potential floor and two soakaways, which were recorded for the most part truncating the uppermost fills of the ditch re-cut. The wall foundations and floor related to the post-medieval properties that were extant on Bedale Street prior to their modern replacements
Project dates	Start: 01-07-2010 End: 30-11-2011
Previous/future work	Yes / No
Any associated project reference codes	BVG10 - Sitecode
Type of project	Recording project
Site status	Local Authority Designated Archaeological Area
Current Land use	Industry and Commerce 3 - Retailing
Monument type	PITS Medieval
Monument type	DITCH/GULLY Roman

Monument type DITCH Medieval

Monument type DITCH RE-CUT Medieval

Monument type WALL FOUNDATION Medieval

Monument type BRICK LINED CESS PITS Post Medieval

Monument type BRICK LINED SOAKAWAYS Post Medieval

Monument type WALL FOUNDATIONS Post Medieval

Monument type BRICK FLOOR FRAGMENT Post Medieval

Monument type DUMPED DEPOSITS Medieval

Monument type DUMPED DEPOSITS Post Medieval

Monument type PITS Medieval

Monument type PITS Post Medieval

Monument type WELL Medieval

Monument type CESS PIT Medieval

Monument type STAKEHOLES Medieval

Monument type PITS Roman

Monument type CLAY AND TIMBER BUILDING Roman

Monument type GRAVEL SURFACE Roman

Monument type POSTHOLE Roman

Monument type DUMPED DEPOSITS Roman

Significant Finds	POTTERY Roman
Significant Finds	POTTERY Early Medieval
Significant Finds	POTTERY Medieval
Significant Finds	POTTERY Post Medieval
Significant Finds	ANIMAL BONE Roman
Significant Finds	ANIMAL BONE Medieval
Significant Finds	ANIMAL BONE Post Medieval
Significant Finds	CBM Roman
Significant Finds	CBM Medieval
Significant Finds	CBM Post Medieval
Significant Finds	GLASS Roman
Significant Finds	GLASS Medieval
Significant Finds	GLASS Post Medieval
Significant Finds	FE OBJECTS Roman
Significant Finds	FE OBJECTS Medieval
Significant Finds	FE OBJECTS Post Medieval
Significant Finds	LEATHER Medieval
Significant Finds	FISH BONE/SHELL Roman
Significant Finds	FISH BONE/SHELL Medieval

Significant Finds	FISH BONE/SHELL Post Medieval
Significant Finds	COINS Roman
Significant Finds	CLAY TOBACCO PIPE Post Medieval
Significant Finds	LITHICS Early Neolithic
Significant Finds	LITHICS Early Bronze Age
Investigation type	'"Full excavation"',"'Watching Brief"'
Prompt	Planning condition

Project location

Country	England
Site location	GREATER LONDON SOUTHWARK SOUTHWARK 2-4 Bedale Street
Study area	150.00 Square metres
Site coordinates	TQ 32652 80219 51 0 51 30 17 N 000 05 18 W Point
Height OD / Depth	Min: 0.26m Max: 1.30m

Project creators

Name of Organisation	Oxford Archaeology-Pre-Construct Archaeology
Project brief originator	Network Rail and Southwark Council
Project design originator	Dan Poore and Peter Moore
Project director/manager	Dan Poore and Peter Moore
Project supervisor	James Young Langthorne

Project supervisor	Joanna Taylor
Name of sponsor/funding body	Network Rail

Project archives

Physical Archive recipient	LAARC
Physical Archive ID	BVG10
Physical Contents	"Ceramics","Glass","Metal","Worked stone/lithics","Animal Bones"
Digital Archive recipient	LAARC
Digital Archive ID	BVG10
Digital Contents	"other"
Digital Media available	"Database","GIS","Images raster / digital photography","Spreadsheets","Survey","Text"
Paper Archive recipient	LAARC
Paper Archive ID	BVG10
Paper Contents	"other"
Paper Media available	"Context sheet","Diary","Matrices","Photograph","Plan","Section","Unpublished Text"

Project bibliography 1

Publication type	Grey literature (unpublished document/manuscript)

Title	Thameslink Archaeological Assessment 4: Archaeological Excavations at 2-4 Bedale Street, London Borough of Southwark
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