Sadler Bridge Studios, Bold Lane, Derby: Archaeological Archive Report, Final

October 2020

Client: Derby City Council

Issue No: 2019-2020/2069
OA Reference No: L11222
NGR: SK 3510 3634

oxfordarchaeology

Client Name:	Derby City Council
Document Title:	Sadler Bridge Studios: Archaeological Archive Report
Document Type:	Archive Report: Final
Grid Reference:	SK 3510 3634
Site Code:	BL07/PSD13
Invoice Code:	L11222
OA Document File Location:	X:\Richard\L11222_Sadler_Bridge_Studios
OA Graphics File Location:	X:\Richard\L11222_Sadler_Bridge_Studios
Issue No:	2019-2020/2069
Date:	10/19/20
Prepared by:	Richard Gregory, Senior Project Manager
Approved for Issue by:	Rachel Newman, Senior Executive Officer: Publication and Research
Signature:	

Disclaimer:
This document has been prepared for the titled project or named part thereof and should not be relied upon or used for any other project without an independent check being carried out as to its suitability and prior written authority of Oxford Archaeology being obtained. Oxford Archaeology accepts no responsibility or liability for the consequences of this document being used for a purpose other than the purposes for which it was commissioned. Any person/party using or relying on the document for such other purposes agrees and will by such use or reliance be taken to confirm their agreement to indemnify Oxford Archaeology for all loss or damage resulting therefrom. Oxford Archaeology accepts no responsibility or liability for this document to any party other than the person/party by whom it was commissioned.

OA South
Janus House
Osney Mead
Oxford
OX2 0ES

t. +44 (0)1865 263 800

OA East
15 Trafalgar Way
Bar Hill
Cambridge
CB23 8SG

t. +44 (0)1223 850 500

OA North
Mill 3
Moor Lane Mills
Moor Lane
Lancaster
LA1 1QD
t. +44 (0)1524 541000

e. info@oxfordarchaeology.com
w. oxfordarchaeology.com
Oxford Archaeology is a registered Charity: No. 285627

Sadler Bridge Studios, Bold Lane, Derby

Archaeological Archive Report

Contents

List of Plates

List of Tables

Summary

Oxford Archaeology North was commissioned by Derby City Council to undertake a programme of archaeological analysis and reporting to satisfy an outstanding planning condition on the Sadler Bridge Studios Building, Derby (centred on NGR SK 3510 3640). The analysis focuses on an important archaeological dataset, which was recovered during an archaeological evaluation and excavation, respectively completed at the site in 2009 and 2013 by OA North, prior to redevelopment.

Much of the recovered data relates to medieval activity that occurred in the rear portions of two burgage plots extending from Sadler Gate. The excavated remains included cess/refuse pits, timber buildings, fence-lines, and cultivation soils, dating to the twelfth-fourteenth centuries, and cess/refuse pits dating to the fifteenth/sixteenth centuries. Most of these features were associated with medieval pottery and other artefacts, whilst six cess/refuse pits were also extremely rich in palaeoenvironmental remains. Other evidence from the site relates to post-medieval activity involving small-scale industry, including the manufacture of clay tobacco pipes, and the establishment of brick-built properties along the street frontage.

The archaeological analysis considered the stratigraphic data; a selection of palaeoenvironmental remains recovered from the six later medieval cess/refuse pits; and components of the finds assemblage, specifically medieval pottery and clay tobacco pipes. In addition, other artefacts from the site, along with the animal bone, examined as part of an earlier post-excavation assessment, were reconsidered and requantified in light of the analysis of the stratigraphic data.

This report presents the full results of the various analyses and forms an element of the site archive. In addition, the report acts as a companion piece for a publication text that has been prepared for the *Derbyshire Archaeological Journal*, which explicitly focuses on the medieval remains from Sadler Bridge Studios.

Acknowledgements

Oxford Archaeology North would like to thank Emma Dann, Principal Regeneration Manager, Derby City Council, for commissioning the project. Thanks are also extended to Steve Baker, County Archaeologist, who monitored the work on behalf of Derby City Council, for his advice and guidance throughout all stages of the project.

The project was managed for Oxford Archaeology North by Richard Gregory, who also completed background research, stratigraphic analysis, and overall integration of the datasets, including those that formed elements of an earlier archaeological assessment. A range of specialists also completed the analyses of elements of the artefactual and palaeoenvironmental assemblages recovered from the site. From Oxford Archaeology, these were Denise Druce, who undertook the analysis of the plant remains, and Rebecca Nicholson, who considered fish bone. In addition, several external specialists were also engaged in the analysis phase. These included Christine Howard-Davis, formerly Finds Manager at Oxford Archaeology North, and David Higgins, a freelance specialist, who respectively undertook the analysis of the pottery and clay-tobacco pipe assemblages. Enid Allison, of the Canterbury Archaeological Trust, completed the analysis of the insect remains. This report was written by Richard Gregory, the illustrations being prepared by Adam Parsons, and the report was edited by Rachel Newman.

1 INTRODUCTION

1.1 Circumstances of the project

1.1.1 Oxford Archaeology (OA) North was commissioned by Derby City Council to undertake a programme of archaeological analysis and reporting to satisfy an outstanding planning condition on the Sadler Bridge Studios, Derby (former Princes' Supermarket). The analysis relates to a medieval and post-medieval archaeological dataset, including important artefactual and palaeoenvironmental materials, which were recovered during an archaeological evaluation and excavation, respectively completed at the site in 2009 and 2013 by OA North (OA North 2010; 2015).

1.2 Aims and objectives

1.2.1 The analysis has been conditioned and structured by the results of an earlier phase of post-excavation assessment, completed in 2014 (OA North 2015). This recommended that the following elements should be completed:

- detailed analysis of the stratigraphic data;
- analysis of a selection of the palaeoenvironmental remains;
- radiocarbon dating of suitable samples, that might provide further insights into the chronology of the site;
- analysis of the medieval and post-medieval pottery;
- analysis of an assemblage of clay tobacco-pipe kiln waste;
- further quantification of the animal bone;
- summaries of other artefactual materials, in light of the analysis of the stratigraphic data;
- targeted research;
- production of a final archive report and publication text;
- archive deposition.

1.2.2 This document forms the archaeological archive report, providing full details of the results of the archaeological analysis. It therefore presents the results of the stratigraphic analysis (*Section 2*), details all of the artefacts recovered from the site (*Section 3*), and presents the results of the analyses of the palaeoenvironmental materials (*Section 4*). However, the most significant results, relating to medieval occupation at the site, will also appear in an academic article submitted to the *Derbyshire Archaeological Journal* (Gregory forthcoming), which also sets the site within its local context.

1.3 Site location, topography, and geology

1.3.1 The site (centred on NGR SK 3510 3640; Fig 1) is on the eastern side of Bold Lane, occupying a plot situated between the medieval streets of Sadler Gate and St Mary's Gate, in the medieval core of Derby. The site lies at a height of *c* 48m above Ordnance

Datum (aOD). The ground rises gently to the east, away from Markeaton Brook, a tributary of the River Derwent, which flows south along the western side of Bold Lane, though this watercourse was culverted in the late nineteenth century (OS 1882).

1.3.2 The solid geology of Derby consists of Triassic Mudstone (Keuper Marl). The site is situated in the valley floor of the River Derwent and, as such, the superficial geology comprises floodplain alluvium overlying deposits of sand and gravel (Mello 1876).

1.4 Archaeological investigation

1.4.1 Two phases of archaeological excavation were completed at Sadler Bridge Studios, both of which were formulated through consultation with the Derbyshire County Archaeologist (*cf* OA North 2010; 2015). The first phase of work comprised the excavation of five evaluation trenches in 2009, three of which (1, 3, and 4) lay directly within the area that would be later covered by the site of the Sadler Bridge Studios (Fig 2). These trenches proved insightful in that they suggested that this area contained significant medieval and post-medieval remains (*Sections 2.2-2.4*), though the medieval remains were confined to the two trenches (3 and 4) that were furthest from the Bold Lane street frontage. Moreover, one of the trenches (Trench 4) also produced a small structure that was associated with a significant assemblage of clay tobacco-pipe kiln waste (*Section 2.7.1*).

1.4.2 In 2013, a second, more extensive phase of archaeological excavation was undertaken, which focused directly on the area that would be destroyed by the footprint of the Sadler Bridge Studios (Plate 1). During this phase of work, five areas (Areas A-E; Fig 2) were subjected to excavation, which together covered approximately 322m². These excavation areas contained a dense swathe of medieval features, associated with artefacts and ecofacts, and also post-medieval structures and artefacts. Other remains encountered at the site dated to the twentieth century, many of which were associated with a former supermarket that lay at the site; full details of these are contained in a post-excavation assessment report, that forms another element of the site archive (OA North 2015).

Plate 1: The open-area excavation in progress (Areas A-C), looking north-east

1.5 Historical background

1.5.1 ***Roman period:*** a Roman settlement known as *Derventio* was founded at Little Chester, on the north-eastern fringe of modern Derby, and in the absence of any known prehistoric remains, this may represent the earliest activity in the area. Two Roman forts are known to have been established there (Myers 2000), the earliest at Strutts Park, situated *c* 1.4km to the north-east of the present study area, which is thought to have been established around AD 50 (T Higgins 1999). Another fort was then constructed on the opposite bank of the River Derwent in *c* AD 70, which was formed the focus for the development of an extramural settlement. Excavations directed by M Brassington in the early 1970s produced evidence of Roman industrial activity, including pottery manufacture, together with a large cemetery containing mausolea (Myers 2000). A possible bath-house with a hypocaust was also recorded in the 1920s (*ibid*). The centre of Roman activity thus lies to the north of the Sadler Bridge Studios site, whilst the nearest Roman find spot was discovered some 0.6km due east, comprising a single coin found during excavations at Exeter Bridge in 1923 (*ibid*).

1.5.2 ***Early medieval period:*** documentary evidence suggests that an early medieval settlement (*burh*) existed at Derby, which is first mentioned in the *Chronicle of Aethelweard* in AD 871, when it was known as *Northworthy* (Hall 1974). Moreover, this documentary evidence suggests that at this time the settlement must have held some regional significance, perhaps being the seat of a Mercian noble family, as it was selected as the final resting place for the Berkshire ealdorman Aethelwulf, who had been killed in battle whilst fighting the Danes at Reading (*ibid*). Although the precise location of the early medieval settlement area is difficult to ascertain (Barratt 2000a, 6), reviews of the relevant documentary, topographical and archaeological evidence (Hall 1974; Wardle 2019) have speculated that, prior to any medieval urban

development, Derby's historic core was traversed by a north/south thoroughfare, which followed the course of King Street, Queen Street and Iron Gate (Hall 1974, 27). It is further suggested that urban development probably began at some point after the late eighth or early ninth century, along the northern part of this principal route, in the general area of the town's early churches (*Section 1.5.7*), with the settlement, perhaps acquiring recognisable urban characteristics in the tenth century (Hall 1974, 21; Wardle 2019, 39).

1.5.3 Place-name evidence indicates a Viking influence; 'Derby' derives from the Old Norse word '*Deorby*', which breaks down into *'Deor'*, meaning 'deer' or 'wild animal', and *'by'*, a general word for settlement (Northcote and Toller 1898). The Vikings arrived in the area in the 870s, and Derby subsequently became one of the five boroughs of the Danelaw (Rogerson 1998). Documentary evidence suggests that the town continued to function as a major economic centre during this period (Barrett 2000a). An example of its economic status derives from evidence concerning the founding of a major mint in the city, which produced coins in 924-39, during the reign of Athelstan (Blunt 1972, 93), and it also briefly minted coins for Olaf Guthfrithson, in 939-41, after he had taken control of York (Hadley 2006, 172).

1.5.4 Notwithstanding the importance of Derby during the early medieval period, physical evidence of Anglo-Saxon and Viking occupation in the city is rare. Several burials were identified during excavations at Little Chester in the 1970s, situated approximately 1km to the north-east of the development site, although the information derived from these excavations awaits publication (Barrett 2000a). Excavations in 1968, at St Alkmund's Church (Fig 1), situated approximately 0.6km to the north of the development site, revealed the remains of a sequence of churches dating back to that period, the earliest phase of construction being thought to be pre-ninth century (Ralegh Radford 1976). An elaborately decorated sarcophagus was recovered from the south-east corner of that building, and was interpreted as being intended to house the relics of St Alkmund (later translated to Shrewsbury). In addition, the fragmentary remains of seven pre-Conquest carved stones were also recovered during construction of the new church in the nineteenth century, and by the 1968 excavation, which are typologically typical of this period. These included several fragments of ninth-century crosses and two eleventh-century grave covers (*cf* Hawkes and Sidebottom 2018).

1.5.5 Several burials were also recorded at St Alkmund's Church (Ralegh Radford 1976). Most of these are probably contemporary with the original church, although four are thought to be later, 'charcoal' inhumations, dating to the tenth century. A silver penny was also recovered, inscribed '*MIRABLIA FECIT*' and '*DOMINUS DEUS OMNIPOTES REX*' (*ibid*).

1.5.6 Other finds include the rim of a Stamford-ware-type cooking pot, found during works in Tenant Street, *c* 0.5km to the south-east of the study area (Derbyshire County Council HER 32401-MDR10555). This is thought to date to the Saxo-Norman period (*cf* Hall 1972). In addition, a possible early medieval pin was found during excavations at Full Street, less than 0.3km to the east of the development site (*ibid*).

1.5.7 ***Later medieval period:*** by the later medieval period, Derby functioned as the region's major market town (Coates 1965, 94; Barrett 2000b, 2), which had received its town charter in *c* 1200 from King John (Steer 1989, 25). It also formed an important ecclesiastical centre, with six churches present in the eleventh century. Close to the King Street/Queen Street thoroughfare in the northern part of the town were the two collegiate churches of St Alkmund and All Saints, and perhaps also the churches of St Michael and St Mary (Cox 1879, 70; Hall 1974, 18). Another church that was seemingly in existence prior to 1066 (based solely on its dedication; Hall 1974, 18) was the church of St Werburgh, to the south-west of Sadler Bridge Studios. By the mid-twelfth century, two monastic houses had also been established in the town (St Helen's, an Augustinian priory, and St James', a Cluniac house), one of which (St James) seems to have first existed as a church in the early twelfth century (*ibid*; Knowles and Hadcock 1953, 267). Probably in the late thirteenth century, the bridge chapel of St Mary was built at the northern end of the medieval settlement (Currey 1931), whilst in the earlier part of the thirteenth century, prior to 1239, a Dominican friary was established on the western side of the town (Knowles and Hadcock 1953, 184).

1.5.8 The extent and form of the later medieval town, or more accurately that which probably existed at the end of the period, can be discerned by considering the earliest historical town plans, which date to the late sixteenth and early seventeenth centuries. John Speed's map of the town (Fig 3), dating to 1610, is particularly useful in this respect, being the earliest detailed map to show the complete extent of the town, and also the positions of its medieval Market Place and most of the medieval churches (apart from St Mary's Church; *Section 1.5.10*). This suggests that the main area of the late medieval town was focused close to the confluence of the River Derwent and the Markeaton Brook (now a culverted watercourse; *Section 1.3.1*), with the former hemming in the eastern side of the town and the latter probably bounding its southern and western sides, with some further areas of urban ribbon development just south of the Markeaton Brook, along Friar Gate, leading to the Dominican friary (*Section 1.5.7*), and in the vicinity of St Peter's church. It is also worth noting that the 'undefended' northern side of the town, as depicted on Speed's map, may originally have been enclosed by a substantial town ditch, a section of which was seemingly revealed during an archaeological evaluation and watching brief carried out close to St Helen's Abbey (Derbyshire HER MDR12193).

1.5.9 Speed's map also indicates that the urban area lay on either side of the principal north/south route, which was certainly at least a medieval foundation (*Section 1.5.2*). The northern section of this route is unnamed on Speed's map, though it would later become Queen Street, the central section was Iron Gate, the name suggesting that this area had an association with ironworking, whilst the southern section was named Corn Market. The Corn Market and Iron Gate led directly to the Market Place, and the latter route also bounded the eastern side of the large square area that now contains Sadler Bridge Studios and the former Council Offices. All Saints Church (which became Derby Cathedral from 1927 onwards; Dufty 1961) was also close to the north-eastern corner of this area, on the eastern side of Iron Gate, and was one of the town's two

medieval collegiate churches, the other being the church of St Alkmund, further to the north (*ibid*).

1.5.10 Speed's map of 1610 also depicts numerous east/west-aligned streets in the main urban area north of Markeaton Brook, extending from the main north/south route of Queen Street/Iron Gate/Corn Market. Again, many of these are probably later medieval foundations and two, St Mary's Gate and Sadler Gate, on the western side of Iron Gate, bounded the northern and southern sides of the large square area containing the Sadler Bridge Studios (Fig 1). The street name, Sadler Gate, suggests that this route had a connection with leatherworking, whilst St Mary's Gate was probably named after 'the lost and somewhat mysterious' medieval church of St Mary's (Currey 1931, 62) that could have stood somewhere along this road, perhaps at the corner of St Mary's Gate and Queen Street (Steer 1988, 118). On the western side of the town, Speed's map also depicts another street, Bowde Lane (Bold Lane), which probably also formed part of the later medieval town, and bounded the western side of the large square area containing Sadler Bridge Studios, and is also now the street on which the studios are. Bold Lane was parallel to Iron Gate, and at the point where it converged with Sadler Gate, there was probably a late medieval bridge which spanned the Markeaton Brook.

1.5.11 Importantly, Speed's map indicates that, at least by the beginning of the seventeenth century, the area hemmed in by these four medieval streets contained properties along all of the respective street frontages, some presumably medieval, or, if not, they occupied the sites of former medieval buildings. Although Speed's map is fairly schematic in relation to the precise location of these properties, fortunately, further details can be gleaned from a map of 1599, made by an unknown cartographer, which is held in the Chatsworth House Archives, a copy of which was published by Margaret Mallender (1977; *cf* Steer 1988, 128; Plate 2).

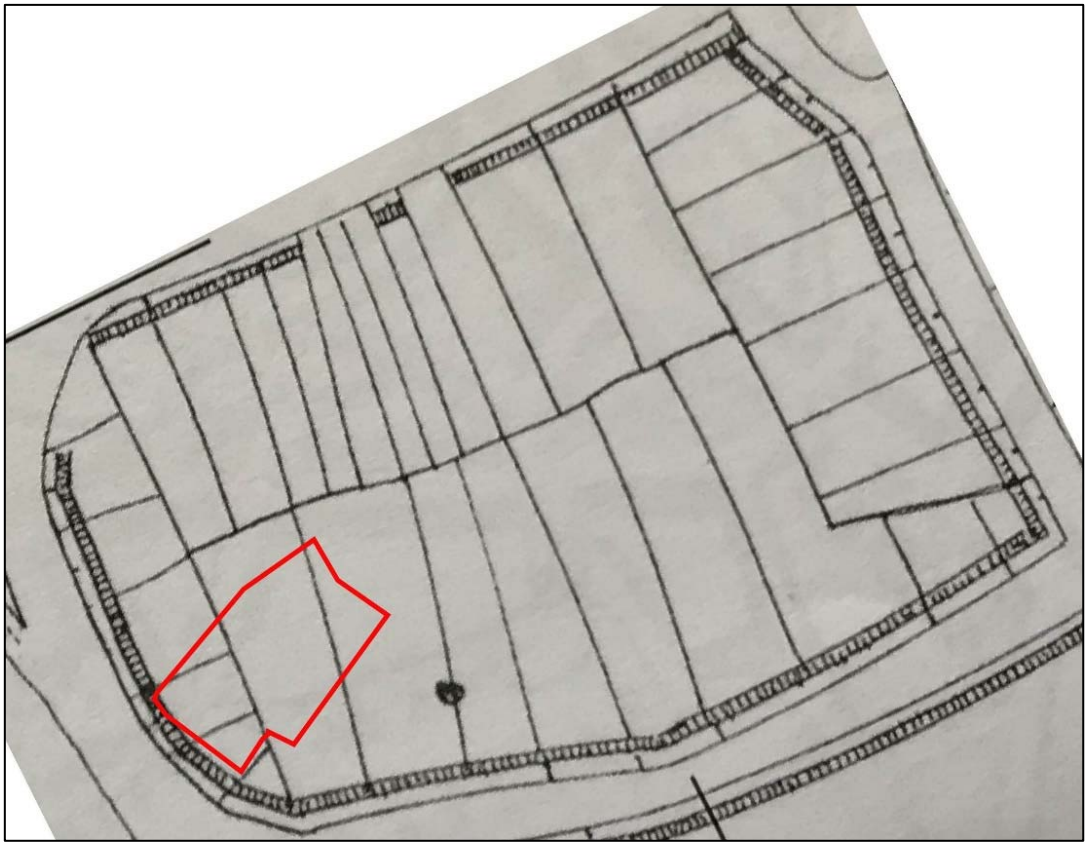

Plate 2: Extract from a map of 1599, showing the approximate position of the site

1.5.12 This map indicates that, apart from the corner of Bold Lane and St Mary's Gate, and at a few locations along St Mary's Gate, all of the four streets were indeed lined by properties by the end of the sixteenth century. Significantly, this plan indicates that those properties fronting Sadler Gate and St Mary's Gate were situated within long north/south-aligned linear plots, which probably mark the position of the earliest burgage plots. The properties fronting Iron Gate were also contained in linear plots, again probably originating in the medieval period, though these were at that time shorter in length than those on Sadler Gate and St Mary's Gate. Conversely, the properties fronting Bold Lane were contained in very compact plots, which suggests that these properties were a later development, perhaps relating to the establishment of late sixteenth-century buildings along this route. Although the scale of the map is imprecise, its best fit with historical and modern Ordnance Survey (OS) mapping suggests that the site of the Sadler Bridge Studios covered two of the suspected late medieval burgage plots (Burgage Plots 1 and 2) that fronted Sadler Gate, and three of the potentially later (early post-medieval?) plots that fronted Bold Lane (Plots 3-5; Fig 4).

1.5.13 ***Post-medieval period:*** throughout the post-medieval period, the principal pattern of (late medieval/early post-medieval) streets depicted on Speed's map was largely retained, as evidenced from town maps dating to the late eighteenth and nineteenth centuries (*Section 1.5.14*), though during the nineteenth century the town's urban area progressively expanded outwards. The large area bounded by St Mary's Gate, Iron Gate, Sadler Gate, and Bold Lane continued to form an integral part of the urban core, though it was progressively rebuilt and altered throughout this period. Its form

in the late eighteenth century is depicted on Moneypenny's map of 1791, which indicates that by this date the area contained a series of large irregular building ranges, fronting the four principal streets, which interestingly enclosed a central area composed of horticultural plots, probably the last vestiges of the late medieval burgages. It is likely that by this date the earlier post-medieval buildings that may have existed along these streets had been demolished and replaced by brick-built properties, and within the area of the Sadler Bridge Studios, these buildings included a large detached linear range, positioned at the corner of Bold Lane and Sadler Gate, with two projecting easterly bays and, to the north-west, part of an irregular-shaped building, fronting Bold Lane (Fig 4). The positioning of these buildings, as shown on the map of 1791, indicates that at some stage in the earlier post-medieval period the plots (Plots 3-5) depicted on the map of 1599 fronting Bold Lane had been extended back across the two later medieval plots (Burgage Plots 1 and 2) at the far western end of Sadler Gate, as had those on iron Gate. This clearly relates to a reorganisation of earlier landholdings, which also entailed the establishment of an early post-medieval boundary that cordoned off the Sadler Gate properties and cut across the earlier burgage plots fronting this street.

1.5.14 Early nineteenth-century mapping (*eg* Brayley's map of 1806, and Rogerson's town plan of 1819) indicates that, in the second decade of the nineteenth century, this irregular-shaped building on the Sadler Gate Studios site had been extended, through the addition of a linear range tagged onto its north-eastern side. By the mid-nineteenth century, a map of the town dating to 1852, produced by the Board of Health, indicates that many of the buildings in the area, sandwiched between Sadler Gate and St Mary's Gate, had been extended/altered and portions of the central horticultural plots had also been covered by additional smaller buildings and a backstreet, named George Yard. This backstreet dog-legged to the rear of Sadler Gate following the course of a boundary depicted on the 1791 map, and this route continues to form a feature of the present-day area, which bounds the eastern side of the Sadler Bridge Studios (Fig 4). The impression gained from the map of 1852 is that during this period the main streets were lined with commercial concerns, with workshops and stores to the rear. Indeed, this is supported by entries made in commercial directories dating from mid-nineteenth century (*eg* Glover 1829; Pigot & Co 1835), which indicate that the properties lining Bold Lane, St Mary's Gate, Sadler Gate, and Iron Gate were occupied by retailers and craftsmen, in addition to being used as domestic residences. The trades listed in these directories are fairly varied and include basket makers, ironworkers, leatherworkers, builders, cabinetmakers, coopers, joiners, dyers, rope makers, and lace manufacturers. Several merchants are also listed, including coal merchants, corn and flour dealers, tea dealers, and silk merchants, and together this evidence demonstrates that this part of Derby formed an important commercial locus at that time.

1.5.15 Significantly, the buildings on the Sadler Bridge Studios site during this period seem to represent a microcosm of the types of structures encountered more generally across this area. For instance, the map of 1852, and also the OS map of 1882 (Fig 5), which shows an identical, albeit clearer, arrangement of buildings to those on the 1852 map, suggests that the large linear range depicted on the map of 1791 (*Section*

1.5.13) was actually composed of (or demolished and rebuilt as) a collection of buildings that included three commercial/residential structures fronting the main street, with a hodgepodge of smaller buildings to the rear, probably workshops and stores. It also seems that by the mid-nineteenth century the area covered by these buildings had been extended further eastwards. These maps also indicate that the irregular building depicted on the early maps (*Section 1.5.13*), immediately to the north-west, was a commercial concern, fronting Bold Lane, which in 1882 functioned as a public house. Tagged on the rear of this building was the linear range that was in existence by 1819 (*Section 1.5.14*), which mid-late nineteenth-century mapping indicates was composed of several small buildings, which again could have functioned as workshops or stores, or even small residential units. Beyond the Sadler Bridge Studios site, in the other areas sandwiched between Bold Lane, St Mary's Gate, Sadler Gate, and Iron Gate, similarly, OS mapping (OS 1882; 1901) indicates that the pattern of building development evident in the mid-nineteenth century was largely retained in the latter part of the century. However, in the early part of the twentieth century, it is evident from OS mapping (*ie* OS 1914) that much of the earlier building stock was cleared, and at times replaced with 'new' buildings, a process which continued throughout the remainder of the twentieth century.

2 STRATIGRAPHIC ANALYSIS

2.1 Introduction

2.1.1 The more significant archaeological remains recorded during the evaluation and open-area excavations (*Section 1.4*) could be divided into six broad phases of activity. These included early medieval artefacts, perhaps relating to some form of low-level activity on the site (Phase 1?), later medieval remains (Phase 2), dating between the twelfth and fourteenth centuries, and also remains (Phase 3) dating to the fifteenth-sixteenth centuries, which reflect activity at the end of the medieval period, or even the very beginning of the post-medieval period. The Phase 2 and 3 remains relate to activity within the two late medieval burgage plots fronting Sadler Gate.

2.1.2 A small collection of later post-medieval remains (Phase 4; seventeenth-late eighteenth century) were also present that reflect activity in this period, again probably occurring within the confines of the late medieval/early post-medieval burgage plots. The next phase (Phase 5) relates to the construction of Georgian buildings on the site in the eighteenth century, which also seems to have entailed the reorganisation of the earlier landholdings, whilst a final phase (Phase 6) relates to the construction of early nineteenth-century workshops.

2.1.3 In terms of the pattern of survival, the remains pre-dating the late eighteenth century (Phases 1?-4) were present in Areas A-D (Fig 4), and also in evaluation Trenches 3 and 4. Hence, none were encountered directly adjacent to the Bold Lane street frontage (in evaluation Trench 1), and it was evident that any that had existed there would have been destroyed during the construction of a late eighteenth-century cellar (Phase 5; *Section 2.6.1*). In addition, no significant archaeology survived in Area E, and, indeed, the only remains present in this trench comprised a modern wall, which rested on a concrete foundation (OA North 2015).

2.2 Phase 1: Early medieval activity?

2.2.1 Intriguingly, several sherds of pottery were recovered from the site that may have a pre-Conquest origin (Thetford-type wares and Stamford-type wares; *Sections 3.2.8* and *3.2.9; Appendix A*). The sherds came from medieval garden soils (***31*** and ***231/342***; *Section 2.3.19*) and a midden deposit (**32**; *Section 2.3.20*), pits (Phase 2 pits ***73***, ***177***, ***199***, ***212***, ***302***, ***327***, ***339***, and ***346***; *Section 2.3.2*), a levelling layer (***205/206***) and an occupation layer (***182***), respectively associated with two later medieval buildings (Buildings 1 and 2; *Sections 2.3.12* and *2.3.15*), and also from a post-medieval ditch (***147***; *Section 2.5.3*) in the vicinity of one of these buildings (Building 2). However, it must be stressed that whilst some of this material may date to the ninth/tenth centuries, such pottery continued in use much later (*Section 3.2.8*). This said, there is one sherd from a medieval garden soil (***231***/***342***) which does seem to derive from a definite ninth- or tenth-century vessel (*Section 3.2.10*).

2.2.2 It is therefore difficult to ascertain precisely how these items arrived at the site, but there are several possibilities: they might, for example, represent curated vessels or early medieval vessel types that continued to be made at a later date, that were deposited during the late medieval period. Alternatively, they were perhaps the

product of direct, low-level early medieval activity (Phase 1?) in this part of Derby, perhaps associated with cultivation.

2.3 Phase 2: Late medieval (twelfth-fourteenth-century) burgage plots

2.3.1 Later medieval features and deposits were the most extensive archaeological remains at the site and comprised large cess/refuse pits and smaller rubbish pits, postholes, gullies and floor surfaces, denoting the presence of structures, along with garden soils and other horticultural features (Fig 6). Associated pottery (*Section 3.2*) indicates that all of these remains date to between the twelfth and fourteenth centuries and, hence, they probably relate to activity at the rear of the two suspected medieval burgage plots that fronted Sadler Gate (Burgage Plots 1 and 2; *Section 1.5.12*). Many of these features/deposits were stratigraphically isolated, although, in a few instances, intercutting features were present, highlighting the existence of sequential episodes of activity in some parts of the site. It has, however, proved impossible to determine detailed site-wide sequences, so those areas that did contain more complex stratigraphy are by necessity treated in isolation.

2.3.2 ***Cess/rubbish pits:*** the more prominent later medieval features consisted of 17 substantial pits that were probably used to hold cess and refuse; most contained sherds of twelfth-fourteenth-century pottery (*Section 3.2*), whilst some also contained plant remains and charcoal (*Section 4.5*), animal and fish bones (*Sections 4.2* and *4.3*), insects (*Section 4.4*), and in a few cases industrial residues (*Section 3.6*; Table 1).

	73	***74***	***168***	***177***	***188***	***199***	***202***	***204***	***212***	***230***	***271***	***302***	***327***	***339***	***346***	***351***	***373***
Pottery	X	X	X	X	X	X			X	X	X	X	X	X	X	X	X
Roof tile	X																
Metalwork												X		X			
Industrial residues						X			X				X				X
Stone artefact												X					
Animal bone		X	X	X	X	X			X	X		X	X	X	X	X	
Fish bone									X								X
Insects				X													
High/moderate amounts of waterlogged plant remains				X					X				X				X
High/moderate quantities of charred plant remains				X	X				X	X			X	X			
High/moderate quantities of charcoal						X			X	X							X

Table 1: The range of cultural materials within the large Phase 2 cess/refuse pits

2.3.3 In the area suspected to fall within the more westerly of the late medieval burgage plots (Burgage Plot 1; *Section 1.5.12*) fronting Sadler Gate, eight isolated examples were evident (Fig 6). Two of these (***212*** and ***230***) were located in Area D, one of which (***212***) had a sub-rectangular plan, measuring 1 x 1.4m, with a *c* 1m depth, whilst the other (***230***) was oval-shaped, measuring some 1 x 1.6m, and was 0.85m deep (Fig 7; Plate 3). Both of these pits contained a sequence of clay-rich deposits (three in pit ***230*** and five in pit ***212***), some of which had a greenish-coloured tinge, suggestive of the accumulation of cess. Once filled, pit ***230*** had also been capped with a layer of cobbles (***247***), which contained a few sherds of medieval pottery (*Appendix A*), probably in order to consolidate the upper surface of this infilled feature. In addition, two stakeholes (***213*** and ***214***) were discovered at the base of pit ***212***, which seem to have secured timber uprights. These uprights could have been inserted to support the pit's western side and prevent slumping when it was open and receiving cess/refuse. Alternatively, they may represent the remains of a shed and/or seat covering the cess pit.

Plate 3: Area D, looking north, following initial exposure of Phase 2 pit 230 *(foreground), Building 1 (right-hand side), and pit* 212 *(background)*

2.3.4 Area C contained two isolated cess/rubbish pits (***271*** and ***373***) in Burgage Plot 1 (Fig 6). One of these (***271***) was probably oval shaped, *c* 1m wide, though only a portion of it lay in the excavated area. It was clear, however, that it contained two clay-rich deposits, the lower producing medieval pottery (*Appendix A*). In contrast, the complete extent of the other pit (***373***) was exposed. This was sub-circular in shape, with a diameter of *c* 1.6m, a depth of *c* 1.2m, and it contained a sequence of six silty-clay deposits (Fig 7), the uppermost (***367***) producing medieval pottery (*Appendix A*) and a smithing-hearth bottom (*Section 3.6.2*). Another substantial isolated cess/rubbish pit (***302***) lay *c* 4m to the west in Area B, which was circular in shape, 1.4m in diameter and 0.9m deep, and contained three clay-rich deposits.

2.3.5 In Area A, a single isolated cess/rubbish pit was identified (***339***; Fig 6) that also related to activity within Burgage Plot 1. This was circular in plan, 1.5m in diameter, and 1.1m deep, containing a sequence of clay-rich cess deposits.

2.3.6 Two large isolated pits (***73*** and ***74***) were also identified during the evaluation, in Trench 3, again within Burgage Plot 1 (Fig 6). One of these (***74***) seems to have been a very substantial feature, though only part of it lay within the trench and its eastern edge had been destroyed by a modern drain. The excavated portion measured 2.7 x 1.2m and contained a single clay-rich deposit, which produced a moderate amount of twelfth-fourteenth-century pottery (*Appendix A*). Pit ***73*** lay immediately to the south, and again, although only part of this feature was present in the evaluation trench, it seems to have been oval-shaped and perhaps originally covered 2 x 1.7m. Its upper fill contained a clay, pottery-rich deposit (***24***; *Appendix A*), which had been capped with a layer of cobbles (***23***) that consolidated the surface of this backfilled feature.

2.3.7 In addition to the isolated pits, two intercutting pit groups (Pit Groups 1 and 2) were present in Burgage Plot 1, indicative of substantial rubbish/cesspits that had been backfilled and recut on numerous occasions (Fig 6). One these groups (Pit Group 1) was on the eastern edge of Area C. There, the stratigraphy indicated that a fairly large pit (***177***) had initially been dug and then filled with a greenish-tinged cess deposit (***176***; Fig 8). A second deposit of sandy silt (***175***) was then deposited in the pit, which contained a few sherds of twelfth-fourteenth-century pottery (*Appendix A*), and finally this pit was capped with a layer of cobbles (***174***), during an act of consolidation. A second pit (***188***) was then dug through the cobble capping (***174***) and into deposit ***175*** in the primary pit. Following some natural slumping on its eastern side, this secondary pit was filled with two clay-rich cess deposits (***171*** and ***170***), after which it began to silt naturally (with deposit ***169***). A third pit (***168***) was then dug through the fills within these pits, and this contained a single clay-rich deposit (***167***) associated with late medieval waste.

2.3.8 The other pit group (Pit Group 2) was in Area B (Fig 6), and similarly comprised three intercutting pits (Fig 8). The earlier of these was pit ***204*** and, although only a very small portion of this survived, it seems to have been partly filled with redeposited natural material. This pit was then recut in the form of pit ***202***, which again contained redeposited natural. After filling, this latter pit was, in turn, truncated by a substantial pit (***199***), which was 1.7m deep. The western side of this pit had slumped (***197***/***262***), after which three sequential, clay-rich cess deposits (***261***, ***196***, and ***195***) accumulated within the feature. Notably, deposit ***195*** contained an abundance of medieval pottery (*Appendix A*), together with some ironworking waste, indicating that domestic and industrial waste had also been dumped, along with cess, into this large pit.

2.3.9 Within the part of the site that seems to have lain in Burgage Plot 2 (*Section 1.5.12*), another pit group (Pit Group 3) was excavated, confined to the north-eastern corner of Area A. This comprised two intercutting pits (***351*** and ***346***; Fig 6; Plate 4). The earlier of these pits (***351***) was square, with 2.4m-long sides, and compared with the other cess/refuse pits on the site, it was comparatively shallow, with a depth of 0.45m. Unusually, it also contained a dump of gravel, which lay between the more typical clay-rich deposits forming the lower and upper fills of the feature. Following

its infilling, oval-shaped pit ***346*** was dug in this part of the site; this measured 1.8 x 1.4m, and was 0.85m deep. It also contained three clay-rich deposits, the deposit at the base being also fairly rich in organic materials, suggestive of the accumulation of cess.

Plate 4: South-west-facing section through pits 351 *(earlier pit; right-hand side) and* 346 *(later pit; left-hand side)*

2.3.10 In Burgage Plot 2, a large isolated cess/refuse pit (***327*** in Area A), immediately south of Pit Group 3, again had a sub-rectangular form. It measured at least 1.7m square and when empty seems to have been 0.8m deep, though this may have become a much more substantial feature beyond the excavated area. The pit's stratigraphy indicates that, following its creation, a mass of material was dumped into it, which led to the formation of a sticky clay-rich deposit (***325***) that lined the base and sides (Fig 7); this deposit contained fragments of animal bone, and plant remains. The pit was then filled with deposits (***323-4***) indicative of rapid silting, after which a second episode of deliberate dumping occurred that resulted in the formation of deposit ***322***. This deposit contained a fairly sizable assemblage of medieval pottery (*Appendix A*), and it also contained two fragments of copper-alloy dross, and mould fragments with copper-alloy residue, indicating that the casting of copper-alloy (brass or bronze) objects formed an element of the industry occurring in this phase.

2.3.11 In addition to the large cess/refuse pits, a few smaller circular pits, with diameters not exceeding 1m, were also scattered across the site, which could be confidently dated to Phase 2. These were confined to Burgage Plot 1 (Fig 6) and, although they differed in scale from the larger cess/refuse pits, it does seem that these also related to the disposal of refuse, the main difference being that they were seemingly

associated with more rapid acts of deposition, as they contained just a single deposit. In the central western side of Burgage Plot 1, they included a pit (***133***) in Area D that had been partly truncated by the wall line of a medieval building (Building 1; *Section 2.3.12*). Similarly, to the east, two small medieval pits (***364*** and ***366***) were present, which may have been positioned directly adjacent to the presumed boundary of this plot. These pits had also been dug in succession, with pit ***366*** being the earlier feature. Directly adjacent to these was another small circular pit (***321***) that contained a concentration of industrial residues (*Section 3.6.2*). Although this feature remains undated, it was probably another Phase 2 rubbish pit into which iron-smithing waste had been dumped.

2.3.12 ***Buildings:*** several probable or definite postholes were identified, which point to the existence of timber structures in the rear portion of Burgage Plot 1. Some of these were isolated features (*ie* ***210*** in Area D; ***34*** in evaluation Trench 3; and ***57*** in Trench 4; Fig 6), and it is therefore difficult to come to any conclusions regarding the form of the structures they presumably formed elements of. Two adjacent postholes (***296*** and ***298***) were present in Area C, directly adjacent to cess/refuse pit ***302*** (*Section 2.3.4*), and, though again it is unclear what type of structure they related to, it is possible that they formed the remains of a shed and/or seat covering the cess pit.

2.3.13 In Area D, however, a tight group of postholes was present, defining two wall lines that formed the north-western corner of a building (Building 1) roughly aligned on the cardinal directions (Fig 9; Plate 3). Postholes ***242***, ***239***, and ***129*** formed elements of its east/west wall line, whilst posthole ***246*** could have been a smaller corner post, with post ***235*** forming part of the north/south wall line. Most of the postholes were circular, with diameters ranging between *c* 0.4m and 0.7m, and depths of 0.2-0.4m, though one (***239***) was rectangular, measuring 0.4 x 1m. However, the post contained in this posthole had eventually been replaced by another post, contained in posthole ***237***, indicating that the east/west wall line of Building 1 had been refurbished at some stage. This latter posthole also contained sherds of medieval pottery (*Appendix A*), whilst posthole ***129*** produced some animal bone.

2.3.14 Several features were also present within the interior of the building, which suggest that it functioned as a workshop/shed involved in iron production/working. One of these was an L-shaped pit (***124***) that might represent the putative remains of a small bloomery-smelting furnace and associated tapping pit, used in the smelting of iron ore. Specifically, this pit contained an area of burnt clay associated with three stakeholes (***136***, ***139***, and ***141***), one of which (***139***) contained a fragment of undiagnostic iron slag (*Section 3.6.2*). Together, therefore, these seem to attest to the presence of a clay-walled cylindrical furnace, *c* 1m in diameter, whilst the remaining parts could have acted as the tapping pit, within which molten slag would have accumulated (*cf* Paynter 2011). A medieval pit was dug (***120***) within the interior of the building following the abandonment of this possible furnace, which destroyed part of its base. Another pit (***233***) was also present in the building's interior, close to its north-western corner, which produced a fragment of smithing-hearth bottom, and flake hammerscale (*Section 3.6.2*), indicating that iron smithing also occurred in the building. Significantly, the smithing-hearth bottom was comparatively large and might derive from the smithing of blooms (*Section 3.6.3*), providing further evidence for the

possible smelting furnace within Building 1. Posthole ***235*** (*Section 2.3.12*) also provided additional confirmation for iron smithing and production, as it produced a large smithing-hearth bottom, again perhaps associated with smithing blooms, flake hammerscale and ironworking slag (*Section 3.6.3*), whilst additional smithing-hearth bottoms were recovered from medieval features/deposits (posthole ***244*** and garden soil ***251***; *Sections 2.3.16* and *2.3.19*), located immediately to the west of Building 1. Apart from the features, an occupation deposit (***182***) was also present within Building 1, formed of a brown/grey clay, that contained a fragment of animal bone and numerous sherds of medieval pottery (*Appendix A*).

2.3.15 To the north of Building 1, in Area B and evaluation Trench 3, other features seemed to form the remains of another building (Building 2) contained within Burgage Plot 1 (Fig 6). Although the remains of this building were only partly exposed, when compared with Building 1, it seems to represent a fairly substantial structure, which was aligned north-east/south-west and was perhaps 4.5m wide (Fig 10). Its eastern side was defined by a *c* 0.9m-wide construction trench (***265***), which had been dug through the latest pit (***199***) in Pit Group 2 (*Section 2.3.8*; Fig 8), whilst its western side was defined by three large postholes (***14***, ***156***, and ***184***), each *c* 0.6m in diameter. Two of these (***156*** and ***184*** in Area B; Plate 5) were spaced 0.8m apart, whilst the other (***14*** in Trench 3) was 8m distant. This latter post seems to have been positioned at the corner of the building, as another small posthole (***267***) lay *c* 1m to the south-east, which probably formed part of the northern wall. In addition, a 2m-wide rough cobble floor (***186***; Plate 5) lay within the building, set above two levelling layers (***205***/***206***; not illustrated), which were associated with a fairly large collection of medieval pottery (*Appendix A*), including sherds dating to the early medieval period (Phase 1?; *Section 2.1.1*). Other artefacts that were probably associated with this building were also recovered as residual items in later features and deposits from this part of the site. For instance, the remains of this building were sealed by a post-medieval garden soil (***154***/***183A***/***185***/***200***; Phase 4; *Section 2.5.3*), which contained medieval pottery (*Appendix A*) that might relate to its occupation, whilst other medieval artefacts were present in Phase 4 ditch ***147*** and gully ***153*** (*Section 2.5.3*).

Plate 5: Postholes 156 *and* 184 *(foreground) and floor* 186 *(background), Building 2, looking south-east. Posthole 156 (left-hand side) is partially truncated by Phase 4 gully* 153

2.3.16 ***Burgage plot boundaries:*** in Area D, two postholes (***244*** and ***254***) were present to the west of Building 1 (*Section 2.3.12*) and seem to correspond to the presumed position of the western side of Burgage Plot 1 (Fig 9). Given this, it is highly possible that they formed part of a fence-line that acted as a physical barrier defining this side of the medieval plot.

2.3.17 Evidence for a second fence-line was also present in evaluation Trench 4, in the form of a gully (***55***), which, in this instance, defined the eastern side of Burgage Plot 1 (Fig 6). Significantly, immediately north-west of this gully, set perpendicularly, was a ditch (***54***), 0.5m wide and 0.5m deep, which contained two distinct fills. Given its position and orientation, it is quite likely that this formed the rear boundary of the medieval Sadler Gate burgage plots.

2.3.18 ***Garden soils and horticultural features:*** numerous layers of dark brown silt were encountered, which represent later medieval garden soils formed through cultivation in the rear portions of the burgage plots (Fig 6). The extent and sequence of these soils was difficult to quantify fully, however, as they only survived in disparate areas, being spatially confined to small parts of Areas A, D, and evaluation Trench 3.

2.3.19 In Area A, a garden soil (***231/342***) was present, in Burgage Plot 2, and this was associated with a relatively large assemblage of medieval pottery (A*ppendix A*), as well as sherds from an early medieval vessel (*Section 2.2.1*). Three shallow horticultural trenches (***358***, ***360***, and ***362***) had also been cut into the surface of this soil. To the south-west, in Burgage Plot 1, a medieval garden soil (***46/47***) was encountered in evaluation Trench 3 which, in this instance, had been partially truncated during the digging of two medieval pits (***73*** and ***74***; *Section 2.3.6*). Two patches of garden soil (***228*** and ***251***) were also recorded in Area D, to the west of Building 1 (*Section 2.3.12*).

2.3.20 ***Midden deposit:*** in Trench 4, a layer (***32/60/65/70***; Fig 6) of dark grey, friable, sandy-silty-clay was present, surrounding the burgage plot boundaries (*Section 2.3.17*), and

associated with medieval pottery (*Appendix A*), which appeared superficially similar to the medieval garden soils encountered in other parts of the site. This layer differed, however, in one major respect, in that it contained a large assemblage of animal bone (*Section 4.2.6*). Given this, it is quite likely that it relates to a midden at the very rear of the Sadler Gate burgage plots.

2.4 Phase 3: Fifteenth-sixteenth-century activity

2.4.1 Three large pits (***277***, ***289***, and ***303***; Fig 11) were present that, on the basis of associated pottery and radiocarbon assays (*Section 4.6*), most probably date to the fifteenth-sixteenth century. Importantly, these pits indicate that the pattern of digging cess/refuse pits in the rear portions of Burgage Plot 1 continued into the early post-medieval period.

2.4.2 The largest of these pits was ***289***, in Area A. Indeed, this circular pit was a fairly substantial feature, 2.5m in diameter and 1.25m deep, and contained numerous fills, which related to two different types of depositional process (Fig 12; Plate 6). Specifically, the lower half of the pit contained a sequence of deliberately dumped clay-and organic-rich cess deposits (***280-8***), which also contained a fragment of ironworking slag (in ***284***) and a piece of copper-alloy dross (in ***285***). Due to the absence of diagnostic pottery, the date of these lower deposits (specifically basal deposit ***288*** and tertiary deposit ***282***) was determined through radiocarbon dating, which suggested that they most likely dated to the latter part of the fifteenth or earlier decades of the sixteenth century (*Section 4.6.2*). In contrast, deposits in the upper half of the pit indicate that, following deliberate infilling, it was left partially open, and filled with silt during the post-medieval period (*Section 2.5.4*).

*Plate 6: Pit **289**, following half-sectioning, looking south*

2.4.3 Pit ***277*** was positioned a short distance south-west of pit ***289*** (Fig 11) and was 1.5m in diameter, 0.85m deep, and also contained a sequence of clay-rich cess deposits, the lower of which (***275*** and ***276***; Fig 12) being associated with an abundance of organic material and some ironworking debris. A radiocarbon date derived from one of the pit's basal deposits (***276***) suggested that this pit also dates to the latter part of the fifteenth- or earlier decades of the sixteenth century (*Section 4.6.2*).

2.4.4 The other pit (***303*** in Area C; Fig 11) in Burgage Plot 1 extended beyond the limits of the trench, though the excavated remains implied that it was sub-rectangular, *c* 0.65m deep, and contained two sequential clay-rich deposits. The upper of these (***309***) contained several sherds of Midlands Purple-ware pottery (*Appendix A*) and fragments of animal bone.

2.4.5 In addition to the large pits, a small pit (***16***) was recorded in evaluation Trench 3 (Fig 11). This measured some 1 x 0.5m and contained a sherd of fifteenth-sixteenth-century pottery (*Appendix A*) and fragments of roof tile (*Section 3.4.1*). Furthermore, a 0.3m-thick garden soil (***31***) was present in evaluation Trench 4, which might also date to Phase 3. This extended across the trench and covered the Phase 2 burgage plot boundaries (***54*** and ***55***; *Section 2.3.17*) in this area, indicating that these were no longer functioning at this period. Tellingly, the map of 1599 (*Section 1.5.12*), seems to confirm this suggestion, as it depicts the rear boundary of the Sadler Gate burgage plots further to the north.

2.5 Phase 4: Early post-medieval industry

2.5.1 A small collection of post-medieval features and deposits was recorded that were earlier than the construction of the Georgian buildings (Phase 5; *Section 2.6*) on the Sadler Gate burgages (Fig 13). All of these lay within Burgage Plot 1 and some seem to have been associated with industrial processes, though what these might have been is difficult to ascertain. For instance, in Area D, a large, shallow spread of burnt material (***130***/***178***; Plate 7) was encountered, which extended beyond the excavated area, and contained clay tobacco-pipe fragments, several of which were late seventeenth/early eighteenth-century in date (*Section 3.3.2*), as well as an eighteenth-century shoe buckle (*Section 3.5.1*). The most likely explanation is that this spread was from a hearth or perhaps kiln waste, derived from nearby industry. This also sealed a Phase 2 pit (***212***; *Section 2.3.3*), and also another pit (***208***), although this was probably dug immediately prior to the creation of this burnt spread. This *c* 0.2m-deep pit was sub-rectangular and contained sherds of seventeenth-eighteenth-century pottery. Another comparable spread of burnt material (***75***) was also identified in evaluation Trench 3, which, in this instance, seems to have accumulated in a sunken area created by a backfilled Phase 2 pit (***74***; *Section 2.3.6*).

Plate 7: Burnt spread **130/178**, looking north-west

2.5.2 Another feature which might relate to some form of industrial process was also encountered in Area C. This was an elongated pit (***291***; Fig 13), *c* 1.4 x 4.5m, which

had been deliberately lined with clay; above this lining was a deposit of silty-clay with a high charcoal content, indicative of burning. A smaller feature (***18***), probably a rubbish pit, was present in evaluation Trench 3, which was oval, measuring *c* 1 x 1.4m, and containing clay-rich deposits associated with post-medieval refuse, including a fairly large amount of roof tile (*Section 3.4.1*).

2.5.3 A garden soil (***154/183A/185/200***; Fig 13) in Area B was positioned between the burnt spreads and pits, and sealed the Phase 2 remains of Pit Group 2 and Building 2 (*Sections 2.3.8* and *2.3.15*). This soil contained residual medieval pottery (*Appendix A*), as well as sherds dating to the seventeenth and eighteenth centuries, and had been disturbed by two intercutting Phase 4 features. The earlier of these (***153***) was an arcing gully (Plates 5 and 8), *c* 0.4m across, whilst the second (***147***; Plate 8) may have formed a ditch; however, only very small portions of these features were exposed and hence their form and function remain rather unclear.

*Plate 8: Ditch **247** (foreground) cutting gully **153** (middle), which in turn cut part of Building 2 (Phase 2)*

2.5.4 Other patches of comparable post-medieval garden soil, ***328*** and ***31***, also respectively survived in Area A and evaluation Trench 4 (Fig 13), ***328*** again being associated with seventeenth-nineteenth-century pottery, and a late seventeenth/early eighteenth-century tobacco pipe (*Section 3.3*). Finally, it also seems that one of the Phase 2 pits

(***289***) continued as a 'depression' in the earlier stages of Phase 4. This cess/refuse pit had been partially filled in Phase 3 (*Section 2.4.2*), and during Phase 4 it naturally filled with silts (***278*** and ***279***; Fig 12) that contained fragments of animal bone and pottery dating to the sixteenth to seventeenth century.

2.6 Phase 5: Georgian buildings and workshops

2.6.1 Historical mapping indicates that, by the late eighteenth century, a series of buildings had been established across the site (*Section 1.5.13*), and some remains of these were encountered in the excavation trenches (Fig 14). On the whole, however, structural remains were very limited, which indicates that much of these Georgian buildings had been destroyed by later activity. Indeed, the only clear evidence for building remains were encountered in evaluation Trench 1 and Areas A and B. In Trench 1, these comprised two fragmentary sections of handmade brick walling (***9*** and ***13***), dating to the late eighteenth century, forming elements of a cellar below one of the properties at the corner of Bold Lane and Sadler Gate; this formed the front part of a large detached linear range depicted on Moneypenny's map of 1791 (*Section 1.5.13*). This cellar extended to a depth of 2.6m below the modern ground surface.

2.6.2 Similarly, in Area A, the remains of a brick-built cellar (***109***) survived, once within a small building, probably a workshop, to the rear of the buildings. The interior walls of this cellar had been rendered with a lime plaster, and its base contained a layer of cinders. Again, this formed an element of the large detached linear range on the map of 1791 (*Section 1.5.13*), and it is therefore likely that this structure was part of one of the buildings that is depicted on nineteenth-century mapping, confirming that most of these buildings were established in the late eighteenth century. Two lengths of handmade brick walling (***144*** and ***145***) in Area B probably also related to another of these small workshops.

2.6.3 Other features that may have formed elements of the Georgian buildings were also present in Area A, located to the south-west of cellar ***109***. These included pit ***260,*** containing the remains of a barrel which had been filled with lime (Plate 9), which suggests that it might have contained animal waste. To the east, two drainage gullies (***330*** and ***334***) were present, one of which (***330***) was lined with handmade brick and was associated with a circular sump.

Plate 9: The base of the lime-filled barrel in pit **260**, looking north

2.7 Phase 6: Early nineteenth-century workshops

2.7.1 The Phase 6 remains were also very limited in extent, and confined to evaluation Trenches 3 and 4 (Fig 14). These included a structure (***29***), in evaluation Trench 4, which continued beyond the north-eastern and north-western edges of the trench. Significantly, this lay within a small workshop that historical mapping indicates was constructed between 1806 and 1819, and is also depicted on late nineteenth-century mapping (*Section 1.5.14*). The north-eastern brick wall (***93***) of this workshop and structure ***29*** were parallel to each other, measuring at least 3.1m in length, 2.4m wide and 0.2m high. The structure was built using handmade bricks, each measuring 240 x 115 x 60mm, bonded with mid-grey lime-based mortar, which were laid in an English Garden Wall bond. The structure also contained a chamber, measuring *c* 1.3m long and 0.6m wide (Fig 15). This had a brick base and was filled with burnt deposit ***33***, which contained numerous fragments of clay tobacco pipe, including pipe-manufacturing debris (Plate 10; *Section 3.3*). This, therefore, indicates that structure ***29*** was a small muffle kiln, used in the manufacture of clay tobacco pipes, with the chamber being an ash pit/flue, with a stoking area immediately to the west. It is also probable that both the ash pit and stoking area were sunken into the ground, being accessed via a short ladder or set of steps.

Plate 10: The brick-paved base of the ash pit/flue (Structure 29*) with kiln debris still filling the stoking area in the background*

2.7.2 The only other evidence for Phase 6 activity comprised a probable levelling layer (***25***) in Trench 3 (Fig 14), which contained a collection of medieval and post-medieval pottery, and a small posthole (***316***). This latter feature had been inserted into the western corner of a Phase 3 pit (***303***; *Section 2.4.4*) and contained a late nineteenth/early twentieth-century clay tobacco pipe (*Section 3.3.2*).

3 MEDIEVAL AND POST-MEDIEVAL ARTEFACTS

3.1 Introduction

3.1.1 The evaluation and open-area excavations produced an assemblage of artefactual material that dated to the medieval and post-medieval periods. All of these artefacts were assessed (OA North 2015), whilst the pottery and clay tobacco pipes have been subjected to more detailed analysis, following the recommendations made in the assessment report (*ibid*). The results of the various analyses and assessments are presented below.

3.2 Medieval and later pottery

Christine Howard-Davis

3.2.1 In all, those evaluation trenches (Trenches 3 and 4) within the site, and the open-area investigation, produced a total of 537 pottery sherds, weighing 12,985g, and giving an overall Estimated Vessel Equivalent (EVE) of 5.1, and average sherd weight of 24.1g. A simple rim count suggests a minimum number of 53 vessels, but there are, no doubt, many more.

3.2.2 Sherds were recovered from a total of 69 contexts, with only 15 producing more than ten sherds, and of these, only four produced more than 20. Some 30 sherds (576g; 5.6%) were unstratified, and 23 of these are medieval in date.

3.2.3 Of the overall assemblage, 70 fragments (3387g; 13% by count, 26.1% by weight) are post-medieval or more recent in date, the remainder being medieval, most dating to the twelfth to fourteenth century, with a very small number of potentially pre-Conquest fragments. Some later, fifteenth- to sixteenth-century material, is also present. If post-medieval material is disregarded, the average sherd weight for medieval ceramics falls to *c* 20.42g (close to the lower limit at which sherds are regarded as large (*ie* >20g; Ratkai 2006), which is taken to imply that sherds were likely to be in their primary place of deposition (*ibid*). Average sherd weight of course varies considerably between individual contexts, with many of those with medieval pottery producing significantly higher or lower average sherd weights; 43 (69%) of such contexts produced assemblages with an average sherd weight significantly below 20g, perhaps suggesting extensive disturbance (Table 2).

Phase	Context	Quantity	Weight (g)	Average weight (g)
2	Pit ***73***; fill ***23***	1	18	18
	Pit ***73***; fill ***24***	25	612	24.5
	Pit ***74***; fill ***76***	10	133	13.3
	Pit ***133***; fill ***132***	2	16	8
	Pit ***168***; fill ***167***	4	154	11.5
	Pit ***177***; capping layer ***174***	6	453	75.5
	Pit ***177***; fill ***175***	4	88	22
	Pit ***177***; fill ***176***	4	70	17.5
	Pit ***188***; fill ***170***	7	16	18
	Pit ***199***; fill ***195***	58	1156	19.9
	Pit ***199***; fill ***196***	2	8	4
	Pit ***199***; fill ***261***	1	8	8
	Pit ***212***; fill ***216***	7	109	15.5
	Pit ***230***; capping layer ***247***	3	90	30
	Pit ***230***; fill ***248***	1	4	4
	Pit ***271***; fill ***270***	1	15	15
	Pit ***302***; fill ***299***	9	89	9.8
	Pit ***339***; fill ***335***	2	36	18
	Pit ***339***; fill ***336***	2	25	12.5
	Pit ***346***; fill ***343***	9	86	9
	Pit ***351***; fill ***348***	2	14	7
	Pit ***351***; fill ***350***	3	46	15.3
	Pit ***364***; fill ***363***	2	66	33
	Pit ***366***; fill ***365***	3	124	41.3
	Pit ***373***; fill ***367***	2	88	44
	Pit ***327***; fill ***322***	59	1490	25.2
	Pit ***327***; fill ***325***	1	60	60
	Ditch ***55***; fill ***56***	2	18	9
	Building 1: Pit ***120***; fill ***119***	1	4	4
	Building 1: Posthole ***237***; fill ***236***	2	24	12
	Building 1: Furnace ***124***; fill ***123***	9	94	10.4
	Building 1: Furnace ***124***; stakehole ***139***; fill ***138***	1	6	6
	Building 1; occupation layer ***182***	17	166	9.7
	Building 2: posthole ***14***; fill ***15***	4	18	4.5
	Building 2: Posthole ***156***; fill ***155***	1	16	16
	Building 2; levelling layer ***205***	11	208	18.9
	Building 2; levelling layer ***206***	28	703	25.1
	Garden soil ***228***	4	66	16.5
	Garden soil ***231***	47	814	17.3
	Garden soil ***342***	1	104	104
	Midden deposit ***32***	12	82	6.8
	Midden deposit ***60***	8	100	12.5
	Midden deposit ***65***	6	32	5.3
	Midden deposit ***70***	2	14	7
3	Pit ***16***; fill *17*	1	1	1
	Pit ***303***; fill ***309***	3	320	106.6
	Garden soil ***31***	3	26	8.6
4	Pit ***18***; fill ***19***	2	232	116
	Pit ***289***: fill ***278***	3	100	33.3
	Ditch ***147***; fill ***146***	1	32	32

Phase	Context	Quantity	Weight (g)	Average weight (g)
4	Gully ***153***; fill ***150***	1	16	16
	Gully ***153***; fill ***150***	10	154	15.4
	Burnt spread ***178***	1	8	8
	Garden soil ***30***	2	72	36
	Garden soil ***185***	17	276	16.2
	Garden soil ***200***	4	56	14
	Garden soil ***328***	1	44	44
5	Wall ***193***	3	72	24
Modern	Demolition layer ***25***	1	14	14
	Demolition layer ***72***	1	6	6
	Demolition layer ***232***	1	4	4
	Demolition layer ***223***	1	48	48
	Demolition layer ***290***	1	20	20
Total		**443**	**9044**	**20.42**

Table 2: Average sherd weight of medieval pottery by context, all phases

3.2.4 ***Methodology:*** the medieval and post-medieval pottery has been analysed in accordance with the methods proposed by the post-excavation assessment (OA North 2015). Analysis follows the guidelines produced by the various period pottery research groups (PCRG *et al* 2016), and in describing vessel forms, follows the terminology set out by the Medieval Pottery Research Group (1998). All material has been examined using a x10 hand lens and recorded by sherd numbers and weight, and subdivided by fabric and form, although the restricted size of the assemblage meant that any more detailed examination of fabrics (for instance thin-section) was not thought appropriate. Fabric identifications have been made with reference both to the available literature, and to the South Yorkshire/North Derbyshire Medieval Ceramics Reference Collection (Cumberpatch 2004a) and, where possible, uses the fabric descriptions and codes recorded within that.

3.2.5 ***Medieval pottery:*** there were, including unstratified material, 467 fragments (9598g) of medieval pottery, comprising 86.9% of the overall assemblage (by count, 73.9% by weight; Table 3). A summary catalogue of the medieval pottery is contained in *Appendix A*, whilst a more detailed digital catalogue forms part of the site archive. As many of the fragments are rather small, assigning them to anything but broad fabric groups was impractical, especially as Chris Cumberpatch has noted appreciable variation in the density and coarseness of temper within vessels regarded as from the same production site (for instance, some strap handles within material from Brackenfield (2004b) were noted as being in a much coarser fabric than the vessel bodies). Glyn Coppack (1972) also refers to considerable variation in the size and density of temper within the fabrics of Grey and Orange Gritty Wares.

Fabric	Qty	% assblg	Wt (g)	% assblg	Av sherd wt (g)
Stamford-type wares	29	6.2	475	4.9	16.3
Orange gritty ware	35	7.5	548	5.7	15.6
Grey gritty ware	18	3.9	284	3	15.7
Cream gritty ware	15	3.2	228	2.4	15.2
Local developed splashed ware	48	10.3	923	9.6	19.2
Cream sandy ware	21	4.5	209	2.2	9.9
Burley Hill wares	202	43.3	4392	45.8	21.7
Midlands Purple ware	10	2.1	896	9.3	89.6
Other fabrics	89	19	1643	17.1	18.5
Total	*467*	*100*	*9598*	*100*	

Table 3: Percentage of medieval assemblage represented by the principal fabrics present

3.2.6 Chris Cumberpatch (2004c; 2008; 2018) has noted the relatively scant amounts of data available for the study of medieval pottery in Derbyshire, and, indeed, in Derby the range of fabrics has not markedly expanded since the analysis of the large assemblage from Full Street in 1972 (Coppack 1972). This site, therefore, still provides the basis for pottery analysis in the city, which can be supplemented by the pottery analysed at the nearby kiln sites at Brackenfield (Cumberpatch 2004b) and Burley Hill (Cumberpatch 2003; Hughes 1957).

3.2.7 It is this continuing lack of well-understood and well-dated pottery groups that means that the degree of precision possible in the identification and interpretation of pottery assemblages from the city, and more widely in southern and central Derbyshire, is poor (Cumberpatch 2008). Thus, a considerable number of the sherds have been ascribed generic names based on their individual characteristics (*ibid*; Table 4), but it is notable that the vast majority of the medieval fabrics are hard- or very hard-fired, and have tempers that can be described as gritty or coarse sandy/sandy. Indeed, there seems to be a continuum, making fabrics quite difficult to separate using this criterion alone. Fine fabrics are very uncommon within the assemblage.

Fabric	Name	Description
1	Thetford-type ware	Hard, finely sand-tempered, grey to dark grey fabric with surfaces slightly darker than the core (Coppack 2002)
2	Stamford-type wares	A smooth, fine, hard fabric, ranging in colour from white to pale grey, often with a dark grey core. Some vessels have a thin yellowish or green lead glaze (Coppack 1972). Fabric A: coarse sandy off-white or pinkish fabric with pale green or pale yellow glazes (Kilmurry 1980). Developed Fabric B (Developed Stamford ware): smooth, fine, hard, white to pale grey with grey core. Bright green glaze (*ibid*)
3	Orange gritty ware (OGW)	Pale orange to red-orange quartzose gritted fabric with occasional grog and a dark grey core. Apparently an oxidised version of Grey gritty ware (Coppack 1972)
4	Grey gritty ware or Derby Grey gritty ware	A hard, reduced, quartzose gritted fabric, usually dark grey in colour, although this varies (*ibid*)
5	Derbyshire Coarse White Sandy ware	Hard white sandy fabric, external surfaces discoloured to brown by exposure to extreme heat
6	Local developed splashed ware	Hard, slightly gritty pale orange fabric with isolated yellow/green glaze splashes, often with red-orange surfaces and a dark grey core. Much coarser than the developed splashed wares from Nottingham (Coppack 1972; 2002)
7	Cream sandy ware	Off-white to orange-cream sandy fabric, usually with a grey core. Glaze is patchy, yellow green, and often mottled (Coppack 1972)
8	Limestone-tempered ware	A local variant of medieval shell-tempered ware. The fabric is hard and smooth, varying in colour from grey-buff to red-brown, usually with a dark grey core. Tempered with finely crushed fragments of limestone, which have often burned out in firing, or have been leached out (*ibid*)
9	Burley Hill ware (BUH001-006)	Hard, sandy orange-red fabric which is either fully oxidised, or internally reduced. Plastic decoration is common (*ibid*). Subsequently divided into six distinct fabrics (Cumberpatch 2003), ranging in colour from a reduced grey (BUH001) through oxidised orange (BUH002 – BUH005), to white/cream (BUH006)
10	Midlands Purple ware (MPG)	A sand-tempered fabric, fired to the point of vitrification, and characterised by its purple colour. Very hard dark purple fabric, semi-vitrified with quartz, grit, and patchy brown glaze
11	Cistercian ware (CISTW)	A finely sand-tempered grey-purple fabric, with flecks of white clay occasionally breaking through the surface
12	Midlands yellow ware	Fine sand-tempered off-white to cream fabric, covered on the outer surface, and occasionally on the inner surface, with a clear lead glaze (Coppack 1972)
13	Blackware	Fine red fabric, medium hard. Lustrous black glaze

Table 4: The principal medieval and early post-medieval fabrics

3.2.8 ***Early fabrics (Fabrics 1 and 2):*** possible pre-Conquest fabrics are present in the assemblage (Table 5), although not in any significant quantity, and all appear to be residual in later deposits (*Appendix A*). Thetford-type wares (Fabric 1; Table 4) were

widely used between the mid-ninth- and mid-eleventh centuries (Blinkhorn 2019), whilst Stamford-type wares (Fabric 2) spanned a period from the mid/late ninth- to the thirteenth centuries (Kilmurry 1980). It has been suggested that wares similar to those from Thetford were probably being made in, or close to, Derby by the tenth century (Blinkhorn 2019).

1	Jar or bowl. Everted rim with an internal bevel, diameter *c* 340mm. Possibly Lincoln Shell-tempered ware. Garden soil ***231***/***342***, Phase 2
2	Cooking-pot rim. Everted, slightly rebated rim, *c* 180mm in diameter. Orange gritty ware. Levelling layer ***205/206***, Building 2, Phase 2
3	Cooking-pot rim. Everted, squared rim, diameter *c* 230mm. Derby splashed-glaze ware. Levelling layer ***205***/***206***, Building 2, Phase 2
4	Cooking-pot rim. Everted, squared rim, diameter *c* 210mm. Derby splashed-glaze ware. Rim heavily burnt. Levelling layer ***205/206***, Building 2, Phase 2
5	Straight-sided jar or bowl rim. Squared rim, diameter *c* 280mm. Derby splashed-glaze ware. Capping layer ***247***, pit ***230***, Phase 2
6	Straight-sided jar or bowl rim. Hooked rim, diameter *c* 300mm. Derby splashed-glaze ware. Garden soil ***231***, Phase 2
7	Decorated rod handle of jug, Burley Hill ware. Levelling layer ***205/206***, Building 2, Phase 2
8	Decorated flattened rod handle of jug, Burley Hill ware? Levelling layer ***205/206***, Building 2, Phase 2
9	Decorated rod handle of jug, Burley Hill ware. Capping layer ***174***, pit ***177*** (Pit Group 1), Phase 2
10	Jug rim, diameter *c* 80mm, Burley Hill ware. Fill ***175***, pit ***177*** (Pit Group 1), Phase 2
11	Body fragment of jug, showing scale decoration, Burley Hill ware. Fill ***175***, pit ***177*** (Pit Group 1), Phase 2
12	Flaring jug base (two joining fragments), base diameter 150mm. Capping layer ***174***, pit ***177*** (Pit Group 1), Phase 2
13	Rim, slightly everted with thumbed strip below. Midlands Purple ware. Fill ***309***, pit ***303***, Phase 3

Table 5: Catalogue of illustrated pottery

3.2.9 Stamford ware, made principally in and around Stamford in Lincolnshire, is relatively well known from the few excavations in Derby, particularly Full Street (Coppack 1972), Derby Magistrates Court (Crooks 2003) and King Street (Rátkai 2006), although excavations in Pontefract (Roberts *et al* 2013) have established that it was also being made in Yorkshire at a relatively early date. It seems likely that Fabrics A and B (Kilmurry 1980) have both been found at Sadler Bridge, the former having been in

production from the late ninth/tenth- to the mid-twelfth century, the latter, with a distinctive bright green glaze, so-called Developed Stamford ware, from the mid-twelfth century (*ibid*).

3.2.10 Significantly, a single large sherd in a heavily leached, probably handmade fabric, and clearly the everted rim (with an internal bevel) of a large jar or bowl, came from medieval garden soil ***231***/***342*** (*Section 2.3.19*), almost certainly residual (Table 5; Fig 16.1). It closely resembles vessels excavated in Lincoln that have been dated to the ninth or tenth century (Young *et al* 2005, 37-8, fig 35), and a vessel with a similar rim-form from excavations at Little Chester (Coppack 2002, fig 58.11; cat 9) was identified as Lincoln Shell-tempered ware, associated with early medieval activity within Derby's Roman settlement (*Section 1.5.1*).

3.2.11 ***Twelfth- to fourteenth-century fabrics (Fabrics 3-9):*** fabrics in the Northern Gritty tradition are present in appreciable quantities (Grey gritty ware, Orange gritty ware, and Cream gritty ware), appearing in Phase 2 contexts, or residually in post-medieval contexts (*Appendix A*). These hard, rough-surfaced fabrics were primarily used for cooking pots (Fig 16.2), and heavy sooting at the rim or shoulder of some vessels in the assemblage, and on the lower body and base of others, reflects this use. Both Grey and Orange gritty wares were present in the Full Street assemblage, where cooking pots in both fabrics were recorded (Coppack 1972) as well as bowls and jugs in the orange fabric. A cream gritty ware with brownish external surfaces (presumably where they have been exposed to high temperatures) has been tentatively identified as Derbyshire Coarse White Sandy ware. There is also a Cream Sandy ware, which is, like the gritty wares, part of a wider regional tradition, with a range of white/buff and orange sandy wares typical of the twelfth to thirteenth centuries (Cumberpatch 2018).

3.2.12 At Full Street, there was a strong presence of splash-glazed wares, and although some were Nottingham products, there was a coarser fabric type, which may represent a local product (Coppack 1972). It is well represented within the Sadler Bridge Studios assemblage, with cooking pots (Figs 16.3-16.4), jars (Figs 16.5-16.6), and jugs represented. Splashed glazes seem to have fallen out of use in the mid-thirteenth century (Cumberbatch 2004c), though in Derby it may be the case that they ceased to be used marginally earlier, at the beginning of the thirteenth century. The possibility has also been raised (*ibid*) that they could reflect a hypothetical earlier period of production at Burley Hill, pre-dating the better known, often highly decorative, suspension-glazed products, which are common in Derby during the later thirteenth and fourteenth centuries (*cf* Coppack 1972; Crooks 2003). It would not be unreasonable to suggest that Derby acquired many of its later wares from an established earlier source.

3.2.13 The products of the Burley Hill kilns are, as might be expected, well-represented amongst the group. Although all are similar gritty/coarse sandy fabrics (Cumberpatch 2003, BUH001-BUH006), they vary considerably in appearance, ranging in colour from a reduced grey, to orange and white/cream. They appear in a range of forms, including jugs (Figs 16.7-16.11), cooking pots, and pipkins. The jugs are extensively glazed, and many of the sherds show the distinctive range of decoration typical of Burley Hill products (for instance, applied scales and grid-stamped pads, stabbed and

plastic decoration; *cf* Coppack 1972). Cooking pots and pipkins are often internally glazed (Hughes 1957), and several of the sherds from Sadler Bridge Studios have evidence of this.

3.2.14 Less significant fabrics include limestone-tempered ware (Coppack 1972), represented by a small number of cooking pot basal sherds, where the coarse leached nature of the fabric is most obvious. A late twelfth- to thirteenth-century date has been suggested for this ware (*ibid*).

3.2.15 ***Later fourteenth to sixteenth-century fabrics (Fabrics 10-13):*** pottery of this period was confined almost entirely to Midlands Purple-type vessels. Although a number of individual fabrics have been defined, the generic hard-fired fabric was made widely, with the kilns at Ticknall, for instance, producing Midlands Purple and Cistercian wares in quantity from the late fifteenth century, and probably being a convenient source of supply for Derby (Spavold and Brown 2005). The vessels present are all large storage vessels and cisterns, and it is of interest that Cistercian wares, usually finer tablewares, are only present in very small amounts. Midland Yellow is another widely produced fabric, again a generic type (*cf* Coppack 1972, 47), but like Cistercian ware is only represented by a few sherds at Sadler Bridge Studios. It should, however, be noted that the production of Cistercian wares ran on, developing by the late sixteenth century into Blackwares, which are softer fired, but little different in fabric, being made by the same producers (*cf* Hurst and Wright 2010, 7). Yellow wares also continued in production well into the post-medieval period (*cf* Moorhouse and Roberts 1992).

3.2.16 ***Forms:*** the assemblage was characterised by a general lack of complete profiles, or near-complete profiles. In addition, many of the rim sherds had been damaged or eroded, making it impossible to describe them in anything but the most general terms, and many had broken at the junction of rim and body; thus the overall shape of individual vessels is difficult to reconstruct. Cooking-pot rims, mainly in gritty fabrics, are largely everted, although clubbed, squared, and hooked rims do appear as singletons. Bases, too, are, for the most part, damaged, although those where the angle between body and base survives seem to indicate that both flat and slightly sagging bases are present. Robust fragments of bases from Burley Hill indicate the presence of baluster-type jugs. It is clear that both jugs and jars/cooking pots are present in appreciable numbers, with occasional distinctive sherds indicating the presence of bowls and pipkins, and there is a single instance of a bung-hole cistern.

3.2.17 ***Decoration:*** there is a single small sherd of Thetford-type ware from Phase 2 midden deposit ***32*** (*Section 2.3.20*), which bears rouletted decoration. Such roller-stamped patterns are not uncommon on Thetford-type wares, appearing as a single line on, or near, the shoulder on small jars (*cf* Rogerson and Dallas 1984, fig 153). Green glazes are very common amongst the twelfth- to fourteenth-century vessels, either splashed or suspension glazes, with sherds suggesting that many of the vessels, not only jugs, were glazed or partially glazed on the inside.

3.2.18 Plastic decoration was largely confined to jugs, most, if not all, identified as being probably Burley Hill products. Several small and otherwise largely undiagnostic body sherds indicated the use of stamped pads and small scales (Fig 16.11). The latter was

probably applied, or perhaps pinched up from the body of the vessel and then smoothed down to form tiny overlapping scales, set in large triangular panels or isolated groups of three or four, presumably over most of the body of the vessel. A single fragment, from pit ***73*** (fill ***24***; *Section 2.3.6*) shows the 'wheatear' decoration associated with the products of this kiln, and can be paralleled by a fragment published as early as 1879 (Gatty 1879, pl 10, no 8).

3.2.19 Many of the fragments of rod handle identified as Burley Hill products have stabbed decoration, ranging from almost random jabbings with a pointed implement (Figs 16.7-16.8), to sinuous moulded ridges running down the entire length of handles and edged with groups of stabbed holes (Fig 16.9). Many of these can be seen in other illustrated groups (*cf* Crooks 2003: stabbed rod handles, *eg* 5.2.5p; scale decoration, *eg* 5.2.5q). Stamped pads also feature prominently in the repertoire (*cf* Coppack 1972, fig 16.188).

3.2.20 One distinctive form of decoration is the deeply cut triangular excisions seen round the edge of the splayed bases of ?baluster jugs (Fig 16.12). There are several illustrated from Full Street (Coppack 1972, fig 15.177, fig 16.191) and from the Court House site (Crookes 2003, fig 5.2.4i).

3.2.21 Several of the Midlands Purple-type storage vessels have a thumbed cordon at the neck (Fig 16.13). This can also be paralleled amongst the Full Street assemblage (Coppack 1972, fig 22.268).

3.2.22 ***Dating:*** as on other sites excavated in and around Derby, there is clear evidence within the pottery for pre-Conquest activity. In this case, however, the activity must remain ill-defined, as it seems very likely that all of the early fabrics were residual when found. The Lincoln shelly ware can be assigned to the ninth/tenth century, and the single rim form can possibly be seen amongst contemporary material from Little Chester (Coppack 2002). Thetford ware is broadly contemporary. The presence of Stamford-type ware is again known from other Derby sites, and the presence of Kilmurry's fabrics A and B (1980) suggests that such wares were imported over an extended period, as she dates the dominance of Fabric A from the early tenth- to the late eleventh centuries (although it persisted into the twelfth), with Fabric B appearing in the third quarter of the eleventh- and continuing into the thirteenth century.

3.2.23 It is generally accepted that gritty wares in the regional gritty-ware tradition appeared in the early twelfth (or even late eleventh) century and were in widespread use through the remainder of the twelfth and thirteenth centuries (Cumberpatch 2004c). This seems to offer a potential twelfth-century start date for deposition in Phase 2, and would make a case for the continued import of Stamford wares. Although only a few sherds were recognised, there is some evidence for the presence of Limestone-tempered ware, which appeared in Derby during the late twelfth century (Coppack 1972, 74). In addition, the splashed-glaze wares seem to indicate a late twelfth- to thirteenth-century date, as this technique fell out of use in the early to mid-thirteenth century, if not earlier in Derby (Cumberpatch 2004c), perhaps in the early part of that century. There are sherds with the characteristic copper-green speckled glaze of

developed Stamford ware (Kilmurry 1980, Glaze 3), which was in production into the thirteenth century, demonstrating that it was still serving the local market.

3.2.24 The apparent dominance, however, of Burley Hill products (not well dated but thought by Cumberpatch (2003) to span the thirteenth-fourteenth centuries), might well indicate that some, at least, of the gritty ware could be residual, and that a later thirteenth-fourteenth-century date might be most appropriate for the main period of activity. Interestingly, Coppack (1972) suggested that Derby formed an early market for Midlands Purple products, with them perhaps in use at Full Street from the mid-fourteenth century, which would also be a possibility at the Sadler Bridge Studios site, although some of the Midlands Purple has the white-flecked appearance of Ticknall products (Crooks 2003), which did not appear until the fifteenth century, and carried on in production into the seventeenth century (Spavold and Brown 2005).

3.2.25 The assemblage has not proved particularly helpful in providing precision to the dating of many individual features associated with Phase 2. Indeed, the most that can be assumed is that most broadly date to the twelfth- to fourteenth century.

3.2.26 Pottery from occupation layer ***182*** within Building 1 (*Section 2.3.14*) produced nothing to help refine its dating, except the presence of a single sherd of Burley Hill ware, which is marginally later than the other wares from this deposit, mainly gritty wares. Levelling deposits (***205/206***) associated with Building 2 (*Section 2.3.15*), however, were dominated by Burley Hill wares, and it might be possible to infer that these were slightly later in date.

3.2.27 Pit ***177*** produced only Burley Hill fabrics from its fills (***175*** and ***176***) and the cobble layer (***174***) that capped it (*Section 2.3.7*), suggesting that it was both used, and abandoned in the thirteenth- or fourteenth century. Pottery from pit ***199*** (*see Section 2.3.8*) probably spans the entirety of the period of occupation, although Burley Hill wares were found at its base (fill ***261***) and in the main fills (***195*** and ***196***), suggesting perhaps that it was dug in the thirteenth- or fourteenth century, with the residual material deriving from the deposits into which it was dug.

3.2.28 Pottery from pit ***327*** (*Section 2.3.10*) includes a sherd of Midlands Purple ware from fill ***322***. This pit also contained possible Developed Stamford ware as well as Burley Hill ware, which together with the Midlands Purple-ware sherd may suggest that it filled in the mid-fourteenth century.

3.2.29 The material from medieval garden soils ***228*** and ***231***/***342*** (*Section 2.3.19*) was inevitably mixed, with the dating reflecting the continuous disturbance of these soils. They are likely to have been receiving pottery from the later tenth- or eleventh century (given the presence of Stamford ware), but the preponderance of Burley Hill wares suggests a date in the fourteenth century at the latest, for the deposits to have stopped receiving pottery.

3.2.30 ***Post-medieval pottery*****:** the assemblage of post-medieval pottery has been quantified, and fabrics and forms identified, but no detailed analysis was undertaken (a catalogue forms part of the site archive). It is of interest that there is little evidence of later seventeenth- or early eighteenth-century activity, with only one tiny fragment of slip-decorated ware, although the bases of two early Blackware cups, from the

Phase 4 fill (***278***) in pit ***289*** (*Section 2.5.4*), and a blackware chamber-pot rim, from modern demolition layer (***106***), were found. The bulk of the pottery is of later nineteenth- or early twentieth-century date, comprising presumably locally made black-glazed redwares, and a range of other well-known fabrics like mocha ware, and transfer-printed refined white earthenwares (Draper 1984). These are of little significance in providing dating.

3.3 Clay tobacco pipe

David Higgins

3.3.1 The excavations produced a total of 395 fragments of pipe, comprising fragments from 77 bowl, 309 stems, and nine mouthpieces. The majority of these (343 fragments) came from the archaeological evaluation (Figs 17.1-17.6), and all but two of these were from the fill of the demolished pipe kiln (Structure ***29***) dating from *c* 1810-30 (Phase 6; *Section 2.7.1*). The two other pieces from the evaluation were both individual plain stems that could only be broadly dated to *c* 1760-1910.

3.3.2 The remaining 52 pieces came from the open-area excavations and were more varied in date, but again tended to occur as isolated fragments, with the only significant group being the 43 pieces from burnt spread ***178*** (*Section 2.5.1*). This group principally comprised small broken and abraded fragments, indicating that the deposit had been very disturbed or trampled, but it included parts of two bowls with tailed heels that can be closely dated to *c* 1680-1730. These appear to be local copies of styles from the Broseley area of Shropshire (Higgins 1987). The only marked piece is an Irish-style bowl of *c* 1870-1920 with a 'DUBLIN' stamp on it (Fig 17.7) from posthole ***316*** (*Section 2.7.2*). Marks like this were widely used by English manufacturers as part of the style/pattern name of the pipe and they do not indicate the place of manufacture (*pers obs*).

3.3.3 All the pipe groups from the excavations are described by context in *Appendix B*. The following sections, therefore, comprise a summary of the kiln group, and then a general discussion of the pipe assemblage as a whole.

3.3.4 ***The kiln group*:** the kiln group from Structure ***29*** (deposit ***33***; *Section 2.7.1*) comprises an assemblage of pipe-kiln debris and clay tobacco pipes. The terminology used to describe the pipe-kiln debris follows Peacey (1996), and this element of the assemblage is divided into debris, which formed part of the kiln structure, kiln furniture, and thin clay sheeting.

3.3.5 ***Kiln structure debris:*** the material from the kiln structure indicates that Structure ***29*** (*Section 2.7.1*) comprised a developed muffle kiln made of pale creamy-white fire clay or pipe clay with peripheral shelving. Steps within the internal side wall are evident, as are the frequent internal washes of white clay (Plate 11). Some of the fragments from the muffle wall are reinforced with previously fired pipe stems in the usual manner, but other sections do not appear to have had any reinforcement. The only piece of muffle was a single small fragment weighing 19g. This was made of a white firing clay with numerous coarse gritty inclusions but no sign of any vegetable temper. The fragment is 30mm thick and reinforced with two parallel rows of pipe stems, only one small fragment of which remained in place. The exposed side of the pipe stem in

the broken section is discoloured and coated with dark brown/purple flash glaze, suggesting that the object had split open while still in use. Both external faces of the object are also discoloured/flash glazed from direct exposure to the flue gasses, suggesting that this might have been part of a buttress supporting the muffle within the outer brick skin, rather than having come from the wall or base of the muffle chamber itself.

Plate 11: Fragments of the demolished muffle chamber, some of which show pipe-stem reinforcement. White clay washes are evident on the interior, as are steps in the wall thickness, forming peripheral shelves on which the bowls rested during firing

3.3.6 ***Kiln furniture:*** several pieces of kiln furniture were present in deposit ***33*** (*Section 2.7.1*). These included body sherds from Peacey's (1996) cylindrical type 2 props with a hole through the centre (Plate 12). Overall, these were about 100-110mm in diameter with a 30-40mm-diameter hole in the centre. Sitting on top of these would have been type 1 buns with diameters of around 250mm, each with a small round hole in the centre, with a diameter of 20-30mm (Plate 13). They seem to have had flat bases but slightly domed tops, with vertical notches around the edges to help stop the pipe stems from sliding off them when in use. Moreover, the props and buns would have been placed alternately in a stack in the centre of the kiln for the pipe stems to rest upright against during firing, the bowls resting on the peripheral shelves (Plate 14). Fragments of ring wads were also present, which would have been used as bedding between the props and buns.

Plate 12: Cylindrical prop with a hole in the middle to allow flue gasses to pass through the centre of the kiln

Plate 13: Bun fragments with a central hole to allow flue gasses to pass through the centre of the kiln, and edge notches to prevent stems propped against the bun from sliding sideways

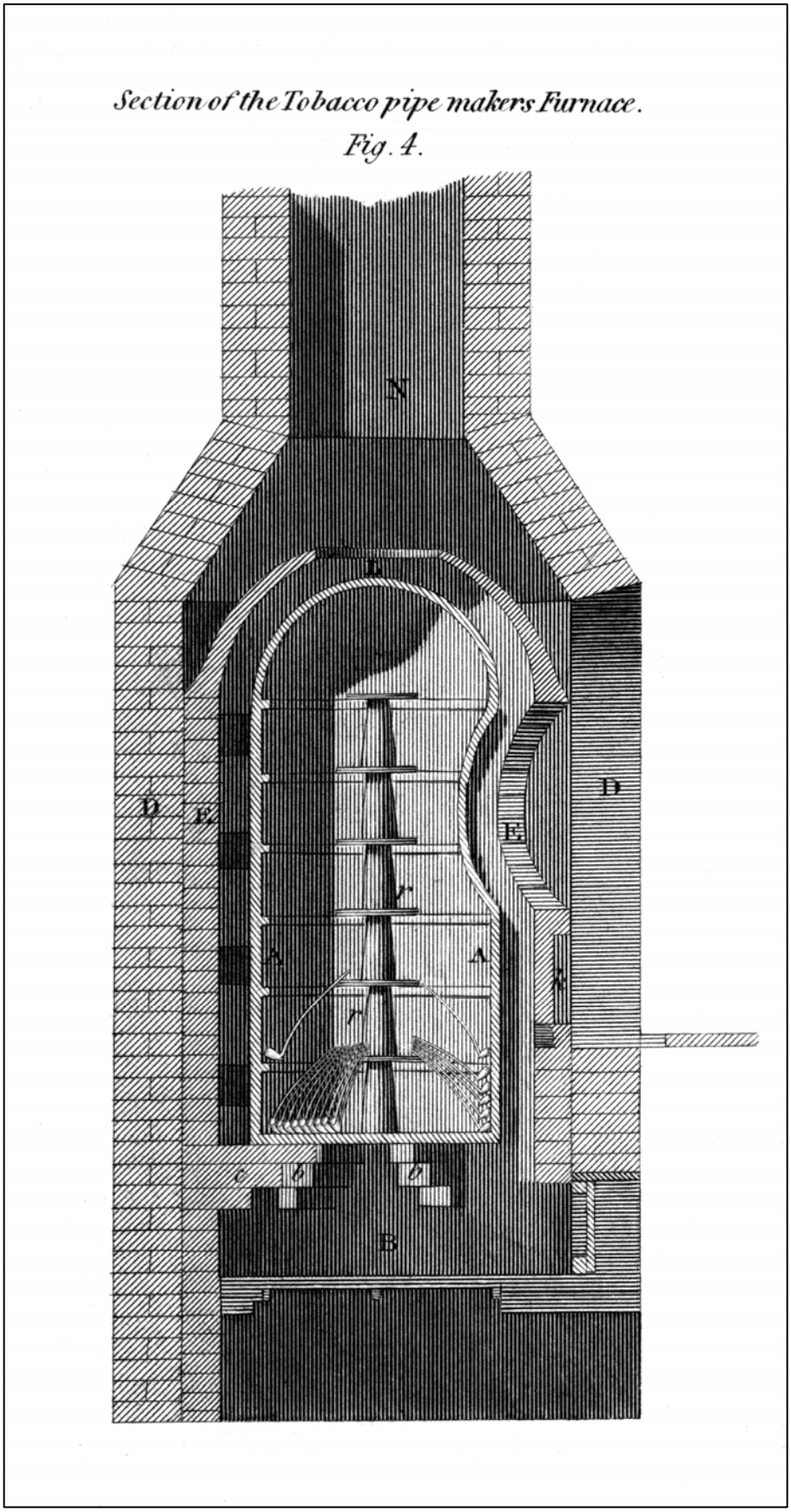

Plate 14: An illustration dating from c 1810 (D A Higgins collection) showing a pipe kiln with a central column of alternate props and buns supporting pipes for firing within the muffle chamber

3.3.7 Within the assemblage of kiln furniture there was also an object consisting of three previously fired pipe stems that had been laid parallel to one another and fully encased within a sub-rectangular casing of white clay (Plate 15). This object is about 30mm in width and survives to a length of *c* 80mm, being broken at both ends. This is a distinct class of object that recurs on kiln sites, which is termed a 'rack', although neither their purpose, nor complete form, are yet known (Peacey 1996, 65). This example is interesting as the stems are fully encased in clay (often they are just held at the ends or at intervals with lumps of clay) and because it indicates the total length of these objects was well in excess of 80mm.

Plate 15: Rack fragment formed of three previously fired pipe stems, fully encased in clay before firing

3.3.8 ***Thin clay sheet:*** 28 pieces of thin clay sheet weighing 55g were examined. All the fragments are of a typical form, with a coarse paper impression on one side (with no evidence of printing on it) and a wiped surface on the other. The sheets are up to a maximum of 2mm in thickness and seem to have been laid fairly flat in the kiln, with no sign of direct contact with the pipes. These sheets were typically laid while still soft across the top of the pipes to help stabilise the load and/or to seal the top of the muffle chamber prior to firing. The sheets were broken out and discarded after each firing. There is no evidence of the slag/stem/sheet laminate that was usually used to seal the muffle chamber.

3.3.9 ***Kiln-group clay tobacco pipes:*** in total, 341 pieces of pipe (70 bowl, 262 stem, and nine mouthpiece fragments) were collected from the kiln (Structure ***29***; *Section 2.7.1*). None of the bowl fragments shows any sign of having been smoked and many of the pieces are warped or discoloured, making it clear that they are production waste from the kiln.

3.3.10 **Pipe fragments:** the pipe fragments could be divided into three distinct types by surface appearance (Plate 16). The first type, which forms the majority, are simply white (as would be expected for a pipe) and the only sign that they are wasters is that many of the bowls have squatted and/or cracked during firing. Indeed, clay pipes were very fragile, and many would have become broken during handling at the works and so discarded without any sign of actual manufacturing defects.

Plate 16: Stem samples from the kiln group, showing the three different types of surface appearance (Scale 50mm)

3.3.11 The second type, however, possesses a uniform brown discolouration to the surface (29 of the pieces, representing 8.5% of the group). They have a finely speckled appearance and a matt finish, which feels slightly abrasive from the surface deposit, rather than smooth like a normal pipe surface. Both stem and bowl fragments occur with this finish and some of the stem fragments are quite large (up to 148mm long). Significantly, almost all the broken edges, including both ends of the longest stems, are still white, showing that these pipes were complete, or nearly complete, when the surface discolouration occurred. If they had been outside the muffle, in the flues or ash pit, then slaggy encrustation and/or glossy flash-glazed patches would be expected, rather than such a uniform finish. One possible explanation is that these pipes represent a catastrophic failure of the muffle during firing, allowing flue gasses to enter the chamber and discolour the complete pipes.

3.3.12 The third type is represented by 12 stems (3.5% of the assemblage) that have been overfired and have glossy/slaggy surface encrustation and/or traces of fired clay adhering to them. They also tend to have a mottled greyish colour to their surfaces. These are pieces that have either been used as reinforcement within the muffle itself, or have been in direct contact with the flue gasses or fuel during firing. Fragments like this are typical of kiln sites, particularly the pieces with fired clay adhering, which have been built into a muffle or other kiln supplement, but readily drop out when these are broken up (*cf* Peacey 1996).

3.3.13 **Mould types:** only 70 pieces of bowl were collected from the kiln dump and, as many of these are only fragments, a minimum number of just 42 individual pipes is represented. This is a rather small sample and, as such, it is difficult to determine how many individual moulds were originally in use on the site when the kiln was abandoned, particularly given that two of the mould types are represented by just two examples each (and so there could have been other types that are not represented in the sample at all). All the bowl fragments that were recovered were identified to individual mould types using a combination of distinguishing characteristics, such as bowl form, decoration, and mould flaws. In total, five different mould types were represented amongst the waste (Table 6).

Class of Object	Bw	Bb	Sw	Sb	Se	Mw	Mb	MN	Comments
Mould Type 1		3						2	One bowl is squatted/split
Mould Type 2	2							2	Both bowls squatted/split
Mould Type 3	25	2						18	Only two complete rims; one slightly squatted
Mould Type 4	31		1					16	Only two near complete rims; one slightly squatted
Mould Type 5	3	2		1				4	Two complete rims; both slightly squatted
Plain Stems			220	23		7	2		
Slagged / Muffle Stems					12				
With Iron Object (*Section 3.5.2*)	2		5						
Column Totals	**63**	**7**	**226**	**24**	**12**	**7**	**2**	**42**	
Class Totals	**70**		**262**			**9**			

Table 6: The analysed kiln group, showing the numbers of bowl (B), stem (S) and mouthpieces (M), subdivided into those with white (w), brown (b) or encrusted (e) surfaces, and the minimum number (MN) of examples represented for each mould type

3.3.14 Mould Type 1 is a plain and unmarked bowl, represented by three fragments (Fig 17.1), two of which join so that just two individual pipes are represented. Both have brown surface discolouration and one of the bowls has squatted and split, showing that it was overfired in the kiln. Significantly, most of the other bowl types are not discoloured, which suggests that Mould Type 1 came from a different firing and, potentially, a different phase of production.

3.3.15 Two examples of Mould Type 2 were present, which represents a plain bowl form with a symbol mark on the spur (Fig 17.2). One has split quite badly, and both have squatted during firing, so they are clearly wasters. They do, however, both have smooth surfaces indicating that the mould itself was in good condition when the pipes were made. What is interesting is that this same mould was later modified and hence became Mould Type 3 (*Section 3.3.16*).

3.3.16 Mould Type 3 is one of the most common mould types recovered, with 27 fragments representing at least 18 individual pipes (Fig 17.3). The plain bowl form has a symbol mark on the spur and was originally Mould Type 2 (*Section 3.3.15*), but the mould has been altered by adding a metal plate in the trimming slot to increase the height of the bowl (the addition being evidenced by a raised mould line running around the bowl near the rim). The mould surface has also become damaged, so that the surface quality is much poorer than for Mould Type 2 bowls, with numerous nicks and scratches showing as impressions on the finished pipes. Two of these bowls have a mottled brown surface coating.

3.3.17 Thirty-two fragments from Mould Type 4 were recovered, representing at least 16 different pipes (Fig 17.4). This bowl form has a symbol mark on the spur and simple leaf-decorated seams. Most of these leaves point upwards, in the usual manner (*eg* Higgins 1981, figs 2-48), but one strip (on the right-hand side only, facing the smoker) point downwards by mistake, so that they do not form a 'V' pattern with the left-hand seam.

3.3.18 Five fragments of Mould Type 5 were recovered, representing at least four different pipes (Fig 17.5). This mould is the poorest quality from the site, with crudely executed leaves on the seams, together with scratches and flaws in the mould surface, resulting in a streaky and slightly uneven finish to the pipes. The leaves on the seams are simply represented by irregular cuts in the mould, which often run horizontally or point downwards, which is an unusual orientation (*ibid*). The stem of this type is slightly thinner than the others and has some distinctive scratches on it near the bowl. One quite long stem section survives (123mm), suggesting that the stem was straight. This was probably a slightly shorter and cheaper pattern of pipe than the other mould types represented.

3.3.19 **Form and finish:** the assemblage was biased towards bowls (*Section 3.3.13*) and only nine mouthpieces were present. Despite this, an attempt was made to reconstruct the pipes, and one mouthpiece was found to fit two of the stems, resulting in a fragment of about 209mm in length (Fig 17.6). The final broken stem end is thinner than any of those attached to the first four mould types, but thicker than that attached to Mould Type 5. This shows that the partially reconstructed stem must have come from one of the first four bowl types, but that it would have needed to have been much longer originally, in order to have become thick enough to join one of these bowls. Analysis of stem lengths (*pers obs*) has shown that early nineteenth-century pipes would typically have been in the region of 14" to 16" long (350-400mm), and the evidence from Derby is consistent with this. The reconstructed section is also slightly curved, as are some of the other long surviving stem sections, showing that these pipes would have had gently curved stems, a characteristic of long-stemmed English pipes that appears towards the end of the eighteenth century (Higgins 1987, 66-9). The exception is the thinner stem associated with Mould Type 5, which suggests that this would have been a slightly shorter pattern (but still a long pipe), which appears to have had a straight stem.

3.3.20 None of the pipes has an internal bowl cross or any burnishing, nor is there any evidence that glaze was used to coat the tips, all of which were formed by a simple cut end to the stem. Several of the bowls do have internal trimming, whereby an angled cut around the inside of the rim has been made after moulding to remove a sliver of clay. This creates an internally bevelled rim, often just around a part of the bowl, and was probably done when the stopper that forms the bowl cavity had not entered the bowl centrally during moulding. This cut was very quick and easy to make with the trimming knife and made the rim look much neater and more uniform than if it was left with an uneven thickness around its circumference. In common with other pipes of this period (*pers obs*), the base of the heel or spur has not been trimmed to remove the mould seam on any of the bowls.

3.3.21 ***Discussion:*** very little has been published on pipes from Derbyshire, despite the fact that as early as 1673 Bolsover was noted for the excellent pipes made there (Riden 2007) and that quite large numbers of pipemakers are documented as working in Derby itself from the late eighteenth century onwards (Alvey 1979). Very few earlier pipes were recovered from these excavations, but two points are worth noting. First, that some of the unmarked fragments dating from the late seventeenth- or early eighteenth century are made of a coarse Coal Measures clay and with a distinctive

form and finish that suggests they are probably from Shropshire. The Broseley area of Shropshire was famous for its good-quality pipes, which were widely traded from there, particularly down the Severn valley and into south Wales (Higgins 1987). Derby, however, lies towards the north-eastern limit of distribution and so it is useful to note that some Shropshire products were probably finding a market in the town. Second, two Broseley-style tailed heel fragments from burnt spread ***178*** (*Section 2.5.1*) appear to have been made of a finer fabric that is atypical of Shropshire at this period, suggesting that these are locally made copies. This indicates that, even if actual Shropshire exports only made up a small percentage of the market, they were still influencing the style of locally made pipes at this time.

3.3.22 The main significance of this assemblage, however, is the group from Structure ***29*** (*Section 2.7.1*), which along with the brick-built structural remains clearly indicates that this functioned as a pipe kiln. Although only the base of the kiln survived, parts of the demolished muffle and associated kiln furniture were present in deposit ***33***, filling the ash pit and stoking area. These materials are not often recovered and they indicate that a developed muffle kiln was being used on this site. The cartographic evidence suggests that this kiln was constructed between 1806 and 1819 (*Section 1.5.14*), which fits perfectly with the style of the pipes. The bowl forms, leaf-decorated seams and use of a symbol mark can all be paralleled with a kiln group of *c* 1820 that was made by Richard King of Leicester (Higgins 1999). The close similarity even extends to the use of crude leaves pointing in a downward direction, as seam decoration (*op cit*, fig 100.29), other examples of which have been found elsewhere in Leicester (Higgins 1985, figs 88-89). Other finds from Leicester include late eighteenth-century Derby pipes (Higgins 1999, figs 98.12-13), which underscore the close trading and stylistic links between the two towns during the late eighteenth- and early nineteenth centuries. There is also documentary evidence of these close links, such as a letter suggesting that members of both the Ward and Salisbury pipe-making families were moving between Derby and Leicester to work (DRO; D2977/2/205). In contrast, contemporary kiln groups from Liverpool exhibit rather different styles of bowl form, mark and decoration, as well as the use of glazed tips (Higgins 2014), showing that distinctly different styles of pipe were being produced in neighbouring regions during the early nineteenth century. The pipes from Derby fit into a pattern of Midlands styles, common to places such as Leicester and Nottingham.

3.3.23 In terms of the production range, the Sadler Bridge Studios' kiln seems to have been somewhat limited. Although the sample collected was rather small, it still appears to represent production over a period, since one of the moulds had been altered, resulting in two different bowl forms (Mould Types 2 and 3). This leaves a maximum of only four individual moulds that could have been in production at any one time, which is an unusually small number. The contemporary Richard King group of *c* 1820 from Leicester, for example, contained 14 different mould types, including spur and heel types, both plain and decorated (Higgins 1999, 219). From the sample collected, it appears that the Sadler Bridge Studios' maker was producing just spur forms and that these had either plain bowls or ones with simple leaf-decorated seams. The only other variation may have been that one of the types (Mould Type 5) was a slightly

shorter, probably straight-stemmed product, as opposed to the others that had longer, curved, stems (Mould Types 1-4).

3.3.24 The actual pipemaker using this workshop remains a mystery. None of the pipes are marked (other than the flower symbols) and some 15-20 pipemakers are documented in early nineteenth-century Derby who could have worked on this site (Alvey 1979). Several of the early trade directories have been searched to try and identify someone working in this part of the town, without success (*eg* Glover 1829; Pigot & Co 1829; 1835; 1842; Slater 1847). The main pipe-producing area of Derby was Willow Row, where most of the makers are listed, and one or more well-established workshops must have been located (Willow Row was in the same direction from the town centre, but a few hundred yards further away, and so may have been a better location for kiln, on the outskirts of the town; Alvey 1979). The impression is that Sadler Bridge Studios housed a small-scale and relatively short-lived workshop that made everyday pipes for a brief period around 1810-30. The pipe business was set up in a newly constructed workshop but remained as a small-scale backyard industry behind other buildings fronting the street. The five bowl forms identified can now be used to identify and date other pipes produced on this site, while more detailed documentary research should be able eventually to name the pipemaker who produced them.

3.4 Ceramic roof tile

Jeremy Bradley

3.4.1 Some 176 fragments of flat, ceramic roof tile were recovered from the site (*cf* OA North 2010; 2015). The bulk of the assemblage (160 fragments) was early post-medieval in date, being derived from Phase 4 features and deposits (*ie* pit ***18*** (*Section 2.5.2*), ditch ***147*** (*Section 2.5.3*), and garden soils ***154***/***183A***/***185***/***200*** and ***30*** (*Sections 2.5.3* and *2.5.4*)), with a particularly concentration (98 fragments) in pit ***18***. Other fragments might, however, date to the medieval period, specifically the four fragments from Phase 2 pit ***73*** (*Section 2.3.6*), and the three fragments from Phase 3 pit ***16*** (*Section 2.4.5*). The remaining ceramic tiles were recovered from Phase 6 levelling layer ***25*** (one fragment) and modern demolition layers (nine fragments).

3.4.2 The majority of the tile is undiagnostic, varying in size from 60mm to 100mm, in a similar orange to red fabric with poorly sorted quartz sand and occasional larger quartz granules, although there were a few examples with pulled nibs from the Phase 4 features/deposits. These examples represent Rosemary or plain tiles, which form a common post-medieval and early modern tile type within Derby (Derby City Council 2012, 51).

3.5 Metalwork

Christine Howard-Davis and David Higgins

3.5.1 Only 20 items of metalwork (iron, copper alloy, and lead) were recovered, with just under half of these coming from modern demolition layers of little archaeological value (*cf* OA North 2015). Within the assemblage from medieval and post-medieval features/deposits, copper-alloy objects include two fragments from a poorly preserved buckle plate of medieval date, from Building 2 (Phase 2 levelling layer ***205***;

Section 2.3.15), and a plain eighteenth-century shoe buckle from Phase 4 burnt spread ***178*** (*Section 2.5.1*).

3.5.2 Ironwork included a single nail from Phase 2 pit ***302*** (*Section 2.3.4*) and a heavily corroded object from the Phase 6 pipe kiln (Structure ***29***; *Section 2.7.1*), which contained fragments of pipe stems in its corrosion products. This object was initially thought to be some sort of pipemaker's tool (*cf* OA North 2015); however, as the corrosion products flaked off, an 'L'-shaped object weighing 106g and measuring about 133mm long by 55mm high was revealed (Plate 17; Table 6). The long arm is square in section and tapers to a blunt point, while the upright section is parallel sided with a flat end and was probably square in section originally. This can now be seen to have been some sort of a bracket or fixing rather than a tool. The long, pointed, horizontal could be driven into a wood or a masonry joint to leave a secure vertical support projecting. Given that it came from amongst the kiln debris, it may have formed part of the fittings for the fire bars, or come from around the stoke hole of the kiln.

Plate 17: A *wrought-iron fitting from amongst the kiln debris (Scale 50mm)*

3.5.3 Two items of lead came from medieval (Phase 2) deposits. These were a fragment of lead sheet from levelling layer (***205***; *Section 2.3.15*) and a large melted lead fragment from pit ***339*** (*Section 2.3.5*) suggestive of lead working in the vicinity.

3.6 Industrial residues

David Starley with Richard Gregory

3.6.1 A total of 16.6kg of metalworking debris was recovered from the site, which was examined visually with the aid of a streak plate and magnet and, where necessary, by observation of fresh fracture surfaces. The bulk of the material (13.25kg) was derived from Phase 2-4 deposits, with the majority associated with Phase 2, whilst other material came from beneath the Georgian cellars in evaluation Trench 1 and from modern demolition deposits, probably residual material derived from earlier

deposits. All was classified into the standard categories based on those developed by the former English Heritage Ancient Monuments Laboratory (Starley 1995) and was divided by the types of debris and the activities which produced them (*Appendix C*).

3.6.2 ***Phase 2 residues***: most of the material from Phase 2 deposits (Table 7) is consistent with medieval ironworking, and spatially much of this (6.5kg) was focused on Building 1 (*Section 2.3.12*), suggesting that this was a workshop engaged in this type of industrial activity. Other ironworking residues came from Phase 2 cess/refuse pits (3.6kg), with lesser amounts from posthole ***244*** (*Section 2.3.16*) and garden soil ***231*** (*Section 2.3.19*).

Feature	Activity	Classification	Weight (g)
Building 1: stakehole ***139***; pit ***233***; and posthole ***235***	*Iron smithing*	Smithing-hearth bottoms (two fragments)	3856
		Flake hammerscale	<<1
	Undiagnostic ironworking	Undiagnostic ironworking slag	1950
		Iron-rich cinder	169
	Fuel	Shaley coal	581
Pit ***199***	*Iron smithing*	Smithing-hearth bottoms (three fragments)	1063
		Flake hammerscale	<<1
	Undiagnostic ironworking	Undiagnostic ironworking slag	28
Pit ***212***	*Metalworking or other high-temperature process*	Cinder	764
Pit ***321***	*Iron smithing*	Smithing-hearth bottoms	405
		Flake hammerscale	<<1
		Spheroidal hammerscale	<<1
	Undiagnostic ironworking	Undiagnostic ironworking slag	728
Pit ***327***	*Non-ferrous metalworking*	Copper-alloy dross	32
Pit ***373***	*Iron smithing*	Smithing-hearth bottoms	629
Posthole ***244***	*Iron smithing*	Smithing-hearth bottom	1134
Garden soil ***231***	*Undiagnostic ironworking*	Undiagnostic ironworking slag	80

Table 7: Phase 2 industrial residues

3.6.3 The Phase 2 ironworking residues comprise iron slag, including smithing-hearth bottoms. These have a characteristic plano-convex section, with a rough convex base and a vitrified upper surface, that is flat or even slightly hollowed, as a result of the downward pressure of air from the tuyère (Bayley *et al* 2008). Compositionally, the smithing-hearth bottoms are predominantly fayalitic and formed as a result of high-temperature reactions between the iron, iron-scale and silica (*ibid*). Although many of these smithing-hearth bottoms indicate the presence of iron smithing (*ie* the

shaping of iron objects through forging), significantly, two unusually large examples were recovered from Building 1, pit ***233*** and posthole ***235*** (*Section 2.3.14*), measuring 130 x 110 x 75mm and 170 x 160 x 110mm respectively, whilst another large example (145 x 100 x 75mm) came from posthole ***244*** (*Sections 2.3.16)*. These large slags might, therefore, derive from the smithing of iron blooms, in order to consolidate them into a bar or billet (Paynter 2011), perhaps being produced in the putative iron-smelting furnace identified in Building 1 (*Section 2.3.14*).

3.6.4 In addition to bulk slags, iron smithing also produces flake hammerscale, which consists of fish-scale-like fragments of the oxide/silicate skin of the iron dislodged during working (Starley 1995). Importantly, this material was also found in Building 1, suggesting that, aside from the putative iron-smelting furnace, this workshop also contained a smithing hearth and anvil (*cf* Mills and McDonnell 1992). Flake hammerscale was also present in pits ***199*** and ***321*** (*Sections 2.3.8* and *2.3.11*). This latter pit also contained spheroidal hammerscale, which results from the solidification of small droplets of liquid slag expelled during hot working, particularly during fire welding, or when a slag-rich bloom of iron is first worked into a billet or bar (Starley 1995). This might therefore provide further confirmation for iron production at the site.

3.6.5 Much or the remaining Phase 2 debris was more ambiguous, comprising undiagnostic ironworking slag from Building 1, pits ***199*** and ***321***, and garden soil ***231***. Such irregularly shaped fayalitic slags are produced by both iron smelting and iron smithing processes. One fragment of dense slag was also recovered, though this is a residue type that no longer possesses morphological features which allow it to be identified (Bayley *et al* 2008). Further material clearly had its origins in high-temperature processes, but it could not be confirmed positively as being linked with the working of iron or other metals.

3.6.6 It is evident, however, that, in addition to ironworking, copper working also occurred during Phase 2. This was evidenced by fragments of copper-alloy dross from pit ***327*** (fill ***322***; *Section 2.3.10*). The dross formed a turquoise-coloured copper-alloy corrosion product bonded in a mineral matrix, which suggests that this was derived from casting, particularly as mould fragments with copper-alloy residue were recovered from the same pit fill. Moreover, the presence of charcoal associated with one sample may suggest that the material was skimmed from the surface of a crucible, where charcoal had been added to prevent oxidation.

3.6.7 Building 1 produced one large piece of poor-quality coal, with a rather shaley consistency, suggesting that this was used as fuel during Phase 2. The use of coal in medieval ironworking would certainly not be out of place, as it was first used for smithing in the Roman period, and then was increasingly used throughout the medieval and post-medieval periods (Dearne and Branigan 1995). Occasional pieces of cindery/clinkery slag were also recovered, suggesting that these were produced in a coal- or coke-fired hearth.

3.6.8 ***Phase 3 residues:*** pit ***289*** produced fragments of copper-alloy dross, indicating that copper-working continued at the site during Phase 3 (Table 8). In addition, it also

seems that ironworking, probably iron smithing, was again a feature of small-scale industry during Phase 3.

Feature	Activity	Classification	Weight (g)
Pit ***277***	*Iron smithing*	Smithing-hearth bottom	190
		Flake hammerscale	<<1
	Undiagnostic ironworking	Undiagnostic ironworking slag	161
	Metalworking or other high-temperature process	Fired clay	69
	Fuel	Coal	471
Pit ***289***	*Undiagnostic ironworking*	Undiagnostic ironworking slag	669
	Non-ferrous metalworking	Copper-alloy dross	74

Table 8: Phase 3 industrial residues

3.6.9 The probable iron smithing during this phase was evidenced by the presence of undiagnostic ironworking slag in pits ***289*** and ***277*** (*Section 2.4.2*), whilst pit ***277*** also contained smithing-hearth bottoms and flake hammerscale. Pit ***277*** also produced a piece of coal, indicating that this was also used as a fuel during Phase 3.

3.6.10 ***Phase 4 residues:*** the Phase 4 residues came from a garden soil and might therefore represent residual material that was originally a product of Phase 2 and 3 activity. This material is not that informative, however, as it merely comprises undiagnostic slag, dense slag and hearth lining.

3.7 Glass

Christine Howard-Davis

3.7.1 Two items of early glass were found in the site, both from Phase 4 garden soils. One of these, from soil ***30*** (*Section 2.5.3*), is the base of an eighteenth-century wine bottle (*cf* Dungworth 2012), whilst the other, from soil ***183A*** (*Section 2.5.3*), is the base of a greenish 'forest-glass' beaker (Hurst Vose 1980). This is in poor condition, but can be dated, probably, to the later seventeenth century.

3.8 Stone object

Christine Howard-Davis

3.8.1 A well-used whetstone was recovered from Phase 2 pit ***302*** (*Section 2.3.4*). This had utilised a pebble of fine-grained mudstone.

3.9 Wooden object

Christine Howard-Davis

3.9.1 A single fragment of a wooden object was found during the open-area excavations. This comprised the poorly preserved wooden handle for a whittle-tang blade from a modern demolition layer (***111***; *cf* OA North 2015) in Area A. The distinctive 'pistol-grip' shape of the handle suggests an eighteenth-century date (Hume 1969, 178).

4 ENVIRONMENTAL REMAINS

4.1 Introduction

4.1.1 The site contained a wealth of environmental data. This took the form of animal and fish bone, insects, charred and waterlogged plant remains, and charcoal (*cf* OA North 2015). Much of this material was contained in Phase 2 and 3 cess/refuse pits and the plant remains, insects, and fish bones from several of these were the subject of detailed analysis. The animal bone was also subjected to additional quantification, in line with the updated stratigraphic narrative that was produced as part of the present analysis (*Section 2*).

4.2 Animal bone

Andrew Bates with Richard Gregory

4.2.1 ***Methodology:*** the animal bone was recovered by hand during the evaluation and open-area excavations and it was identified using the OA North reference collection. All parts of the skeleton were identified where possible, including long-bone shafts, skull fragments, teeth, and fairly complete vertebrae. Sheep/goat distinctions were attempted using reference material and Boessneck (1969), Kratochvil (1969), and Prummel and Frisch (1986).

4.2.2 For each species or species group, the following were recorded: the number of individual specimens (NISP); total number of fragments; preservation category; the number of measurable bones; the number of butchered bones; the number of mandibles or mandibular loose teeth from which the wear pattern could be described; and the number of bones from which the epiphyseal fusion state could be identified. These data were entered into a digital spreadsheet, which forms part of the site archive. Tooth wear and fusion data are used to assess the age of death of the principal stock animals (cattle, sheep/goat, and pig). Biometrical data are used to assess the size and, in some instances, the sex ratio of the principal stock animals. The preservation categories provide a useful indicator to the general condition of the assemblage. These categories are:

- *very poor*: very fragile bone, normally highly fragmented, with severe erosion to its surface;
- *poor*: longitudinal cracks in long bones abundant, and significant erosion to the surface of the bone; material is generally fragile;
- *moderate*: flaking or erosion of the bone surfaces, but the depth and/or extent of erosion is not too severe. Bone is reasonably robust, but with longitudinal cracks in long bones normal. Fragmentation may vary, but is normally less than 50% of the complete bone present;
- *good*: robust bone with little in the way of longitudinal cracking of long bones, and little erosion to the bone surfaces. Fragmentation is usually minimal, but will vary;

- *very good*: no or very minimal surface erosion and no longitudinal cracking of long bones. Bones are frequently nearly complete, unless fragmented by butchery.

4.2.3 ***Results:*** the number of individual specimens (NISP) within the assemblage was 308, with six of these being either unstratified or deriving from modern deposits. One (cattle) specimen was associated with a Phase 5 wall. Those recorded in the Phase 2-4 deposits and features have been quantified and divided by species (301 NISP; Table 9), and it is evident that the bulk came from Phase 2 features/deposits (267 NISP).

Species	Phase 2	Phase 3	Phase 4
Equus sp	8		
Cattle	49	4	9
Pig	16	1	2
Sheep/Goat	46	2	2
Sheep	5		
Dog	6		
Hare	1		
Red Deer	1		
Roe Deer	1		
Cattle/Red Deer	8	1	
Sheep/Goat/Roe Deer	1	1	
Cat-sized Mammal	1		
Medium Mammal	46	2	2
Large Mammal	47	5	2
Unidentified Mammal	28		1
Bantam Hen	1		
Domestic Fowl	1		
Unidentified Bird	1		
Total	**267**	**16**	**18**

Table 9: Number of Individual Specimens (NISP) by species and phase

4.2.4 The Phase 2 material derived from the large cess/refuse pits, smaller refuse pit ***366*** (*Section 2.3.10*), garden soils (***228*** and ***231/342***; *Section 2.3.19*), Buildings 1 and 2, horticultural trenches (***358***, ***360***, and ***362***; *Section 2.3.19*), boundary ditch ***55*** (*Section 2.3.17*), and a midden deposit (*Section 2.3.20*). In general, the identifiable bone is in a moderate to good condition, often fragmented, but with limited erosion to the surface (OA North 2015). Of the species that can be confidently identified, the most frequently occurring bones came from cattle (49 NISP), and to this number can probably be added some of the specimens within the cattle/red deer category. Sheep also seem to have formed an important component of the assemblage, as five definitive sheep specimens were present, along with 46 sheep/goat specimens. Indeed, although the separation of sheep and goat skeletal remains is problematic, sheep bones are the most likely species occurring within this latter generic category. Pig also seems to have been important to the medieval economy (16 NISP), with limited numbers of possible domestic fowl/bantam. Several *Equus* bones are also

present, which reflect the presence of horse or donkey, or their hybrids (mule and hinny). Finally, dogs (six NISP) and possibly a cat (one NISP) were recorded, along with some wild species (hare, red deer and roe deer).

4.2.5 The total number of potential tooth wear and fusion records, used to estimate the mortality profile of stock animals, as well as the number of measurable teeth, is too low to be useful in analysis. Butchered bone includes specimens from all the principal stock animals (cattle, sheep/goat, and pig), as well as a cut-marked dog radius. Overall, the impression gained from the assemblage is that much of the bone was the product of normal butchery and kitchen waste.

4.2.6 It also worth noting that a large proportion of the Phase 2 assemblage was derived from the possible midden deposit (*Section 2.3.20*) in evaluation Trench 4 (Table 10). The species present largely mirror those found in the Phase 2 assemblage as a whole, though this midden may have contained a higher ratio of sheep and sheep/goat, to cattle.

Cattle	23
Pig	12
Sheep/Goat	37
Sheep	1
Dog	2
Hare	1
Roe Deer	1
Cattle/Red Deer	2
Sheep/Goat/Roe Deer	1
Medium Mammal	32
Large Mammal	28
Unidentified Mammal	21
Domestic Fowl	1
Unidentified Bird	1
Total	**163**

*Table 10: Number of Individual Specimens (NISP) by species from midden deposit **32/60/65/70***

4.2.7 The Phase 3 assemblage is too small to provide at any firm conclusions regarding diet/economy. The material was, however, recovered from all three of the Phase 3 refuse/cesspits (***277***, ***289***, and ***303***; *Section 2.4.1*), and included the three main domesticates (cattle, pig and sheep). Again, it is quite possible that most of this material represented butchery/kitchen waste.

4.3 Fish bone

Rebecca Nicholson

4.3.1 Although no fish bones were recovered by hand during the excavation, during the processing of soil samples as part of the post-excavation assessment, three 10 litre samples (25, 74, and 75) contained a very unusual assemblage of fish remains (OA North 2015), and these were subjected to detailed analysis. The analysis entailed wet-sieving two 1 litre sub-samples to 0.5mm from samples 74 and 75, and one 0.5 litre

sub-sample from sample 25, and identifying the extracted fish remains. In addition, the larger (10 litre) sample residues and flots were scanned for any additional taxa.

4.3.2 All three samples derive from Phase 2 refuse/cesspits, sample 25 from pit ***212*** (fill ***216/217***; *Section 2.3.3*), and samples 74 and 75 both from pit ***373*** (sample 74 from secondary fill ***371*** and sample 75 from basal fill ***372***; *Section 2.3.4*). Significantly, sample 74 (pit ***373***) was extremely rich in bones from small and tiny fish.

4.3.3 ***Methodology:*** bones were identified using the author's bone reference collection and published keys (*eg* Conroy *et al* 2005). The challenging nature of the remains, which are well preserved but very diverse and tiny, meant that only a selection could be identified. Residue sorting and bone identification was undertaken using a Meiji EMT binocular microscope.

4.3.4 Where appropriate, fish sizes were estimated by a combination of bone measurements and direct visual comparison with bones from comparative modern fishes. Measurements were taken, using digital callipers to 0.01mm on an eel cleithrum, but generally the remains were too small to measure accurately in this way. Undiagnostic fragments of bone and bones which are difficult to speciate (including rays, spines, ribs and radials, with the exception of the diagnostic stickleback spines) have not been identified or quantified, and a significant number of bones, especially vertebrae, that are potentially identifiable at least to family level, remain unidentified.

4.3.5 ***Results:*** while over 550 identifiable bones were present (Table 11), a large proportion of those in sample 74 (pit ***373***) remain unidentified, as many of these are vertebrae, which can be difficult and time-consuming to speciate. A significant proportion of these, however, are potentially identifiable and will include already identified species (particularly Cyprinidae).

Pit		***212***	***373***		TOTAL
Fill		***216/217***	***371***	***372***	
Sample		25	74	75	
Vol sediment processed		0.5 litres	1 litre	1 litre	
Rajidae	rays		1		1
Anguilla anguilla	eel	1	8	1	10
Salmonidae	salmonid	4	5		9
Salmo trutta	trout		1		1
Clupeidae	herring family	2	37	1	40
cf Clupeidae	*cf* herring family		1		1
**cf Thymallus thymallus*	*cf* grayling		3		3
Esox lucius	pike	5	22	1	28
Cyprinidae	cyprinids	7	69	1	77
Alburnus alburnus	bleak		1		1
cf *Alburnus alburnus*	*cf* bleak		1		1
Gobio gobio	gudgeon		4		4
cf Gobio gobio	*cf* gudgeon		5		5
Phoxinus phoxinus	minnow		12		12
Leuciscus/Squalius	chub/dace			3	3
Leuciscus/Squalius/Scardinius	chub/dace/rudd		2		2
Barbatula barbatula	stone loach		2		2
Trisopterus minutus	poor cod		1		1
Melogrammus aeglefinus	haddock		1		1
Gasterostidae	sticklebacks		5	1	6
Gasterosteus aculeatus	three-spined stickleback		22		22
Cottus gobio	bullhead		15		15
Percidae	perches		1	4	5
Gymnocephalus cernua	ruffe	1	1		2
Perca fluviatilis	perch		5		5
Scomber scombrus	mackerel			1	1
cf Antherina presbyter	*cf* sandeel		1		1
flatfish	flatfish		1		1
Unidentified			297	3	300
Grand Total		20	524	16	560

*Recovered from bulk sample flot

Table 11: Identified fish species in the Phase 2 cess/refuse pits

4.3.6 Sample 25 (pit ***212***) included only a few fish bones, from herring or sprat (Clupeidae), eel, small and tiny salmonid (Salmonidae, trout or juvenile salmon), juvenile pike, small cyprinids and ruffe. Most of the fragments were vertebrae, and include distorted/chewed clupeid examples suggesting that the feature held at least some faeces. Sample 75 (pit ***373***) also included only a few identifiable fish remains, from clupeid (probably herring), eel and mackerel, as well as juvenile pike, perch, chub or dace and stickleback. Several distorted/chewed mackerel and clupeid vertebrae again point to the inclusion of latrine waste.

4.3.7 Sample 74, from pit ***373***, was the richest sample and, indeed, the 2-0.5mm residue fraction, from what was only 1 litre of sediment, proved especially time-consuming to sort owing to the density of tiny fish bones, most of which were in very good condition. Taxa present include a range of small and tiny cyprinids: gudgeon; minnow; bleak; chub/dace/rudd; as well as perch, pike and bullhead. The only sea fish were

haddock (a single post-temporal from a fish *c* 250mm long), poor cod (a tiny articular), clupeid (probably herring), as well as a possible sand smelt (premaxilla). A single tiny flatfish vertebra may be flounder (*Platychthys flesus*), a fish which can be found upstream in freshwater, as well as in the sea. Again, this sample included some distorted/chewed vertebrae, mainly but not exclusively clupeid. Although all the clupeid bones were vertebrae, those of other fish included both cranial and post-cranial elements. There were only a few fragments of fish scale and no otoliths. The residues and flot from the larger bulk sample were also scanned for additional taxa, and also to identify the presence of any larger fish; however, the only new fish discovered, and that only tentatively, was grayling, identified from three tiny vertebrae.

4.3.8 ***Discussion:*** the assemblage from pit ***373***, in Area C, in particular is highly unusual and certainly includes the remains of fish that had been eaten. The excellent preservation of the bones indicates that the fill ***371*** must have been sealed fairly quickly and it is likely that it was deposited in a short period of time. In terms of fish size and bone condition, the remains resemble those identified from the Roman sewer at Herculaneum (Nicholson *et al* 2018). The great majority of fish in all of the samples are freshwater, but while in itself this could be expected from the inland position of the site, the tiny size of the fish is surprising: most of the bones came from fish of less than 150mm and frequently less than 100mm long. These must have been caught locally using fine nets, and this, in turn, reveals the diversity of fish that must have been available in the nearby rivers and streams. Many of the bones are from fish that would not now be considered edible, including tiny cyprinids and sticklebacks, yet they were clearly eaten or at least intended as food. While some of the tiny bones may have come from the guts of larger fish, the absence of evidence for such fish makes this suggestion less likely. Additionally, a proportion of the bones, especially from sample 74, and especially the larger clupeid (herring/sprat) vertebrae, are distorted in a manner consistent with chewing and digestion, and this together with seeds and mineralised material in the sample indicates that the pit contained human latrine waste.

4.3.9 Absent from the site are any bones from fish in excess of about 250mm long, despite the fact that dried cod and related species were widely consumed in medieval England (Barrett 2016). The clupeid and mackerel bones are likely to have come from preserved fish, either pickled or smoked, and the other seafish were probably salted. These would not have been esteemed, and would have been fairly cheap (*ibid*). This, together with the abundant tiny freshwater fish, perhaps indicates that the owners of the tenement were not affluent, although they probably had access to fishing equipment. It is notable that all of the freshwater fish that have been identified are listed as among the 30 species present in the River Trent in the nineteenth century (Glover 1831, 29), and are likely also to have been found in the River Derwent and its tributaries.

4.3.10 The absence of fish in other features, apart from pit ***212***, may be an indication that fishing was not widely practised and fish not often consumed. There appear to be no other sites in Derby with published fish assemblages, although a small quantity of unidentified fish, including scales, was reported from the Magistrates Courts

(Monkton 2003). The consumption of small and tiny freshwater fish in medieval England is documented both archaeologically (*eg* Nicholson 2019) and in written records, where they are typically referred to as 'minnows'. The concentration of these remains and absence of larger fish is what makes this assemblage particularly unusual.

4.4 Insects

Enid Allison

4.4.1 Four soil samples were identified that were particularly rich in insect remains. One of these (17) was derived from Phase 2 pit ***177*** (fill ***175/176***; *Section 2.3.7*), an element of Pit Group 1, whist the remaining three samples (46-8) came from the basal fills (***284***, ***285***, and ***288***) of Phase 3 pit ***289*** (*Section 2.4.2*).

4.4.2 ***Method:*** the original sample volumes were either 4 litres or 10 litres, the flots having been recovered on 0.25mm mesh and subsequently dried. Once received, the dried material from all the flots was soaked in water for several days. Paraffin flotation was then carried out on two of the flots, broadly following the methods of Kenward *et al* (1980), with recovery on 0.3mm mesh. Rewetting the other two flots appeared to have been less successful; much of the organic material remained clumped together and small numbers of insect remains were occasionally visible within the clumps. It was therefore decided to sieve the rewetted material from these samples to 0.3mm and sort it in its entirety, rather than carrying out paraffin flotation.

4.4.3 For analysis, beetle (Coleoptera) and bug (Hemiptera) sclerites were removed, from the paraffin flots and rewetted flots, onto moist filter paper for examination under a low-power stereoscopic zoom microscope (x10-x45). Identification was by comparison with modern insect material and reference to standard published works (*eg* Duff 2012; Hansen 1987). Numbers of individuals and taxa of beetles and bugs were recorded, and taxa were divided into broad ecological groups as an aid to interpretation (Kenward *et al* 1986; Kenward 1997; Smith *et al* 2020). Nomenclature of Coleoptera follows Duff (2018). Abundances of other invertebrates, including insects other than beetles and bugs, were recorded semi-quantitatively on a four-point scale as: + = occasional; ++ = moderately frequent; +++ = frequent; ++++ = abundant.

4.4.4 ***The insect assemblages:*** moderate to good-sized insect assemblages were recovered from two of the samples. There may have been under-recovery in the other two samples because of the persistent clumping (*Section 4.4.2*). The majority of the insect remains showed moderate to advanced signs of erosion, in the form of varying degrees of loss of colour, surface texture and three-dimensional structure. Fragmentation was relatively low, however, which meant that even badly eroded material could usually be identified to a useful taxonomic level (*Appendix D*). The proportions of various ecological groups in the two largest assemblages are shown in Table 12.

Pit	**177**	**289**
Context	175/176	284
Sample	<17>	<46>
Total individuals	173	76
% Dry decomposers [rd]	10%	15%
% Foul decomposers [rf]	10%	11%
% General decomposers [rt]	39%	36%
% Total decomposers [RT]	60%	61%
% Grain pests [g]	0%	1%
% Wood-associated taxa [l]	3%	8%
% Aquatics [w]	1%	1%
% Damp ground/waterside taxa [d]	8%	0%
% Plant-associated taxa [p]	6%	1%
% Outdoor taxa [oa]	9%	3%
% Outdoor + probable outdoor taxa (oa+ob)	13%	7%
% House/building fauna	10%	15%
% Scarabeoid dung beetles	2%	3%
% Oxyteline association	27%	13%
% Strong synanthropes [ss]	1%	4%
% Typical synanthropes [st]	17%	21%
% Facultative synanthropes [sf]	35%	30%
% Total synanthropes [S]	53%	55%

Proportions were not calculated for the two assemblages when less than 20 individuals, and many taxa belong to more than one group

Table 12: Proportions of beetles and bugs representing particular ecological groups, based on numbers of individuals

4.4.5 ***Pit 177 (Phase 2, sample 17):*** an estimated 173 beetles and bugs of 81 taxa were recorded. Other insect remains included anal spiracles of rat-tailed maggots, the larvae of a hoverfly (Syrphidae, probably drone fly *Eristalis tenax*) found in foul standing liquids and frequently occurring in cesspits (*cf* Smith 2013). Fly puparia were common but were not further investigated.

4.4.6 Bean weevils (*Bruchus* cf *rufimanus*) are likely to have arrived in the pit directly in faeces, adding to the plant macrofossil evidence for diet. Their larvae develop within medium and large legume seeds, especially in field beans (Hoffman 1945, 43) and they would frequently have been consumed within infested pulses. The beetles survive passage through the gut well, and in archaeological contexts the presence of their remains is generally indicative of faeces. No peas or beans were noted among the plant remains from this sample, but this is not unusual in waterlogged deposits,

since legume seeds that are neither charred nor mineralised do not preserve well (*eg* Allison and Hall 2001; Carruthers and Allison 2015).

4.4.7 Decomposer beetles were by far the most numerous group, accounting for 60% of the assemblage, the majority being synanthropic to some degree (favoured by man-made habitats associated with occupation and human activity). In reality, the decomposer element would almost certainly have been larger than this, since some taxa that most probably formed part of the decomposer community were not identified closely enough to be grouped, notably various uncoded Aleocharinae and Staphylininae species. Within the decomposer component, a substantial group of oxyteline rove beetles (*Platystethus arenarius* and several *Anotylus* species), accounting for over a quarter of the insect assemblage, are suggestive of moist dirty conditions both within and/or close to the pit.

4.4.8 Another characteristic group making up 10% of the assemblage were beetles associated with relatively dry mouldering decomposing organic material that are typical of a community that would have developed in organic litter within ancient houses or other buildings (Hall and Kenward 1990; Kenward and Hall 1995; Carrott and Kenward 2001). Such a fauna indicates the deposition of discarded litter into the cesspit, a practice that appears to have been of regular occurrence, perhaps in an attempt to reduce odours. Beetles specifically associated with foul decomposing matter, typically dung, were quite common (10% of the assemblage) and they included *Cercyon haemorrhoidalis*, *C nigriceps*, *Cryptopleurum minutum*, and *Aphodius granarius*. This might possibly indicate that the litter came from within buildings where animals were kept, but the evidence is equivocal, since a cesspit would have attracted a similar range of insects in its own right. Woodworm beetles (*Anobium punctatum*) probably also originated among material from buildings, although the species would have formed part of the background fauna of any medieval settlement where wooden buildings and other structures were common.

4.4.9 A limited range of 'outdoor' insects was recorded (*ie* taxa not usually found within buildings or in accumulations of decomposing organic material), most of which were highly fragmented and not closely identifiable. They included two taxa associated with both wild and cultivated Brassicaceae (*Phyllotreta*, *Ceutorhynchus*), perhaps indicating disturbed or cultivated ground close to the pit. Two water beetles were noted: *Esolus parallelepipedus*, which is exclusively found in clean, clear, running water (Holland 1972); and *Helophorus* species that as a group are attracted to many kinds of water bodies even if small or temporary (Foster *et al* 2014). While the latter beetle could have invaded standing water in the pit, *Esolus* is probably more likely to have entered the pit in waste water.

4.4.10 A last group of beetles that is worthy of note consisted of several taxa that may have been post-depositional invaders of various kinds of buried organic matter. These included *Trechoblemus micros*, *Coprophilus striatulus*, ?*Triconyx sulcicollis* (Kenward and Allison 1994).

4.4.11 ***Pit 289 (Phase 3, sample 46):*** insect remains were moderately common in pit ***289***, the assemblage consisting of an estimated 76 individuals of 43 taxa. The most numerous species was *Coprophilus striatulus*, which is often well-represented in cess

deposits (Smith 2013), where it is suspected of potentially being a post-depositional invader, as is the subterranean ground beetle, *Trechoblemus micros* (Kenward and Allison 1994), represented by three individuals. The species composition of the rest of the assemblage varied only slightly from the sample from pit ***177*** (Table 12), and the implications for the deposition of organic litter from within a building, and for moist, dirty conditions within and/or around the pit, were very similar. No damp ground or waterside taxa were recorded, however, perhaps suggesting that conditions in and around the pit may have been less damp than in pit ***177***, but since the assemblage in this case consists of less than 100, statistics must be interpreted with caution.

4.4.12 The head of a grain weevil (*Sitophilus granarius*) could conceivably have arrived in human faeces, but since cereals consumed by humans are likely to have been milled, the completely undamaged head suggests a more likely origin would be in dumped litter, which could include straw or stable manure from within a building. A single individual is certainly not enough to indicate the dumping of spoiled cereals: in deposits interpreted as dumps of spoiled grain, pest species often make up over 50% of the insect fauna (Smith and Kenward 2012).

4.4.13 In view of the possibility that medieval Sadler Gate had a connection with leatherworking, a poorly preserved, pale, underside fragment of *Trox scaber* is worthy of mention. This hide beetle (Trogidae) is rare at the present day, usually occurring in birds' nests, especially where bones or dried animal matter are present (Jessop 1986, 14). It is regularly recorded from urban archaeological sites, however, where it appears to be especially associated with the floors of ancient buildings, which presumably provided a comparable habitat. In some cases, there appears to be a connection with the working and tanning of skins, leather working or horn processing (Hall and Kenward 2011). It is possible that some of the litter deposited in the pit came from workshops connected with some of these craft activities, or included tanning waste, and the presence of significant amounts of comminuted wood and bark in three other samples from pit ***289*** (*Section 4.5.13*), although not this one, is certainly suggestive of a connection. Disused tan bark could well have been used as floor litter (Hall and Kenward 2011).

4.4.14 ***Pit 289 (Phase 3, sample 47):*** the rewet flot from sample 47 produced a small beetle assemblage consisting of 20 individuals of 16 taxa. Records of *Epauloecus unicolor* (a spider beetle), *Latridius minutus* group, and *Mycetaea subterranea*, probably together with several woodworm beetles, provided clear indications that material from a wooden building had been deposited in the pit. *Epauloecus* occurs in damp mouldy debris (O'Farrell and Butler 1948) and archaeological evidence suggests that it is particularly characteristic of long-lived high-quality buildings (Kenward 2009, 309). Modern records of *Mycetaea subterranea* are mainly from decaying straw and wood in dry cellars, barns and stables, and in association with the dry-rot fungus *Merulius lacrymans* (Hinton 1945; Palm 1959). The rove beetle, *Creophilus maxillosus*, is a predator typically found in carrion but it would probably also exploit other habitats rich in fly larvae (Lott and Anderson 2001, 252). Fragmentary fly puparia and pupae were fairly frequent in the flot.

4.4.15 ***Pit 289 (Phase 3, sample 48):*** the few insect remains recorded from the rewet flot from this sample included the subterranean *Trechoblemus micros,* two scarabaeoid dung beetles (Geotrupinae, Aphodiinae), and an anal spiracle, probably of the drone fly (*Eristalis tenax*). All of these species suggest rather foul conditions.

4.4.16 ***Discussion:*** the insect material from the samples is in many ways typical of cesspits. Few insects provide direct evidence of food consumed, the main exception being bean weevils, seen here in small numbers in sample 17 from pit ***177*** (fill ***175/176***; *Section 4.4.6*). The remaining fauna consists of: insects introduced with discarded litter from within buildings, probably at least partially to dampen odours; insects that were attracted to habitats within the pits; and smaller numbers of taxa from vegetation and habitats in the immediate vicinity.

4.5 Plant remains and charcoal

Denise Druce

4.5.1 Following the assessment of some 59 bulk samples taken during the excavations, further analysis of the plant remains from six medieval/early post-medieval pits was carried out. The anoxic nature of several of the pit fills meant that waterlogged plant remains were exceptionally well-preserved. The presence of food waste, combined with high levels of mineralisation caused by calcium phosphorus replacement, suggests that much of the material entering the pits was excrement. Cesspits (or latrines) contain a wealth of information on diet and living conditions (Greig nd; 1981) but, although several medieval sites have been excavated in Derby, no previous investigations have included the archaeobotanical analyses of waterlogged food remains from such features. Rather, most medieval assemblages have comprised charred plant remains, which are likely to derive from domestic activities such as food preparation, or spent flooring/bedding waste.

4.5.2 ***Quantification:*** of the 59 bulk samples assessed for archaeobotanical remains, 13 were prioritised for further archaeobotanical study. Sample selection was based primarily on the abundance and diversity of the remains, and the integrity of the deposit from which they came; complete sequences within features were selected where appropriate. The 13 samples came from six pits, of which four (***177***, ***212***, ***327***, and ***373***; *Sections 2.3.3, 2.3.4, 2.3.7* and *2.3.10*) date to Phase 2, whilst the other two (***277*** and ***289***; *Sections 2.4.2*) date to Phase 3 (*Appendix E*).

4.5.3 ***Methodology:*** each sample was processed using a modified Siraf-type flotation machine. The resulting flots were collected onto a 250µm mesh and air-dried. The residue was also dried and checked for any residual organic material and finds. The flots were examined with a Leica MZ6 binocular microscope, and any plant remains were identified where possible. Whole charred fruits/seeds and cereal ear fragments were counted, though highly fragmented remains, such as charred cereal grain fragments, fine chaff (*eg* awns, lemma/palea), and waterlogged fruits/seeds (of which there are often hundreds), were quantified using a scale of 1 to 4, where: 1 represents less than five items; 2 between six and 25 items; 3 between 26 and 100 items; and 4 over 100 items. Other material, such as charcoal, bone fragments, ceramic building material (cbm) and metal waste, was also quantified using this method. Identification

was aided by comparison with the modern reference collection held at OA North, and with reference to the *Digital Seed Atlas of the Netherlands* (Cappers *et al* 2006). Nomenclature follows Stace (2010).

4.5.4 ***Charred remains:*** *q*uantities of charred plant remains were generally small and comprised varying amounts of cereal crops, dominated by wheat (*Triticum* sp) and oat (*Avena* sp). As might be expected for the later medieval period, several of the wheat grains exhibited characteristics consistent with a free-threshing variety of wheat, most likely bread wheat (*Triticum aestivum*; Jacomet 2006). Also, although no diagnostic oat floret bases were present, the relatively large size of the oat caryopses, and marked embryo scars, suggests they are likely to be the common, cultivated, oat (*Avena sativa*). Several rye (*Secale cereale*) grains were also recorded; however, barley (*Hordeum* sp) was conspicuously absent. Other charred food remains were limited to the occasional garden pea/bean (*Pisum sativum/Vicia faba*).

4.5.5 Consistent with many medieval urban sites, charred cereal chaff and weed seeds were not well represented. Given that most medieval cereals were free-threshing, it is likely that crop processing was carried out close to, and soon after, harvest, and away from towns and cities (van der Veen *et al* 2013). The presence of common lemma/palea (husk) fragments from probable oats from pit ***177*** suggests, however, that these arrived at the site in a semi-processed state. Only a handful of charred weed seeds were recovered, which comprised either small seeds from the pea family (Fabaceae) or small grass seeds (Poaceae).

4.5.6 The charred crops may represent whole grains/pulses being used for cooking; alternatively, the cereals grains, chaff, and weed seeds may have been brought onto the site along with straw or hay being used for flooring/bedding or fodder. Either way, the material is likely to have entered the pits either as general floor debris or along with other types of household waste, such as hearth or oven residues. Indeed, wood charcoal was extremely abundant in most of the features (*Section 4.5.14*).

4.5.7 ***Waterlogged/mineralised remains:*** fruits representing probable food remains were also identified (*Appendix E*). Blackberry (*Rubus fruticosus* L agg) and elderberry (*Sambucus nigra*) seeds were particularly common and were often present in large numbers. Phase 2 pits ***177***, ***212*****,** and ***327*** produced the least diverse assemblages, containing either elderberry seeds (***327***), or both elderberry and blackberry (***177*** and ***212***; Fig 18). Although both elderberry and blackberry seeds may have originated from local scrub invading waste ground in less visited parts of the site, their association with other food remains and/or remains typically associated with cesspits (for instance, indicator insects or fish bone; *Sections 4.2.7* and *4.4*) suggests they may have also arrived in the features as faecal matter. Phase 2 pit ***373*** also contained elderberry and blackberry, along with figs (*Ficus caria*; Plate 18).

Plate 18: Fig seeds from pit 373

4.5.8 Phase 3 pits ***277*** and ***289*** both contained a much more diverse array of fruits, and in addition to elderberry and blackberry seeds, contained figs and several varieties of Rosaceous fruits, including apple/pear (*Malus sylvestris*/*Pyrus communis*), sweet/sour cherry (*Prunus avium*/*cerasus*), wild plum/damson (*Prunus domestica* ssp *insititia*), and blackthorn/sloe (*Prunus spinosa*). Both pits also contained rare wild strawberry (*Fragaria vesca*) seeds, grape pips (*Vitis vinifera*; Plate 19) and hazelnut (*Corylus avellana*) shell fragments. Fill ***288***, from pit ***289***, contained a single bilberry (*Vaccinium myrtillus*) seed. Although many of these remains are likely to represent faecal matter, the presence of larger, inedible, remains, such as nutshell fragments and larger fruit stones, suggests that at least a portion of the fills contain discarded food waste rather than material which has passed through the human gut (Greig nd; 1981).

*Plate 19: Grape pips from pit **277***

4.5.9 Other than the edible fruits, evidence for woodland/hedgerow flora was slight. Two notable additions, however, were rare seeds of hedge woundwort (*Stachys sylvatica*) from pit ***327***, and probable sweet violet (*Viola odorata*) from pit ***289***. Like many of the other herbs from the site (*Section 4.5.10*), both these plants were common medicinal and/or culinary herbs (Grieve 1931), and so may also be expected in cesspits.

4.5.10 A relatively diverse range of herbaceous seeds were recovered, including a large component typical of cultivated ground and/or waste places (*Appendix E*). It is difficult to establish exactly how these seeds arrived in the features, as many may have been cultivated in garden plots, or invaded waste areas, thereupon releasing seeds into any adjacent pits. Given their context, it is, however, feasible that many may have arrived in faecal matter. Many of the herbs recorded (and indeed growing in our gardens today) were formerly common medicinal, culinary, or economic plants (Grieve 1931; Hammond 2005; *Appendix E*). Of note is the presence of hemlock (*Conium maculatum*), black nightshade (*Solanum nigrum*), and henbane (*Hyoscyamus niger*), which are frequently recovered from medieval sites (Greig nd; 1981; 1991). Parts of all three plants are extremely poisonous to humans and a significant degree of caution would have been required if they were being prepared for medicinal purposes.

4.5.11 Seeds/fruits from several pits (***277***, ***289***, and ***373***) comprised ubiquitous crop contaminants, such as fat-hen (*Chenopodium album*), common chickweed (*Stellaria media*), corn marigold (*Glebionis segetum*), cornflower (*Centurea cyanus*), stinking chamomile (*Anthemis cotula*), and corncockle (*Agrostemma githago*). Being highly toxic to both humans and animals, corncockle would have been a despised crop weed

(Moffett 2006); however, historical records suggest that its seeds were formerly used in homeopathy (Grieve 1931).

4.5.12 Crop weeds, along with other types of flora, such as grassland plants, sedges (*Carex* sp), and rushes (*Juncus* sp), may have arrived at the site as functional material, such as flooring, thatch, straw, or hay, which ended up in the cesspits as refuse. Pit ***373*** contained the largest component of seeds/fruits of crop weeds, grasses, and damp-loving plants. In addition, its secondary deposit (***371***) contained abundant culm fragments from small grasses, which appear to have been particularly affected by calcium phosphorus replacement, and so would have been directly associated with faecal material (*Section 4.5.1*).

4.5.13 ***Wood/bark fragments:*** several of the pits contained abundant wood/bark fragments, which indicates either input from local vegetation or other dumped detritus or settlement waste. Indeed, the insect remains from fills ***284*** and ***285***, from pit ***289***, which both contained common to abundant wood fragments, are suggestive of floor litter (*Sections 4.4.11-15*). It is possible that settlement waste, like flooring/bedding, may have been regularly dumped into the features as a way of suppressing odours. Indeed, a similar practice is also suggested for charcoal and other hearth residues (*Section 4.5.14*). Other organic remains included comminuted mammal and fish bone, which may represent general food-processing waste or faecal material.

4.5.14 ***Charcoal and other remains:*** other settlement waste included comminuted ceramic material, which was particularly abundant in lower deposit ***325***, from pit ***327*** (*Section 2.3.10*). Often with fragments of daub/mortar attached, the material may represent the remains of a structure. Fuel waste, including coal, heat-affected vesicular material (havm) and charcoal, was also recovered. Given that several of the pits (***212, 277***, and ***327***; *Sections 2.3.3*, *2.3.10* and *2.4.3*) contained abundant metalworking waste, it is feasible that a component of the fuel waste came from this activity. In addition to coal, the evidence suggests a range of wood fuel was used, including oak (*Quercus* sp), alder/hazel (*Alnus glutinosa/Corylus avellana*), blackthorn-type (*Prunus* sp, which includes blackthorn/sloe and wild/bird cherry), and occasional willow/poplar (*Salix* sp*/Populus* sp), ash (*Fraxinus excelsior*), and possible field maple (*Acer campestre*). Cesspits would have provided convenient places for dumping a wide range of household/workshop waste. In addition, there is evidence to suggest that charcoal, along with the ash from hearths, ovens, kilns *etc*, may have been used as an odour suppressant (Smith 2002).

4.5.15 ***Conclusion:*** the plant remains from the site are broadly consistent with other urban medieval plant assemblages (Greig nd; 1981; 1991). Although the remains may have entered the features via several pathways, including flooring, bedding, and heating and kitchen waste, the inclusion of fruits and seeds from several culinary and/or medicinal plants, alongside other indicators (insects, fish bone, calcium phosphorus replacement) suggests much of the material entered the pits as faecal material, Phase 3 pits ***277*** and ***289*** being in receipt of a much higher range of edible food stuff than Phase 2 pits ***177***, ***212***, and ***327***.

4.5.16 Many of the fruits and plants may have been collected locally, or, alternatively, may have been cultivated in parts of the burgage plot given over to horticultural beds or

containers (Hammond 2005). Another source, especially for the less hardy fruits, such as figs and grapes, would have been from local stores or markets (*ibid*). Although early twelfth- and thirteenth-century records indicate that grapes were certainly grown in parts of England primarily for producing wine and verjuice (Greig nd; 1981), there is substantial documentary evidence for the import of a range of exotic crops into Britain, which included figs and raisins (*ibid*). Indeed, even if fig trees were cultivated in Britain, they would have been unlikely to produce fully ripened edible fruits and viable seeds (Dickson and Dickson 2000).

4.5.17 There is some suggestion that 'exotic' or imported foods, like figs and grapes, were expensive and the preserve of the wealthy (Hammond 2005). However, the remains of figs are generally widespread, and are one of the most common seeds recovered from medieval assemblages (Greig nd), suggesting that they were one of the cheapest imports (although the cost of one pound (lb) of figs was still equivalent to a day's labour during the 1300s!). It is thus possible that figs were regarded as a necessity during periods when native fruits were not available. It is, however, thought that burgesses were likely to have been relatively affluent members of society (Dickson and Dickson 2000; Livarda 2011).

4.6 Radiocarbon dating

4.6.1 Three samples were selected for dating, with one sample coming from a basal deposit (***276***) in pit ***277*** (*Section 2.4.3*), whilst the two other samples were from pit ***289*** (*Section 2.4.2*), deriving from a basal deposit (***288***) and a tertiary fill (***282***). All three samples were submitted to the Scottish Universities Environmental Research Centre (SUERC). All were assayed using the accelerator mass spectrometry (AMS) technique; full details of methods and procedures can be obtained from SUERC. The programme of dating followed the recommendations of Patrick Ashmore (1999), in that the samples represented single-entity short-lived items, which included a blackthorn/sloe fruit seed from pit ***277***, and a grape seed and wild/sour cherry seed from pit ***289***.

4.6.2 ***Results and calibration*****:** the radiocarbon results (Table 13) have been calibrated using IntCal13 and OxCal v4.3.2 (Reimer *et al* 2013; *cf* Bronk Ramsey 2001). The results have been calibrated at the 95% probability level, and rounded outwards to ten years (Mook 1986), although due to the character of the calibration curve, there is a probability that the dated materials may actually lie within distinct portions of this range. Therefore, these additional calibrated date ranges and their probabilities are also presented. Based on these latter ranges, it seems more probable that the pits date to the latter part of the fifteenth or earlier part of the sixteenth century.

Laboratory code	Material	Feature/context	Radiocarbon age (BP)	$\delta^{13}C$ (‰)	Calibrated date range (95% confidence)
SUERC-87552	*Prunus spinosa* (blackthorn/sloe) fruit stone	Pit ***277*** (deposit ***276***)	373±24	-28.2 ‰	cal AD 1440-1640 cal AD 1440-1530 (61.9%) cal AD 1550-1570 (0.7%) cal AD 1570-1640 (32.8%)
SUERC-87553	*Vitis vinifera* (grape) seed	Pit ***289*** (deposit ***282***)	385±24	-24.7 ‰	cal AD 1440-1630 cal AD 1440-1530 (72.0%) cal AD 1570-1630 (23.4%)
SUERC-87554	*Prunus avium/cerasus* (wild/sour cherry) fruit stone	Pit ***289*** (deposit ***288***)	370±24	-28.2 ‰	cal AD 1450-1640 cal AD 1450-1530 (59.0%) cal AD 1550-1570 (1.4%) cal AD 1560-1640 (35.0%)

Table 13: Radiocarbon results

5 CONCLUSION

5.1 Medieval remains

5.1.1 The site contained a significant suite of medieval remains (Phases 1-3). Although these are discussed in detail in an article submitted to the *Derbyshire Archaeological Journal* (Gregory forthcoming), in summary, they indicate potential low-level early medieval activity (Phase 1?) that most likely related to cultivation. This was seemingly within an area that may have lain to the south-west of the possible core of the early medieval *burh*, and immediately north-east of the church of St Werbugh (*Section 1.5.2*). This was then followed by more intensive later medieval activity relating to the establishment and use of two burgage plots extending back from the medieval thoroughfare of Sadler Gate. The excavated remains indicate that in the rear portions of these burgage plots, in Phase 2 (twelfth-fourteenth centuries), this activity included the digging of refuse pits, the construction of timber buildings, at least one of which seems to have been a workshop engaged in iron production/smithing, and small-scale horticulture. In Phase 3 (fifteenth/sixteenth centuries), the digging of refuse pits continued to form a feature of activity in the rear of the Sadler Gate burgage plots, as did industry, which seemingly involved ironworking and the casting of copper-alloy objects.

5.1.2 At a broader level, the medieval remains at the Sadler Bridge Studios form an important addition to the small corpus of excavated sites in Derby's historic core, that have produced evidence for later medieval activity (*ie* Full Street (Hall 1974); King Street (Bain 2006); and Derby Magistrates Court (Crooks *et al* 2003)). It is clear from these excavations and the cartographic evidence that the medieval town was dominated by burgage plots, lining the town's thoroughfares, and that during this period, adjacent to Sadler Bridge Studios, Sadler Gate formed one such route, which seems to have been an early element within the later medieval town. Spatially, each of these plots was probably organised in a very similar way, with domestic buildings lining the street frontages, and the areas to the rear being given over to refuse disposal, industry and horticulture. Although these back plots are somewhat 'marginal' to the main loci of medieval occupation, as is apparent from the excavations at Sadler Bridge Studios, they contain extremely significant archaeological and palaeoenvironmental data, which provide valuable information relating to the chronology and development of the later medieval town, urban industry, and the economy and diet of Derby's later medieval townspeople.

5.1.3 Significantly, this archaeological and palaeoenvironmental data, relating to medieval activity at Sadler Bridge Studios, also directly address five research questions, relevant to the High Medieval Research Agenda, raised in the East Midlands Historic Environment Research Framework (EMHRF; Knight *et al* 2012, 94). These relate to later medieval urbanism (***Research Topic 7.1***), industry and trade (***Research Topic 7.6***), and the agrarian landscape and food-producing economy (***Research Topic 7.7***):

- ***Research Topic 7.1.1***: how did the major towns and smaller market towns of the region develop after the Norman Conquest, both within the urban core and in suburban and extra-mural areas?

- ***Research Topic 7.1.2***: can we define more closely the industrial and trading activities associated with towns and the nature and extent of urban influence on the countryside?
- ***Research Topic 7.6.1***: how and where was post-Conquest pottery manufactured and distributed, and what communication systems were employed?
- ***Research Topic 7.6.4***: can we develop a typological classification of buildings associated with medieval industrial and commercial activities and can we identify sub-regional and chronological patterning?
- ***Research Topic 7.7.4***: what can environmental remains teach us about diet and living conditions in urban, rural and coastal communities?
- ***Research Topic 7.7.5***: What may fish bones and other environmental data contribute to studies of the exploitation and distribution of freshwater and marine fish?

5.1.4 The data from Sadler Bridge Studios clearly contribute to a greater understanding of the development, layout, and form of the later medieval market town of Derby, ***Research Topic 7.1.1***. The site also produced a good assemblage of medieval pottery (*Section 3.2.5*), which complements the other known medieval (post-Conquest) pottery assemblages from the town, and together these provide details on the distribution of specific medieval wares, and hence contribute to ***Research Topics 7.1.2*** and ***7.6.1***. As the site also produced the remains of two small timber buildings, one of which clearly had an industrial function, being associated with iron production/working, these will, in turn, contribute to ***Research Topic 7.6.4***, as they form an additional element of the growing corpus of urban medieval buildings from the region, which can be used in the construction of regional medieval building typologies.

5.1.5 Perhaps one of the greatest successes of the Sadler Bridge Studios' project has been in the recovery of the valuable palaeoenvironmental data, largely comprising waste generated by the later medieval inhabitants of Sadler Gate. Specifically, the plant remains identified from the cess/rubbish pits provide good evidence for the diet of the later medieval burgesses living along Sadler Gate, and hence directly contribute to ***Research Topic 7.7.4***. Similarly, the identification and analysis of fish bone from the cess/rubbish pits provide details of the types of freshwater and marine fish that were exploited and consumed in medieval Derby; this data thus actively contribute to ***Research Topic 7.7.5***.

5.2 Post-medieval remains

5.2.1 It is evident that during the seventeenth and eighteenth centuries (Phase 4), industrial activity continued within the Sadler Gate burgage plots. This is evidenced by several features and deposits associated with burnt materials, perhaps derived from nearby kilns or ovens. In addition, small-scale horticulture also occurred, demonstrated by the presence of garden soils. Whilst this activity occurred to the rear of Sadler Gate, the historical map evidence suggests that, during this period, the

burgage plots were reorganised, with those fronting Bold Lane and Iron Gate being extended across the earlier plots, in existence in the twelfth-fourteenth centuries, extending back from Sadler Gate (*Section 1.5.13*). As such, Phase 4 activity might relate to properties that then fronted Bold Lane, which, in turn, became a more significant thoroughfare during the early post-medieval period. These activities do, however, appear to mirror those which had occurred during the later medieval period, implying, in turn, a continuity in the use of the plots, in at least this part of the town, for a protracted period of time.

5.2.2 During the late eighteenth century (Phase 5), the earlier properties fronting Sadler Gate and Bold Lane were replaced by more 'modern' brick-built properties, which contained cellars, that had seemingly destroyed the remains of any earlier buildings on the street frontage. Small-scale industry continued to be practised to the rear of these properties, however, both during the later eighteenth- and early nineteenth centuries. This was particularly evident in the discovery of a small workshop (Phase 6) engaged in the manufacture of clay tobacco pipes in the period *c* 1810-30. Moreover, this workshop holds particular significance, as it contained a small muffle kiln that produced an excellent assemblage of clay tobacco pipes and kiln debris, representing an important addition to the national corpus of clay tobacco-pipe kilns compiled by Peacey (1996).

5.2.3 In a similar fashion to the medieval remains (*Section 5.1.3*), the post-medieval archaeology from the site addresses some of the research questions contained in the Post-Medieval Research Agenda, of the EMHRF (Knight *et al* 2012, 108). Specifically, these relate to urbanism (***Research Topic 8.1***), industry and communications (***Research Topic 8.5***), and material culture (***Research Topic 8.8***) and comprise:

- ***Research Topic 8.1.2***: how were towns organised and planned, and how did population growth impact upon their internal spatial organisation?
- ***Research Topic 8.5.5***: what may be learned of the material culture of industrial workers?
- ***Research Topic 8.8.2***: can we establish a dated type series for ceramics (building in particular upon unpublished urban pit and well groups)?

5.2.4 The post-medieval structural remains provide a good indication for the later development and reorganisation of the later medieval burgage plots on Sadler Gate, and, as such, contributes to ***Research Topic 8.1.2***. Although the post-medieval pottery from the site was not particularly informative, the clay tobacco-pipe kiln waste provides valuable details on a small-scale component of this industry, during the early nineteenth century, and as such feeds into ***Research Topics 8.5.5*** and ***8.8.2***.

6 ARCHIVE

6.1 Deposition

6.1.1 The finds, and the paper and electronic archive, will be deposited with the Derby Museum and Art Gallery under the archive accession number DBYMU 2012-285. Paper and digital copies of the excavation and post-excavation reports have also been deposited with the museum and Derbyshire Historic Environment Record.

7 BIBLIOGRAPHY

Primary sources

Derby Local History and Family Studies Library

Anon, 1599 *Map of Derby*

Board of Health, 1852 *Map of Derby*

Brayley, E, 1806 *Map of Derby*

Moneypenny, G, 1791 *Map of Derby*

Ordnance Survey (OS), 1882 1:2500 First Edition, Derbyshire sheet L.9, surveyed 1882

Ordnance Survey (OS), 1901 1:2500 Second Edition, Derbyshire sheet L.9, revised 1899

Ordnance Survey (OS), 1914 1:2500 Edition, Derbyshire sheet L.9, revised 1913

Rogerson, W M, 1819 *Map of Derby*

Speed, J, 1610 *Map of Derby*

Derbyshire Record Office

D2977/2/205 John Ward at Derby to Mr J Ward at Mr Salsbury pipemaker, Leicester. Letter dated 16 July 1822

Trade directories

Glover, S, 1829 *The directory of the County of Derby*, Derby

Pigot & Co, 1829 *National commercial directory for 1828-9 (Derbyshire)*, Manchester and London

Pigot & Co, 1835 *National commercial directory (Derby)*, Nottingham

Pigot & Co, 1842 *Royal national and commercial directory and topography (Derbyshire)*, Manchester and London

Slater, I, 1847 *Classified directories of the following important English towns: Birmingham, Bristol, Derby, Leeds, Leicester, Liverpool, Manchester, Nottingham, Sheffield and West Bromwich*, Manchester and London

Secondary sources

Allison, E P, and Hall, A R, 2001 The plant and invertebrate remains, in M Hicks and A Hicks, *St Gregory's Priory, Northgate, Canterbury: excavations 1988-89*, Archaeol Canterbury, n ser, **2**, Canterbury, 334-8

Alvey, R C, 1979 County lists of clay tobacco-pipe makers: Derbyshire, in P Davey (ed), *The archaeology of the clay tobacco pipe*, **I**, BAR Brit Ser, 63, Oxford, 365-70

Ashmore, P J, 1999 Radiocarbon dating: avoiding errors by avoiding missed samples, *Antiquity*, **73** (279), 124-30

Bain, K, 2006 Late Saxon and medieval Derby, *Derbyshire Archaeol J*, **126**, 46-81

Barrett, D, 2000a *An archaeological resource assessment of Anglo-Saxon Derbyshire,* East Midlands Archaeological Research Framework [Online] Available at: www.le.ac.uk/archaeology/research/projects/eastmidsfw/pdfs/26deras.pdf (accessed 27 June 2019)

Barrett, D, 2000b *An archaeological resource assessment of medieval Derbyshire* [Online] Available at: www.le.ac.uk/ar/research/projects/eastmidsfw/pdfs/31dermed.pdf (accessed 27 June 2019)

Barrett, J, 2016 Medieval sea fishing, AD 500-1550: chronology, causes and consequences, in J Barrett and D Orton (eds), *Cod and herring: the archaeology and history of medieval sea fishing*, Oxford, 250-72

Bayley, J, Crossley, D, and Ponting, M, 2008 *Metals and metalworking: a research framework for archaeometallurgy*, Hist Metall Soc Occ Publ, **6**, London

Blinkhorn, P, 2019 *Late Saxon pottery and identity in the southern Danelaw* [Online] Available at: https://www.academia.edu/401889/LATE_SAXON_POTTERY_AND_IDENTITY_IN_THE_SOUTHERN_DANELAW (accessed 24 May 2019)

Blunt, C E, 1972 *The coinage of Athelstan, 924-939: a survey*, Brit Numis J, **42**, London

Boessneck, J, 1969 Osteological differences between sheep (*Ovis aries* Linné) and goat (*Capra hircus* Linné), in D Brothwell and E S Higgs (eds), *Science in Archaeology*, **2**, 331-58

Bronk Ramsey, C, 2001 Development of the radiocarbon calibration program OxCal, *Radiocarbon*, **43**, 355-63

Cappers, R T J, Bekker, R M, and Jans, J E A, 2006 *Digitalezadenatlas van Nederland: digital seed atlas of the Netherlands*, Groningen

Carrott, J, and Kenward, H, 2001 Species associations among insect remains from urban archaeological deposits and their significance in reconstructing the past human environment, *J Archaeol Sci*, **28**, 887-905

Carruthers, W, and Allison, E, 2015 *Plant and insect remains from medieval features at 70 Stour Street, Canterbury, Kent (Site Code SSC(70).EX13)*, Unpubl rep

Coppack, G, 1972 The medieval and post-medieval pottery, in Hall 1972, 29-78

Coppack, G, 2002 Anglo-Saxon and medieval pottery, in C Sparey-Green and G Kinsley, Excavations on the SE defences and extramural settlement of Little Chester, 1971-2, *Derbyshire Archaeol J*, **122**, 245-53

Coates, B E, 1965 The origin and distribution of markets and fairs in medieval Derbyshire, *Derbyshire Archaeol J*, ***85***, 92-111

Conroy, J W H, Watt, J, Webb, J B, and Jones, A, 2005 *A guide to the identification of prey remains in otter spraints*, London

Cox, J C, 1879 *Notes on the churches of Derbyshire,* **4**, London

Crooks, K, 2003 The post-Roman ceramic finds, in Crooks *et al* 2003, ch 5, 1-15

Crooks, K, Porter, S, Morris, R, and Boucher, A, 2003 *Derby Magistrates Court, St Mary's Gate, Derby: archaeological excavation, building recording, and analyses*, Unpubl rep

Cumberpatch, C G, 2003 Medieval pottery from manufacturing sites at King street, Duffield and Burley Hill, Duffield, Derbyshire: a summary report, *Medieval Ceram*, **26/27** (for 2002/3), 85-100

Cumberpatch, C G, 2004a South Yorkshire/North Derbyshire medieval ceramics reference collection [Online] Available at: https://archaeologydataservice.ac.uk/archives/view/ceramics_eh_2003/ (accessed 24 June 2019)

Cumberpatch, C G, 2004b *Medieval pottery from Brackenfield, Derbyshire (LO72)*, [Online] Available at: http:\\ahds.ac.uk/catalogue/specColl/ceramics_eh_2003 (accessed 24 June 2019)

Cumberpatch, C G, 2004c Medieval pottery production in Derbyshire: a review, *Derbyshire Archaeol J*, **124**, 1-27

Cumberpatch, C G, 2008 The pottery, in Wessex Archaeology*, Codnor Castle, Derbyshire: archaeological evaluation and assessment of results*, Unpubl rep, 14-16

Cumberpatch, C G, 2018 The pottery, in J Brightman, *Leawood Knoll: investigation of a hilltop site in the Derwent Valley*, Little Holtby, 23-7

Currey, P H, 1931 The bridge and chapel of St Mary at Derby, *Derbyshire Archaeol J*, **52**, 57-79

Dearne, M, and Branigan, K, 1995 The use of coal in Roman Britain, *Antiq J*, **75**, 71-105

Derby City Council, 2012 *City centre conservation: appraisal and management*, Derby

Dickson, C, and Dickson, J H, 2000 *Plants and people in ancient Scotland*, Stroud

Draper, J, 1984 *Post-medieval pottery, 1650-1800*, London

Duff, A G, 2012 *Beetles of Britain and Ireland. Volume 1: Sphaeriusidae to Siphidae*, West Runton

Duff, A (ed), 2018 *Checklist of beetles of the British Isles,* 3rd edn, Iver

Dufty, A R, 1961 Derby Cathedral, *Archaeol J*, **118**, 233-4

Dungworth, D, 2012 Three and half centuries of bottle manufacture, *Indus Archaeol Rev*, **34**(1), 37-50

Foster, G N, Bilton, D T, and Friday, L E, 2014 *Handbooks for the identification of British insects*, *Volume 4, Part 5b: key to adults of the water beetles of Britain and Ireland* (Part 2), Telford

Gatty, C T, 1879 On some medieval pottery recently found in Derbyshire, *Trans Hist Soc Lancashire Cheshire*, **31** (for 1878/9), 97-104

Glover, S, 1831 *The history and gazetteer of the County of Derby, drawn up from actual observation and from the best authorities*, 2 vols, Derby

Gregory, RA, forthcoming Investigating Derby's medieval burgage plots: archaeological excavation at Sadler Bridge Studios*, Derbyshire Archaeol J*

Greig, J, 1981 The investigation of a medieval barrel-latrine from Worcester, *J Archaeol Sci*, **8**, 265-82

Greig, J, 1991 The British Isles, in W van Zeist, K Wasylikowa, and K-E Behre (eds), *Progress in old world palaeoethnobotany: a retrospective view on the occasion of 20 years of the International Work Group for Palaeoethnobotany*, Rotterdam, 299-334

Greig, J, nd *The environmental archaeology of garderobes, sewers, cesspits and latrines*, Unpubl rep

Grieve, M, 1931 *A modern herbal*, Surrey

Hadley, D, 2006 *The Vikings in England: settlement, society and culture*, Manchester

Hall, A R, and Kenward, H K, 1990 *Environmental evidence from the Colonia: General Accident and Rougier Street*, Archaeol York, **14**(6), London

Hall, A, and Kenward, H, 2011 Plant and invertebrate indicators of leather production: from fresh skin to leather offcuts, in R Thomson and Q Mould (eds), *Leather tanneries: the archaeological evidence*, London, 9-32

Hall, R A, 1972 Excavations at Full Street, Derby, 1972, *Derbyshire Archaeol J*, **92**, 29-78

Hall, R A, 1974 The pre-Conquest burgh of Derby, *Derbyshire Archaeol J*, **94**, 16-24

Hammond, P, 2005 *Food and feast in medieval England*, Stroud

Hansen, M, 1987 *The Hydrophiloidea (Coleoptera) of Fennoscandia and Denmark*, Fauna Entomologica Scandinavica, **18**, Leiden

Hawkes, J, and Sidebottom, P C, 2018 *The British Academy corpus of Anglo-Saxon stone sculpture, Volume XIII: Derbyshire and Staffordshire*, Oxford

Higgins, D A, 1981 Surrey clay tobacco pipes, in P J Davey (ed), *The archaeology of the clay tobacco pipe*, **VI**, BAR Brit Ser, **97**, Oxford, 189-293

Higgins, D A, 1985 Leicester clay tobacco pipes, in P Davey (ed), *The archaeology of the clay tobacco pipe*, **IX**, BAR Brit Ser, **146**(ii), Oxford, 291-307

Higgins, D A, 1987 *The interpretation and regional study of clay tobacco pipes: a case study of the Broseley District*, Unpubl PhD thesis, Univ Liverpool

Higgins, D A, 1999 The clay tobacco pipes, in A Connor and R Buckley, *Roman and medieval occupation in Causeway Lane, Leicester*, Leicester Archaeol Monog, **5**, Leicester, 215-34

Higgins, D A, 2012 Clay tobacco pipes and other pipe-clay objects, in A C Towle and J I Speakman, A yeoman farm in St Helens: excavations at Big Lea Green Farm, Sutton, 2002, *J Merseyside Archaeol Soc*, **14**, 80-105

Higgins, D A, 2014 Clay tobacco-pipe industry, in R A Gregory, C Raynor, M Adams, R Philpott, C Howard-Davis, N Johnson, V Hughes, and D A Higgins, 2014 *Archaeology at the waterfront: 1: investigating Liverpool's historic docks*, Lancaster Imprints, **23**, Lancaster, 196-207

Higgins, T, 1999 *An archaeological evaluation and watching brief at the Children's Hospital, North Street, Derby,* Unpubl rep

Hinton, H E, 1945 *A monograph of the beetles associated with stored products*, **1**, London

Hoffman, A, 1945 Coléoptères Bruchides et Anthribides, *Faune de France*, **44**, Paris

Holland, D G, 1972 *A key to the larvae, pupae and adults of the British species of Elminthidae*, Freshwater Biol Assoc Sci Publ, **26**, Ambleside

Hughes, R G, 1957 Medieval pottery kiln site, Burley Hill, Duffield, *Derbyshire Archaeol J*, **77**, 57-60

Hume, I N, 1969 *A guide to artifacts of colonial America*, Philadelphia

Hurst, D, and Wright, S M, 2010 *Midlands Purple and Cistercian-type wares in the 15th-16th centuries in the West Midlands*, York

Hurst Vose, R, 1980 *Glass*, London

Jacomet, S, 2006 *Identification of cereal remains from archaeological sites*, 2nd edn, Basel

Jessop, L, 1986 *Dung beetles and chafers. Coleoptera: Scarabaeoidea*, Handbooks for the identification of British insects, **5**(11), London

Kenward, H, 1997 Synanthropic decomposer insects and the size, remoteness and longevity of archaeological occupation sites: applying concepts from biogeography to past 'islands' of human occupation, in A C Ashworth, P C Buckland, and J T Sadler (eds), *Studies in Quaternary entomology: an inordinate fondness for insects*, London, 135-52

Kenward, H, 2009 *Invertebrates in archaeology in the North of England, Northern Regional Review of Environmental Archaeology*, Engl Heritage Res Dep Rep Ser, **12-2009**, Swindon

Kenward, H K, and Allison, E P, 1994 Rural origins of the urban insect fauna, in A R Hall and H K Kenward (eds), *Urban-rural connexions: perspectives from environmental archaeology*, Oxbow Monog, **47**, Oxford, 55-77

Kenward, H K, and Hall, A R, 1995 *Biological evidence from 16-22 Coppergate*, Archaeol York, **14**(7), London

Kenward, H K, Hall, A R, and Jones, A K G, 1980 A tested set of techniques for the extraction of plant and animal macrofossils from waterlogged archaeological deposits, *Sci and Archaeol,* **22**, 3-15

Kenward, H K, Hall, A R, and Jones, A K G, 1986 *Environmental evidence from a Roman well and Anglian pits in the legionary fortress*, Archaeol York, **14**(5), London

Kilmurry, K, 1980 *The pottery industry of Stamford, Lincolnshire, c 900-1250*, BAR Brit Ser, **84**, Oxford

Knight, D, Vyner, B, and Allen, C, 2012 *East Midlands Heritage: an updated research agenda and strategy for the historic environment of the East Midlands*, Nottingham

Knowles, D, and Hadcock, R, 1953 *Medieval religious houses of England and Wales*, London

Kratochvil, Z, 1969 Species criteria on the distal section of the tibia in *Ovis Ammon F Aries* and *Capra Aegarus F Hircus L*, *Acta Veterinaria*, **389**, 483-90

Livarda, A, 2011 Spicing up life in northwestern Europe: exotic food plant imports in the Roman and medieval world, *Veg Hist Archaeobot*, **20**, 143-64

Lott, D A, and Anderson, R, 2011 *The Staphylinidae (rove beetles) of Britian and Ireland Parts 7 & 8: Oxyporinae, Steninae, Euaesthetinae, Pseudopsinae, Paederinae, Staphylininae*, Handbooks for the identification of British insects, **12**(7), Shrewsbury

Mallender, M A, 1977 *The great church: a short history of the Cathedral Church of All Saints, Derby*, Derby

Medieval Pottery Research Group, 1998 *A guide to the classification of medieval ceramic forms,* Medieval Pot Res Grp Occ Pap*,* **1**, London

Mello, J M, 1876 *Handbook to the geology of Derbyshire*, London

Mills, A, and McDonnell, J G, 1992 *The identification and analysis of the hammerscale from Burton Dassett, Warwickshire*, Engl Heritage Ancient Mon Lab Rep, **47/92**, London

Moffett, L, 2006 The archaeology of medieval plant foods, in C M Woolgar, D Serjeantson, and T Waldron (eds), *Food in medieval England, diet and nutrition*, Oxford, 41-55

Monkton, A, 2003 *Charred plant remains from a medieval suburb at St Mary's Gate, Derby: the Magistrates Courts redevelopment*, Unpubl rep

Mook, W G, 1986 Business meeting: recommendations/resolutions adopted by the twelfth International Radiocarbon Conference, *Radiocarbon*, **28**, 799

Moorhouse, S, and Roberts, I, 1992 *Wrenthorpe potteries: excavations of sixteenth and seventeenth century pottery tenements near Wakefield*, Yorkshire Archaeol, **2**, Wakefield

Myers, A, 2000 *An archaeological resource assessment of Roman Derbyshire*, East Midlands Archaeological Research Framework [Online] Available at: www.le.ac.uk/ar/research/projects/eastmidsfw/pdfs/21derrom.pdf (accessed 10 May 2014)

Nicholson, R A, 2019 Fish remains from excavations at Oxford castle, in J Munby, A Norton, D Poore, and A Dodd, *Excavations at Oxford Castle, 1999-2009*, Thames Valley Landscapes Monog, **44**, Oxford, 391-4

Nicholson, R A, Robinson, J, Robinson, M, and Rowan, E, 2018, From the waters to the plate to the latrine: fish and seafood from the Cardo V sewer, Herculaneum, in D Mylona and R A Nicholson (eds), *The bountiful sea: fish processing and consumption in Mediterranean antiquity. Proceedings of the International Conference held in Oxford 6-8 Sept 2017*, Spec Edn J Maritime Archaeol, **13**(3), Oxford, 263-84

Northcote, T, and Toller, M A, 1898 *An Anglo-Saxon dictionary based on the manuscript collections of the late Joseph Bosworth*, Oxford

O'Farrell, A F, and Butler, P M, 1948 Insects and mites associated with the storage and manufacture of foodstuffs in Northern Ireland, *Econ Proc Roy Dublin Soc*, **3**, 343-407

Oxford Archaeology (OA) North, 2010 *Land fronting Bold Lane, Derby, Derbyshire: archaeological evaluation report*, Unpubl rep

Oxford Archaeology (OA) North, 2015 *Former Princes' Supermarket, Bold Lane, Derby: updated post-excavation assessment report*, Unpubl rep

Palm, T, 1959 *Die Holz- und Rinden-Käfer der süd- und mittelschwedischen Laubbäume*, Opuscula Entomologica Suppl, **16**, Lund

Paynter, S, 2011 *Introduction to Heritage Assets: pre-industrial ironworks*, London

Peacey, A, 1996 *The development of the clay tobacco pipe kiln in the British Isles*: *the archaeology of the clay tobacco pipe,* **XIV**, BAR Brit Ser, **246**, Oxford

Pre-Construct Archaeology Ltd, 2006 *An archaeological desk-based assessment of land fronting Bold Lane and St Mary's Gate, Derby*, Unpubl rep

PCRG, MPRG, and SGRP, 2016 *A standard for pottery studies in archaeology*, London

Prummel, W, and Frisch, H-J, 1986 A guide for the distinction of species, sex and body side in bones of sheep and goat, *J Archaeol Sci*, **13**, 567-77

Ralegh Radford, C A, 1976 The Church of Saint Alkmund, Derby, *Derbyshire Archaeol J*, **96**, 26-61

Rátkai, S, 2006 Pottery, in Bain 2006, 46-81

Riden, P, 2007 *Tobacco pipe and pottery making in Bolsover* [Online] Available at: https://www.victoriacountyhistory.ac.uk/explore/sites/explore/files/explore_assets/2010/03/19/DER_BOL_Tob_pipe.doc (accessed 1 December 2019)

Reimer, P J, Bard, E, Bayliss, A, Beck, J W, Blackwell, P G, Bronk Ramsey, C, Buck, C E, Cheng, H, Edwards, R L, Friedrich, M, Grootes, P M, Guilderson, T P, Haflidason, H, Hajdas, I, Hatté, C, Heaton, T J, Hoffmann, D L, Hogg, A G, Hughen, K A, Kaiser, K F, Kromer, B, Manning, S W, Niu, M, Reimer, R W, Richards, D A, Scott, E M, Southon, J R, Staff, R A, Turney, C S M, and van der Plicht, J, 2013 IntCal13 and Marine13 radiocarbon age calibration curves, 0-50,000 years cal BP, *Radiocarbon*, **55**, 1169-87

Roberts, I, Cumberpatch, C G, Young, J, Ixter, R, and Hughes, M, 2013 *A Stamford Ware pottery kiln in Pontefract: excavations at Simpson's Matt, Pontefract, West Yorks* [Online] Available at: https://archaeologydataservice.ac.uk/archives/view/simpson_eh_2012/index.cfm accessed 5 June 2019)

Rogerson, A, 1998 Vikings and the new East Anglian towns, *British Archaeol*, **35**, 12-13

Rogerson, A, and Dallas, C, 1984 *Excavations in Thetford 1948-59 and 1973-80*, East Anglian Archaeol, **22**, Dereham

Smith, D N, 2013 Defining an indicator package to allow identification of 'cesspits' in the archaeological record, *J Archaeol Sci*, **40**, 526-43

Smith, D, and Kenward, H, 2012 'Well, Sextus, what can we do with this?' The disposal and use of insect-infested grain in Roman Britain, *Environ Archaeol*, **17**(2), 141-50

Smith, D, Hill, G, Kenward, H, and Allison, E, 2020 The development of synanthropic insects in northern Europe over the last 9000 years, *J Archaeol Sci*, 115, March 2020, 105075

Smith, W, 2002 *A review of archaeological wood analysis in southern England*, English Heritage Centre Archaeol Rep, **75/2002**, Swindon

Stace, C, 2010 *New flora of the British Isles*, 3rd edn, Cambridge

Spavold, J, and Brown, S, 2005 *Ticknall pots and potters from the late fifteenth century to 1888*, Ashbourne

Starley, D, 1995 *Hammerscale*, Hist Metall Soc Datasheet, **10**, London

Steer, J, 1988 Medieval holdings of Burton Abbey in Derby. Part 1: the identification of the holdings of Burton Abbey, *Derbyshire Misc*, **11**(6), 118-39

Steer, J, 1989 Medieval holdings of Burton Abbey in Derby. Part 2: the emergence of Derby, *Derbyshire Misc*, **12**(1), 2-26

Van der Veen, M, Hill, A, and Livarda, A, 2013 The archaeobotany of medieval Britain (c AD 450–1500): identifying research priorities for the 21st century, *Medieval Archaeol*, **57**, 151-82

Wardle, C, 2019 The search for the early medieval burgh of Derby, *Derbyshire Archaeol J*, **139**, 22-44

Young, J, Vince, A, and Nailor, V, 2005 *A corpus of Anglo-Saxon and medieval pottery from Lincoln*, Lincoln Archaeol Stud, **7**, Oxford

APPENDIX A MEDIEVAL POTTERY CATALOGUE

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***73***; fill ***23***	1024	Cream-orange, hard, gritty	Burley Hill	Jug?	1	Green glaze	Rim
2	Pit ***73***; fill ***24***	1017	Cream, hard, gritty	Derbyshire splashed-glazed	Dish/pancheon	1	Green glaze	Rim
		1017	Purplish, very hard, gritty	Midlands Purple	Jar	1	Purple glaze, applied thumbed strip	Rim
		1017	Pink, hard, gritty	Stamford-type ware?		1	Yellow glaze	Base
		1017	Orange, hard, gritty	Orange gritty ware		1		Body
		1025	Brown/grey/orange, hard, gritty	Burley Hill?		1	Green glaze	Base
		1025	Grey, hard, fine/sandy	Burley Hill		1	Green glaze	Body
		1025	Grey, hard, sandy	Burley Hill	Jug	1	Green glaze, wheatear decoration	Body
		1025	Pink, hard, sandy/gritty	Burley Hill	Jug	1	Green glaze	Handle
		1025	Grey, hard, gritty	Derbyshire splashed-glazed		4	Splashed green glaze	Body
		1025	Beige/cream, hard, fine	?		1		Rim
		1025	Brown/orange, hard, sandy/gritty	?		1	Green glaze	Body
		1025	Grey, hard, gritty	Grey gritty ware		1		Body
		1025	Grey, hard, gritty	Grey gritty ware		1		Body
		1025	Gritty	?		1		Body
		1025	Orange, hard, gritty	Orange gritty ware		1		Body
		1025	Orange, hard, gritty	Orange gritty ware		1		Body
		1025	Orange, hard, gritty	Orange gritty ware		1		Body
		1025	Orange/brown, medium, sandy	?		1		Body
		1025	Pink, hard, gritty	Gritty ware		1		Rim
		1025	Pink, hard, gritty	Gritty ware	Cooking pot	3		Rim, body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***74***; fill ***76***	1036	Cream, hard, gritty	Cream gritty ware	Jug?	1	Green glaze	Handle
		1036	Grey, hard, sandy	Derbyshire splashed-glazed		1	Splashed green glaze	Body
		1036	Orange, hard, gritty	Derbyshire splashed-glazed	Jug?	1	Splashed green glaze	Body
		1036	Brown, hard, gritty	Derbyshire Coarse White Sandy ware	Jug?	1		Body
		1036	Cream, hard, gritty	Cream gritty ware		2		Body
		1036	Cream, hard, very gritty	Cream gritty ware		1		Body
		1036	Pink, hard, sandy/gritty	Burley Hill	bowl?	2		Rim
		1064	Orange with grey core, hard, gritty	Derbyshire splashed-glazed?	Jug?	1	Slashed green glaze	Rim
2	Pit ***133***; fill ***132***	1130	Orange, hard, gritty - Midlands Purple?	Orange gritty ware		2	Green/ purple glaze	Body
2	Pit ***168***; fill ***167***	1070	Cream/grey, hard, gritty	Burley Hill?		1	Green glaze	Body
		1070	Pale pink, hard, gritty	Stamford-type ware		1	Yellow glaze	Body
		1070	Cream/grey, hard, gritty	Grey gritty ware		2		Body
2	Pit ***177***; capping layer ***174***	1008	Cream, medium, fine	Stamford-type ware	Jug	1	Green glaze	Body
		1008	Grey, hard, sandy	Burley Hill	Jug	2	Green glaze	Base
		1008	Cream, hard, gritty	Cream gritty ware	Cooking pot?	1		Body
		1008	Dark grey, medium, vesicular/organic?	Limestone-tempered ware?		1		Base
		1145	Dark grey, hard, fine/sandy	Burley Hill	Jug?	1	Pinched, stabbed, green glaze	Handle

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***177***; fill ***175***	1019	Cream/yellow, hard, sandy	Burley Hill	Jug	1	Green glaze, scales	Rim
		1019	Grey, hard, fine/sandy	Burley Hill	Jug?	2	Green glaze, scales	Body
		1019	Grey, hard, fine/sandy	Burley Hill		1	Green glaze, scales	Body
2	Pit ***177***; fill ***176***	1007	Cream, hard, sandy/gritty	Derbyshire splashed-glazed		4	Splashed green glaze	Body
2	Pit ***188***; fill ***170***	1086	Grey, medium, sandy	Derbyshire splashed-glazed		1	Splashed green glaze	Base
		1086	Cream/orange, hard, sandy	Cream sandy ware		2		Body
		1086	Cream/white, hard, sandy	?		1		Body
		1086	Orange, hard, sandy/gritty	?		1		Body
		1086	Cream, hard, sandy	Burley Hill	Jug?	1	Green glaze	Body
		1086	Pale grey, hard, sandy	Burley Hill		1	Green glaze	Body
2	Pit ***199***; fill ***195***	1164	Grey, hard, sandy/fine	?	Jug?	1	Green glaze	Body
		1164	Cream, hard, gritty	Stamford-type ware?	Jug	2	Green glaze	Body
		1164	Grey hard, sandy	Burley Hill	Jug	1	Green glaze	Handle
		1164	Grey, hard, fine	?		1	Green glaze	Body
		1164	Grey, hard, gritty	Grey gritty ware		1	Green glaze	Base
		1164	Grey, hard, gritty	Grey gritty ware		1	Green glaze	Base
		1164	Grey, hard, gritty/sandy	?		1	Green glaze	Body
		1164	Grey, hard, sandy	Burley Hill	Jug	1	Green glaze	Handle
		1164	Grey, hard, sandy	Burley Hill		1	Green glaze	Body
		1164	Grey, hard, sandy	Burley Hill		2	Green glaze	Body
		1164	Grey, hard, sandy	Burley Hill		1	Green glaze	Base
		1164	Grey, hard, sandy/fine	Burley Hill?	Jug?	2	Green glaze	Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***199***; fill ***195***	1164	Grey, hard, sandy/fine	?		1	Green glaze	Body
		1164	Grey, medium, sandy	Burley Hill		5	Green glaze	Body
		1164	Orange, hard, gritty	Orange gritty ware		1	Green glaze	Body
		1164	Orange, medium, sandy	?		2	Green glaze	Body
		1164	Orange/cream, hard, sandy/fine	?	Jug	1	Green glaze	Body
		1164	Grey, hard, gritty	?		1	Green glaze splashes	Body
		1164	Grey, hard, sandy	Burley Hill?	Jug?	2	Green glaze, scales	Body
		1164	Cream, hard, gritty	Derbyshire splashed-glazed	Cooking pot	1	Splashed green glaze	Rim
		1164	Cream, medium, sandy	?	Cooking pot	1	Splashed green glaze	Rim
		1164	Cream, hard, gritty	Cream gritty ware		1	Yellow glaze	Body
		1164	White, hard, sandy/gritty	Stamford-type ware?		1	Yellow glaze	Body
		1164	Cream, hard, gritty	Cream gritty ware	Cooking pot?	1		Body
		1164	Grey, hard, gritty/sandy	?	Cooking pot?	1		Base
		1164	Grey, hard, sandy	Burley Hill		3		Body
		1164	Grey, hard, sandy/gritty	Derbyshire splashed-glazed		1		Body
		1164	Grey, medium, sandy/fine	?		1		Body
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	1		Base
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	1		Rim
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	1		Rim
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	1		Rim
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	3		Body
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	1		Base
		1164	Orange, hard, gritty	Orange gritty ware		1		Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***199***; fill ***195***	1164	Orange, hard, gritty	Orange gritty ware		1		Body
		1164	Orange, hard, gritty	Orange gritty ware	Cooking pot	1		Base
		1164	Orange, hard, sandy	?	Cooking pot	1		Rim
		1164	Orange, hard, sandy	?	Cooking pot	1		Rim
		1164	Orange, hard, sandy	?		1		Body
		1164	Orange, hard, sandy	?		1		Body
		1164	Pink, hard, sandy/gritty	Burley Hill		1		Body
		1164	Pink/cream, hard, gritty	Burley Hill?		1		Body
		1164	White/cream, hard, gritty	?	Cooking pot?	2		Body
2	Pit ***199***; fill ***196***	1000	Light grey, hard, sandy/fine	Burley Hill		1	Green glaze	Body
		1000	Orange, hard, sandy/fine	Burley Hill		1	Green glaze	Body
2	Pit ***199***; fill ***261***	1132	Grey, hard, sandy	Burley Hill	Jug?	1	Green glaze	Body
2	Pit ***212***; fill ***216***	1038	White/grey, medium, gritty	Stamford-type ware?	Jug?	3	Green glaze	Body
		1139	Cream, medium, sandy	Stamford-type ware		1	Green glaze	Body
		1038	Mid-grey, medium, fine/sandy	Burley Hill?		3		Body
2	Pit ***230***; capping layer ***247***	1118	Grey, hard, sandy	Burley Hill		1		Body
		1134	Grey, hard, sandy	Derbyshire splashed-glazed	Cooking pot	2	Splashed green glaze	Rim
2	Pit ***230***; fill ***248***	1056	Orange, hard, fine/sandy	Burley Hill		1	Yellow glaze	Body
2	Pit ***271***; fill ***270***	1077	Cream, hard, sandy	Cream sandy ware		1		Body
2	Pit ***302***; fill ***299***	1129	Cream, hard, sandy	Cream sandy ware		1		Body
		1129	White, medium, sandy	Stamford-type ware?		1		Body
		1129	Cream, hard, sandy	Burley Hill		1	Green glaze	Body
		1129	Grey, hard, sandy	Burley Hill	Jug	1	Green glaze	Body
		1129	Grey, hard, sandy/gritty	Burley Hill		1	Green glaze	Base
		1129	Orange, hard, sandy	Burley Hill		2	Green glaze	Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***302***; fill ***299***	1129	Pale grey, hard, sandy	Burley Hill		1	Green glaze	Body
		1129	Cream/orange, medium, sandy/gritty	Derbyshire splashed-glazed		1	Splashed green glaze	Body
2	Pit ***327***; fill ***322***	1065	Grey, hard, sandy/fine	Burley Hill		1	Green glaze	Body
		1065	Grey, hard, sandy/fine	Burley Hill		1	Green glaze	Body
		1065	Grey, hard, gritty	Burley Hill?	Jug?	1	Green glaze	Body
		1065	Grey, hard, sandy/fine	Burley Hill	Jug?	2	Green glaze	Body
		1065	Grey, hard, sandy/fine	Burley Hill		1	Green glaze	Body
		1065	Grey, hard, sandy/fine	Burley Hill	Jug?	2	Green glaze	Body
		1065	Grey, hard, sandy/fine	Burley Hill	Jug	1	Green glaze	Handle
		1065	Grey, hard, sandy/fine	Burley Hill	Jug	1	Green glaze	Handle
		1065	Grey, medium, fine	Burley Hill		1	Green glaze	Base
		1065	Grey, medium, sandy/fine	Burley Hill		5	Green glaze	Body
		1065	Grey, soft, sandy/gritty	Burley Hill		1	Green glaze	Body
		1065	Grey, very hard, gritty/sandy	Burley Hill	Jug?	3	Green glaze	Body
		1065	Grey, very hard, sandy/fine	Burley Hill	Jug?	2	Green glaze	Body
		1065	Pale grey, hard, gritty	Burley Hill?		1	Green glaze	Base
		1065	Pink/cream, hard, sandy/fine	Burley Hill		2	Green glaze	Body
		1065	Orange, hard, sandy/gritty	Derbyshire splashed-glazed	Cooking pot	1	Splashed green glaze	Rim
		1065	Orange, hard, sandy/gritty	Derbyshire splashed-glazed	Cooking pot	2	Green glaze splashes	Rim
		1065	Orange, hard, sandy/gritty	Derbyshire splashed-glazed	Cooking pot	1	Green glaze splashes	Body
		1065	Grey, hard, sandy/gritty	Burley Hill	Jug	2	Green glaze, scales	Body
		1065	Orange/cream, hard, sandy/fine	Burley Hill	Cooking pot	1	Green glaze?	Body
		1065	White, hard, sandy/gritty	Burley Hill		1	Green glaze?	Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***327***; fill ***322***	1154	Dark brown, hard, gritty	Midlands Purple	Jug?	1	Purple glaze	Body
		1065	Cream, hard, sandy/fine	Stamford-type ware		1	Yellow glaze	Body
		1065	Grey, hard, sandy/fine	Burley Hill?		1	Yellow glaze?	Body
		1065	Cream/grey, medium, sandy/fine	Cream sandy ware		1		Body
		1065	Grey, hard, gritty	Grey gritty ware		2		Body
		1065	Grey, hard, gritty/sandy	Grey gritty ware	Cooking pot	1		Base
		1065	Orange medium/soft, sandy	?		2		Body
		1065	Orange, hard, gritty	Orange gritty ware		4		Body
		1065	Orange, hard, sandy/gritty	Orange gritty ware		1		Rim
		1065	Orange, hard, sandy/gritty	?		1		Base
		1065	Orange, hard, sandy/gritty	?		1		Body
		1065	Orange, hard, sandy/gritty	?	Jug?	1		Body
		1065	Orange, hard, sandy/gritty	?		1		Body
		1065	Orange, medium, sandy/fine	?	Cooking pot	1		Rim
		1065	Orange, medium, sandy/fine	?	Cooking pot	2		Rim, Body
		1065	Orange, medium, sandy/fine	?	Cooking pot	1		Rim
		1065	Orange/pink, hard, sandy/gritty	?		1		Body
		1065	Pale orange, hard, sandy/fine	?		3		Body
		1065	White, hard, fine	Stamford-type ware?	Bowl	1		Rim
		1065	White, medium, fine	?	Bowl	1		Rim
2	Pit ***327***; fill ***325***	1142	Grey, very hard, sandy/gritty	Burley Hill		1		Body
2	Pit ***339***; fill ***335***	1010	Cream, hard, gritty	Cream gritty ware	Cooking pot	2		Rim
2	Pit ***339***; fill ***336***	1113	Grey, hard, fine	Stamford-type ware?		2		Base
2	Pit ***346***; fill ***343***	1182	Grey, hard, sandy	Burley Hill		1		Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Pit ***346***; fill ***343***	1182	Grey, hard, sandy	Burley Hill		1		Body
		1182	Orange, hard, sandy	Orange gritty ware		1		Body
		1182	Cream, hard, sandy	Stamford-type ware		1	Green glaze	Body
		1182	Grey, hard, fine	Burley Hill		1	Green glaze	Body
		1182	Grey, hard, sandy/gritty	Burley Hill		1	Green glaze	Body
		1182	Grey, hard, sandy/fine	Burley Hill	Jug	2	Green glaze, scales	Body
		1182	Cream, hard, sandy	Derbyshire splashed-glazed		1	Splashed green glaze	Rim
2	Pit ***351***; fill ***348***	1023	Beige, medium, sandy	?	Jug?	1		Body
		1023	Grey, hard, gritty	Burley Hill?	Jug?	1	Green glaze	Body
2	Pit ***351***; fill ***350***	1092	Orange, hard, sandy/fine	Burley Hill?		1	Pale green glaze	Body
		1092	Grey, hard, sandy	Burley Hill		1		Body
		1092	Pale grey, hard, sandy/gritty	Burley Hill		1		Body
2	Pit ***364***; fill ***363***	1002	Cream, hard, sandy/fine	Stamford-type ware		1	Mottled green glaze	Body
		1002	Grey, hard, gritty	Derbyshire splashed-glazed		1	Splashed green glaze	Base
2	Pit ***366***; fill ***365***	1031	Pale grey, hard, fine/sandy	Burley Hill		1	Green glaze	Body
		1031	Cream/orange, hard, gritty	Cream gritty ware	Cooking pot	1		Body
		1031	Pale grey, hard, sandy/gritty	Burley Hill	Pipkin	1	Green glaze	Handle
2	Pit ***373***; fill ***367***	1149	Grey, hard, gritty/sandy	Burley Hill	Jug?	1	Green glaze	Body
		1149	Cream, hard, sandy	Cream sandy ware		1		Body
2	Ditch ***55***; fill ***56***	1048	Grey, hard, sandy	?		2		Rim, body
2	Garden soil ***228***	1123	Orange, hard, sandy/gritty	Burley Hill	Jug	1	Dark green glaze	Body
		1123	Grey, hard, sandy	Burley Hill?	Jug	1	Green glaze	Base
		1123	Orange, hard, sandy/gritty	Burley Hill		1	Green glaze	Base?
		1123	Grey, hard, sandy/fine	Burley Hill	Jug	1	Pale green glaze	Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Garden soil ***231***	1015	Orange, medium, sandy/fine	?		2	Clear glaze	Body
		1015	Grey, hard, fine	Burley Hill		1	Green glaze	Body
		1015	Grey, hard, sandy	Burley Hill		1	Green glaze	Base
		1015	Grey, hard, sandy	Burley Hill		1	Green glaze	Body
		1015	Grey, hard, sandy/fine	Burley Hill		1	Green glaze	Body
		1015	Grey, hard, sandy/gritty	Burley Hill		1	Green glaze	Body
		1015	Orange, hard sandy/fine	Burley Hill	Pipkin	2	Green glaze	Handle
		1015	Pale grey, hard, sandy	Burley Hill		2	Green glaze	Body
		1015	Pale pink, medium, sandy/gritty	Burley Hill		1	Green glaze	Body
		1015	Pink/cream, medium, sandy/gritty	Burley Hill		1	Green glaze	Body
		1015	White, hard, sandy/gritty	Burley Hill		1	Green glaze	Body
		1173	Grey, hard, fine	Burley Hill		1	Green glaze	Body
		1173	Grey, hard, gritty	Burley Hill?		1	Green glaze	Body
		1173	Grey, hard, sandy/gritty	Burley Hill		2	Green glaze	Body
		1015	Pale grey, hard, sandy	Burley Hill	Jug	1	Green glaze, cuts	Base
		1015	Grey, hard, sandy/fine	Burley Hill	Jug	1	Green glaze, lines and ?panels	Body
		1015	Orange, hard sandy/fine	Burley Hill	Jug	1	Green glaze, scales	Body
		1015	Pale grey, hard, sandy	Burley Hill	Jug	2	Green glaze, stamped pellets	Body
		1015	Grey, hard, sandy/fine	Burley Hill	Jug?	1	Green glaze, stamped strip	Body
		1015	Grey, medium, sandy	Burley Hill		1	Green glaze?	Body
		1015	Orange, medium, sandy/fine	Derbyshire splashed-glazed	Jug?	1	Splashed green glaze	Rim?

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Garden soil ***231***	1015	Orange, medium, sandy/gritty	Derbyshire splashed-glazed		1	Splashed green glaze	Base
		1173	Cream, hard, sandy	Derbyshire splashed-glazed	Upright jar	4	Splashed green glaze	Rim, body
		1173	Cream/white, hard, sandy	Stamford-type ware?		2	Splashed green glaze	Body
		1173	Orange, medium, sandy	Derbyshire splashed-glazed		1	Splashed green glaze	Body
		1015	Orange, hard sandy/fine	Burley Hill		1	Thumbed strip	Body
		1015	Beige, hard, fine	Stamford-type ware?	Jug	1	Yellow glaze?	Body
		1015	Cream, hard, gritty	Cream gritty ware		1		Body
		1015	Cream, hard, sandy	Cream sandy ware		1		Base
		1015	Cream, hard, sandy/gritty	?		1		Body
		1015	Grey, hard, gritty	Grey gritty ware		1		Base
		1015	Grey, hard, sandy	Burley Hill		1		Base
		1015	Grey, hard, sandy	Burley Hill		1		Base
		1015	Grey, medium, sandy	Burley Hill		1		Body
		1015	Orange, hard, gritty	Orange gritty ware		1		Body
		1015	Orange, hard, sandy	?		1		Body
		1015	Orange, soft, sandy/fine	?		1		Body
		1015	Pink/cream, medium, sandy/gritty	?		1		Base
2	Garden soil ***342***	1140	Grey, medium/hard, gritty	?	Jar?	1		Rim
2	Building 1: pit ***120***; fill ***119***	1110	Grey, hard, sandy	Burley Hill	Cooking pot?	1	Green glaze	Body
2	Building 1; occupation layer ***182***	1027	Cream, hard, sandy/gritty	Burley Hill		1	Green glaze	Body
		1027	Cream, medium, sandy	Cream sandy ware	Jug?	1	Green glaze	Body
		1027	Orange, hard, sandy/gritty	Derbyshire splashed-glazed		11	Splashed green glaze	Body, Rim

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Building 1; occupation layer ***182***	1027	Beige, hard, sandy/gritty	Grey gritty ware		2		Body
		1027	Grey, hard, sandy/gritty	Grey gritty ware		1		Body
		1027	White, hard, sandy/gritty	Stamford-type ware?		1		Body
2	Building 1: posthole ***237***; fill ***236***	1011	Dark grey, medium, sandy/fine	Burley Hill	Jug?	1	Green glaze	Body
		1011	Orange, hard, gritty	Orange gritty ware	Jug?	1		Body
2	Building 1: furnace ***124***; fill ***123***	1042	Dark grey, hard, sandy/gritty	Grey gritty ware		4		Body
		1042	Grey, hard, sandy/gritty	Grey gritty ware		2		Body
		1042	Orange, hard, sandy/gritty	Orange gritty ware		3		Body
2	Building 1: furnace ***124***; stakehole ***139***; fill ***138***	1066	Grey, hard, sandy	Burley Hill	Jug?	1	Green glaze, applied stamped pad	Body
2	Building 2: posthole ***14***; fill ***15***	1021	Orange, hard, gritty	Orange gritty ware		1		Body
		1021	Orange, medium, gritty	Orange gritty ware		1		Body
2	Building 2: Posthole ***156***; fill ***155***	1104	Cream, hard, sandy	Burley Hill	Jug?	1	Green glaze	Body
2	Building 2; levelling layer ***205***	1005	Cream/white, medium, sandy	Stamford-type ware?	Jug?	1	Green glaze	Body
		1005	Cream/white, medium, sandy	Stamford-type ware?	Jug?	1	Green glaze	Base?
		1005	Pink/cream, medium, sandy	Burley Hill		1	Green glaze	Body
		1005	Grey, hard, sandy/fine	Burley Hill	Jug	2	Green glaze, small scales	Body
		1005	Grey, medium sandy/gritty	Burley Hill	Jug?	3	Green glaze, small scales	Base
		1005	Orange, hard, sandy	Burley Hill	Jug?	1	Green glaze, small scales	Body
		1005	Grey, hard, sandy/fine	Derbyshire splashed-glazed	Jug?	1	Splashed green glaze	Base

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Building 2; levelling layer ***205***	1005	Orange, hard, sandy/gritty	Orange gritty ware		1		Rim
2	Building 2; levelling layer ***206***	1044	Grey, hard, gritty	Burley Hill?	Jug	1	Green glaze	Body
		1044	Cream, hard, sandy/gritty	Derbyshire splashed-glazed	Cooking pot	1	Green glaze	Rim
		1044	Cream, medium, sandy/fine	Burley Hill??	Jug	1	Green glaze	Handle
		1044	Grey, hard, sandy	Burley Hill		1	Green glaze	Base
		1044	Grey, hard, sandy	Burley Hill		7	Green glaze	Body
		1044	Grey, medium, fine	Burley Hill	Jug	1	Green glaze	Handle
		1044	Grey/cream, hard, sandy	Burley Hill		1	Green glaze	Body
		1044	Pale grey, medium, fine/sandy	Burley Hill	Jug	1	Green glaze	Handle
		1044	Pale grey/cream, medium, sandy/fine	Burley Hill	Jug	1	Green glaze	Handle
		1044	Pinkish/cream, hard, sandy/gritty	Derbyshire splashed-glazed	Cooking pot	2	Green glaze	Rim
		1044	White, medium, sandy/fine	Burley Hill	Jug	1	Green glaze	Handle
		1044	White/pale grey, hard, fine/sandy	Burley Hill		1	Green glaze	Body
		1044	Grey, hard, fine	Burley Hill	Jug	1	Green glaze, stabbed	Handle
		1044	Orange-grey, medium, sandy	Burley Hill	Jug	1	Green glaze, stabbed	Handle
		1044	Brown, medium, leached	Lincoln shell-tempered?		1		Base
		1044	Cream, hard, sandy/gritty	?		1		Body
		1044	Orange, hard, sandy	Burley Hill	Jug	3		Body, rim
		1044	Orange/cream, hard, sandy/gritty	Orange gritty ware		1		Rim
		1044	Pink/cream, hard, sandy/gritty	Burley Hill?	Cooking pot	1		Rim
2	Midden deposit ***32***	1027	Grey, hard, sandy	Thetford-type ware	Jar??	1	Rouletted	Body
		1027	White, medium, sandy	Stamford-type ware?	Jug?	1	Yellow glaze	Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
2	Midden deposit ***32***	1027	White, medium, sandy	Stamford-type ware?	Jug?	1	Yellow glaze	Handle
		1027	Beige-grey, medium, fine/sandy	?		2		Body
		1027	Cream, hard, gritty	Cream gritty ware		2		Body
		1027	Dark grey, hard, sandy	?		2		Body
		1027	Pale grey, hard, sandy	Burley Hill		2		Body
		1073	Cream-dark grey, hard, sandy	Cream sandy ware		1		Body
2	Midden deposit ***60***	1022	Dark grey, hard, fine	?	Jar	8		Rim, body
2	Midden deposit ***65***	1041	Beige, hard, sandy	?		1		Body
		1041	Brownish-beige, hard, gritty	Derbyshire Coarse White Sandy ware	Cooking pot	1		Rim
		1041	Cream-beige, hard, sandy	Cream sandy ware		1		Body
		1041	Orange, hard, sandy	?		1		Body
		1070	Beige, hard, fine	?		2		Body
2	Midden deposit ***70***	1067	Grey, hard, fine/sandy	?		1		Body
		1067	Grey, hard, fine/sandy	?	Jar	1		Rim
3	Pit ***303***; fill ***309***	1058	Dark grey, very hard, gritty	Midlands Purple	Jar	1	Brown glaze, thumbing	Rim
		1058	Dark grey, very hard, gritty	Midlands Purple	Cistern	2	Brown glaze, thumbing	Rim, bung hole
3	Pit ***16***; fill *17*	1047	Orange body, black glaze	Cistercian ware	Cup	1	Brown glaze	Rim
3	Garden soil ***31***	1055	Beige with grey core, very hard, fine	?	Bowl?	2		Body
		1055	White, hard, fine	Stamford-type ware		1		Body
4	Pit ***18***; fill ***19***	1016	Cream, medium, sandy	Midlands yellow?	Dish	2	Yellow glaze	Rim
		1100	Dark brown, hard, sandy	Derbyshire Coarse White Sandy ware		1		Body
		1100	Dark grey, hard, sandy/gritty	Midlands Purple?	Jug?	1		Body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
		1100	Cream, medium, sandy	Stamford-type ware	Jug?	1	Yellow glaze	Base
4	Ditch ***147***; fill ***146***	1152	Yellow, medium, sandy	Stamford-type ware?	Dish	1	Yellow glaze	Rim
4	Gully ***153***; fill ***150***	1179	Grey, hard, sandy	Burley Hill		1	Green glaze?	Base
4	Pit ***289***: fill ***278***	1100	Cream, medium, sandy	Stamford-type ware	Jug?	1	Yellow glaze	Body
		1100	Dark brown, hard, sandy	Derbyshire Coarse White Sandy ware		1		Body
		1100	Dark grey, hard, sandy/gritty	Midlands Purple?	Jug?	1		Body
4	Burnt spread ***178***	1115	Dark grey, hard, sandy/fine	?		1		Body
4	Garden soil ***30***	1031	Orange, hard, sandy	Derbyshire splashed-glazed		1	Green glaze splashes	Body
		1031	Grey-white, hard, sandy	?		1		Body
4	Garden soil ***154***	1045	Grey, hard, fine	Burley Hill		3	Green glaze	Body
		1045	Grey, hard, fine	Burley Hill		1	Green glaze	Body
		1045	Grey, medium, sandy	Burley Hill		1	Green glaze	Base
		1045	Cream, hard, sandy	Burley Hill		2	Green glazed	Body
		1045	Dark grey, very hard, sandy	Midlands Purple		2	Purple glaze	Body
		1045	Cream, hard, sandy	Cream sandy ware		1		Body
4	Garden soil ***185***	1120	Cream, hard, sandy	Cream sandy ware		2	Green glaze	Rim, body
		1120	Cream/orange, hard, sandy/fine	Cream sandy ware		2	Green glaze	Body
		1120	Grey, hard, gritty	Burley Hill?		2	Green glaze	Body
		1120	Orange, hard, sandy/fine	Burley Hill	Jug	1	Green glaze	Handle
		1120	Orange, hard, sandy	Burley Hill		1	Yellow glaze	Handle
		1120	Beige/orange, hard, sandy	?		1		Rim

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
		1120	Cream, hard, sandy	Cream sandy ware		1		Body
		1120	Cream, hard, sandy	Cream sandy ware		1		Body
		1120	Cream, hard, sandy/gritty	Cream sandy ware		1		Rim
		1120	Cream/grey, soft, fine	?		1		Base?
		1120	Cream/orange, hard, sandy	Cream sandy ware		1		Body
4	Garden soil ***185***	1120	Cream/yellow, hard, sandy/fine	Cream sandy ware		1		Body
		1120	Grey, hard, fine	Burley Hill	Jug	1		Rim
4	Garden soil ***200***	1033	Grey, hard, sandy/fine	Burley Hill		1	Green glaze	Body
		1033	Orange, hard, sandy	Burley Hill		1	Green glaze	Body
		1033	Pale orange, medium, sandy	Burley Hill		1	Green glaze?	Body
		1033	Cream, hard, sandy/gritty	Cream sandy ware		1		Body
4	Garden soil ***328***	1052	Midlands Purple?	Midlands Purple	Storage jar	1	Black glaze	Rim
5	Wall ***193***	1081	Grey, hard, gritty	Burley Hill?		1	Green glaze	Base
		1081	Pale grey, medium, fine	Burley Hill		1	Green glaze	Body
		1081	Dark orange, hard, sandy/gritty	?		1		Body
Modern	Demolition layer ***25***	1001	Cream-grey, hard, gritty	Cream gritty ware		1		Base
Modern	Demolition layer ***72***	1061	Dark grey, hard, sandy	?				Body
Modern	Demolition layer ***223***	1051	Midlands Purple?	Midlands Purple?	Jug	1	Purple glaze	Handle
Modern	Demolition layer ***232***	1157	Orange, hard, sandy	Burley Hill		1	Green glaze	Body
Modern	Demolition layer ***290***	1001	Cream, hard, gritty	Stamford-type ware?	Jug?	1	Mottled green glaze	Body
Unstratified	U/S 9999	1040	Grey, hard, sandy	Burley Hill	Jug	1	Green glaze	Rim
	U/S 9999	1040	Grey, medium, gritty	Burley Hill?	Jug	3	Green glaze	Rim, base
	U/S 9999	1040	Grey, medium, sandy/fine	Burley Hill	Jug?	3	Green glaze	Rim, body

Phase	Context	OR	Fabric	Fabric name	Form Type	Sherds	Decoration	Part
	U/S 9999	1040	Orange, medium, sandy	Burley Hill		1	Green glaze	Rim
	U/S 9999	1049	Pink, hard, sandy	Burley Hill	Jug?	1	Green glaze	Body
	U/S 9999	1089	Grey, hard, gritty	Burley Hill?	Jug?	1	Green glaze	Handle
	U/S 9999	1089	Pale orange, medium, fine	Burley Hill		1	Green glaze	Rim
	U/S 9999	1040	Grey, hard, sandy	Burley Hill	Jug	1	Green glaze, cut	Base
Unstratified	U/S 9999	1040	Grey, hard, fine	Burley Hill	Jug	3	Green glaze, scales	Body
	U/S 9999	1040	Cream, hard, sandy	Burley Hill		1	Pale green glaze	Body
	U/S 9999	1040	Orange, medium, sandy	Derbyshire splashed-glazed		1	Splashed green glaze	Body
	U/S 9999	1040	Grey, hard, sandy	Burley Hill		1		Base
	U/S 9999	1040	Orange, hard, sandy gritty sandy	Orange gritty ware		2		Base
	U/S 9999	1040	Orange, medium, sandy	?		1		Rim
	U/S 9999	1089	Grey, hard, gritty	Grey gritty ware		1		Base
	U/S 9999	1089	White, hard, sandy/gritty	Cream gritty ware		1		Base

APPENDIX B CLAY TOBACCO PIPE CATALOGUE

Summary of the clay tobacco pipes by context, showing the numbers of bowls, stems, and mouthpieces, together with their overall date range (Range) and the likely deposition date (Deposit), based on the latest pieces present.

Context	Bowl	Stem	Mouthpiece	Total	Range	Deposit	Mark	Decoration	Figure	Comments
Levelling layer ***25*** (Phase 6)		1		**1**	1760-1910	1760-1910				Small stem fragment dating from *c* 1760 or later - hard to date accurately
Natural ***28*** geology		1		**1**	1760-1910	1760-1910				Small stem fragment dating from *c* 1760 or later - hard to date accurately
Structure ***29*** (fill ***33***; Phase 6)	70	262	9	**341**	1810-30	1810-30	**	Leaf seams	1-6	Large kiln group, including five different bowl types, three of which have a moulded flower mark on the spur (Types 2-4) and two of which have leaf-decorated seams (Types 4-5)
Modern demolition layer ***106***	2	1		**3**	1660-1850	1760-1800				Material of mixed date. There is an abraded spur bowl of *c* 1660-80, which is likely to have been made locally, and the larger part of a spur bowl (spur missing) of *c* 1690-1720, with a good burnish. This is of a Broseley Type 4b shape (Higgins 1987, 257) with coarse inclusions in the fabric, and so is likely to be a Shropshire product. The final piece is a thin, straight stem that could possibly be as late as *c* 1850, but is more likely to date from *c* 1760-1800
Burnt spread ***130*** (Phase 4)		1		**1**	1680-1730	1680-1730				Small stem fragment with quite a large bore and a strongly oval cross-section, indicating a date of *c* 1680-1730

Context	Bowl	Stem	Mouthpiece	Total	Range	Deposit	Mark	Decoration	Figure	Comments
Burnt spread ***178*** (Phase 4)	2	41		**43**	1610-1760	1680-1730				Almost all are small abraded stem fragments suggesting a much disturbed or well-trampled deposit. The stems are all of general seventeenth- to eighteenth-century types, but most look fairly cylindrical and with medium stem bores, suggesting they strongly cluster around a late seventeenth- to early eighteenth-century date. This is supported by the two bowl fragments, both of which are only represented by the very end of a long tail underneath the stem from Broseley Type 5 bowls, which date from *c* 1680-1730 (Higgins 1987, 257) and provide a likely date for the deposit as a whole. Both these fragments are made of a fine fabric (*ie*, not a coarse Coal Measures clay), suggesting that they are local copies of Broseley area pipes, rather than actual imports from Shropshire. The other stems support this, since none have obvious inclusions, and all are likely to represent local production. About one-third to a half of the stems appear to have been burnished, but the exact percentage is hard to determine because of the small and abraded nature of the fragments
Modern demolition layer ***223***	1			**1**	1690-1730	1690-1730				Spur fragment from a bowl with large, chunky form. The surface has a good burnish and the fabric has gritty inclusions, suggesting a Shropshire origin (Higgins 1987). The base of the spur is not marked
Posthole ***316*** (fill ***315***: Phase 6)	1			**1**	1870-1920	1870-1920	DUBLIN	Moulded milling	7	A complete Irish-style bowl with thick walls and moulded rim milling. The heel is unmarked, but there is an incuse bowl stamp reading 'DUBLIN' within a plain rectangular border facing the smoker. Although Irish-style pipes were popular in England from the mid-nineteenth century onwards, the earlier examples tended to have hand-applied milling and to include actual Irish imports (*cf* the 1860s group in Higgins 2012), whereas this example is more likely to have been made in England, *c* 1870-1920

Context	Bowl	Stem	Mouthpiece	Total	Range	Deposit	Mark	Decoration	Figure	Comments
Garden soil ***328*** (Phase 4)	1	1		**2**	1680-1730	1680-1730				Stem fragment of *c* 1680-1730, with quite a large bore and a strongly oval cross-section, and a bowl fragment (no surviving heel or spur) of similar date. The bowl has a bottered rim and poorly burnished surface. Both pieces are made of a fine fabric and are likely to have been made locally
Modern cellar backfill ***378***		1		**1**	1680-1750	1680-1750				Quite a large and slightly curved stem fragment
Total	**77**	**309**	**9**	**395**						

APPENDIX C CATALOGUE OF INDUSTRIAL RESIDUES

Phase	Context	Feature/deposit	OR No	Trench	Type	Weight (g)	Comments / dimensions
N/A	***11***	Natural geology below cellars	1005	Tr 1	Undiagnostic ironworking slag	828	
			1005	Tr 1	Smithing-hearth bottom	358	90 x 65 x 45mm
			1005	Tr 1	Cinder	60	
2	***138***	Fill of stakehole ***139***; furnace ***124***; Building 1	1021	D	Undiagnostic ironworking slag	291	
			1021	D	Coal	581	Shaley
	195	Fill of pit ***199***	1163	B	Smithing-hearth bottom	316	90 x 70 x 50mm
			1163	B	Smithing-hearth bottom	293	90 x80 x 35mm
			1163	B	Smithing-hearth bottom	454	80 x 70 x 55mm
			1163	B	Undiagnostic ironworking slag	28	
			1163	B	Flake hammerscale	<<1	
	216	Fill of pit ***212***	1148	D	Cinder	764	Stones concreted to surface
	231	Garden soil	1013	A	Undiagnostic ironworking slag	46	
	232	Fill of pit ***233***; Building 1	1151	D	Smithing-hearth bottom	1144	130 x 110 x 75mm
			1151	D	Iron-rich cinder	169	
			1151	D	Flake hammerscale	<<1	
	234	Fill of posthole ***235***; Building 1	1162	D	Smithing-hearth bottom	2712	Very large with deep depression. Not regular smithing. 170 x 160 x 110mm
			1162	D	Undiagnostic ironworking slag	1659	
			1162	D	Flake hammerscale	<<1	
	243	Fill of posthole ***244***	1093	D	Smithing-hearth bottom	1134	Attached concretion, coal and shale. 145 x 100 x 75mm
	251	Garden soil	1185	D	Smithing-hearth bottom	80	Part only

Phase	Context	Feature/deposit	OR No	Trench	Type	Weight (g)	Comments / dimensions
2	***367***	Fill of pit ***373***	1150	C	Smithing-hearth bottom	629	Stones concreted to surface. 100 x 85 x 55mm
	322	Fill of pit ***327***	1064	A	Copper-alloy dross	17	Soil, stones and charcoal concreted with turquoise corrosion
			1155	A	Copper-alloy dross	15	More dense that other non-ferrous debris in assemblage
	319	Fill of pit ***321***	1067	A	Smithing-hearth bottom	405	Irregular. Adhering spheroidal hammerscale 140 x 80 x 50mm
			1067	A	Undiagnostic ironworking slag	728	Double hearth bottom, very irregular
			1067	A	Flake hammerscale	<<1	
			1067	A	Spheroidal hammerscale	<<1	
3	***274***	Fill of pit ***277***	1136	A	Fired clay	69	
			1136	A	Undiagnostic ironworking slag	161	
			1136	A	Smithing-hearth bottom	190	
			1136	A	Flake hammerscale	<<1	
	276	Fill of pit ***277***	1108	A	Coal	471	
	284	Fill of pit ***289***	1026	A	Undiagnostic ironworking slag	669	Channel-shaped, with small run attached (?reheating/puddling)
	285	Fill of pit ***289***	1063	A	Copper-alloy dross	74	Soil and stones concreted with turquoise corrosion
4	***200***	Garden soil	1034	B	Dense slag	43	
			1034	B	Vitrified hearth lining	28	
			1034	B	Undiagnostic ironworking slag	125	
Modern	***223***	Demolition layer	1048	B	Smithing-hearth bottom	271	80 x 70 x 30mm
			1048	B	Undiagnostic ironworking slag	56	Fragment of compact disc-shaped slag lump

Phase	Context	Feature/deposit	OR No	Trench	Type	Weight (g)	Comments / dimensions
Modern	***223***	Demolition layer	1048	B	Iron-rich cinder	117	
			1048	B	Flake hammerscale	<<1	
					Total	**16,606g**	

APPENDIX D RECORDED INSECTS AND OTHER INVERTEBRATES

Ecological codes shown in square brackets are: d = damp ground/waterside; g = grain pests; h = house/building; l = wood/timber; oa = outdoor taxa not usually found within buildings or in accumulations of decomposing matter; ob = probable outdoor taxa; p = plant-associated; sf = facultative synanthropes; ss = strong synanthropes; st = typical synanthropes; u = uncoded; and w = aquatic. Abundance of insects, other than adult beetles and bugs and other invertebrates, has been recorded as: + occasional; ++ moderately frequent; +++ frequent; ++++ abundant

Feature	**Pit *177***	**Pit *289***		
Context	***175/176***	***284***	***285***	***288***
Sample	<17>	<46>	<47>	<48>
Original sample volume	10L	4L	4L	10L
Material examined	Paraffin flot	Paraffin flot	Rewet flot	Rewet flot
INSECTA				
DERMAPTERA (earwigs)				
Dermaptera sp [u]	+	-	-	-
HEMIPTERA: HOMOPTERA				
Cicadellidae (planthoppers)				
Anoscopus flavostriatus (Donovan) [oa-p]	1	-	-	-
Auchenorhyncha spp [oa-p]	1	-	-	-
Auchenorhyncha spp (nymphs) [oa-p]	-	-	-	+
Aphidoidea sp (aphids)	+	-	-	-
Coccoidea: Diaspididae sp (scale insect)	-	+	-	-
COLEOPTERA (beetles)				
Carabidae (ground beetles)				
Trechoblemus micros (Herbst) [u]	2	3	-	1
Trechus obtusus or *quadristriatus* [oa]	2	-	-	-
Carabidae spp and sp indeterminate [ob]	3	1	1	-
Helophoridae (grooved water scavengers)				
Helophorus sp(p) [oa-w]	1	1	-	-
Hydrophilidae				
Cercyon haemorrhoidalis (Fabricius) [rf-sf]	8	2	-	-
Cercyon nigriceps (Marsham) [rf-st]	2	-	-	-
Cercyon analis (Paykull) [rt-st]	1	2	-	-
Cercyon spp indeterminate [u]	4	1	-	-
Cryptopleurum minutum (Fabricius) [rf-st]	1	-	-	-
Megasternum concinnum (Marsham) [rt-sf]	2	-	-	-
Histeridae (clown beetles)				
Acritus nigricornis (Hoffman) [rt-st]	1	-	-	-
Histerinae sp [rt]	-	1	-	-

Feature	**Pit *177***	**Pit *289***		
Context	***175/176***	***284***	***285***	***288***
Sample	<17>	<46>	<47>	<48>
Original sample volume	10L	4L	4L	10L
Material examined	Paraffin flot	Paraffin flot	Rewet flot	Rewet flot
INSECTA				
Ptiliidae (featherwing beetles)				
Ptenidium sp [rt]	2	-	-	-
Acrotrichis sp [rt]	4	-	-	-
Leiodidae				
Choleva or *Catops* sp [u]	-	1	-	-
Staphylinidae (rove beetles)				
Dropephylla vilis (Erichson) [l]	1	1	-	-
Omalium spp [rt]	3	-	-	-
Omaliinae spp [u]	4	1	1	-
Megarthrus depressus (Paykull) [rt]	-	1	-	-
Megarthrus sp [rt]	1	-	1	-
?*Trichonyx sulcicollis* (Reichenbach) [u]	1	-	-	-
Pselaphinae spp [u]	1	-	-	-
Tachinus subterraneus (Linnaeus) [u]	-	1	-	-
Cilea silphoides (Linnaeus) [rt-sf]	1	-	-	-
Cypha sp [u]	1	-	-	-
Cordalia obscura (Gravenhorst) [rt-sf]	1	-	-	-
Falagria caesa or *sulcatula* [rt-sf]	1	-	-	-
Aleocharinae spp [u]	19	6	5	-
Coprophilus striatulus (Fabricius) [rt-st]	1	9	-	-
Carpelimus sp [u]	1	-	-	-
Platystethus arenarius (Geoffroy in Fourcroy) [rf]	4	4	-	-
Anotylus complanatus (Erichson) [rt-sf]	13	1	-	-
Anotylus nitidulus (Gravenhorst) [rt-d-sf]	13	-	-	-
Anotylus rugosus (Fabricius) [rt-sf]	7	3	-	-
Anotylus sculpturatus group [rt-sf]	8	2	1	-
Anotylus tetracarinatus (Block) [rt-sf]	1	-	-	-
Stenus spp [u]	1	-	-	-
Paederinae sp [u] small species	4	-	-	-
Gyrohypnus fracticornis (Müller) [rt-st]	2	-	-	-
Gyrohypnus sp [rt]	-	1	-	-
Xantholinus sp [rt]	-	1	-	-
Creophilus maxillosus (Linnaeus) [rt]	-	-	1	-
Neobisnius ?*villosulus* (Stephens) [rt-sf]	1	-	-	-
Staphylininae spp [u]	4	7	-	1
Geotrupidae (dor beetles)				

Feature	**Pit *177***	**Pit *289***		
Context	***175/176***	***284***	***285***	***288***
Sample	<17>	<46>	<47>	<48>
Original sample volume	10L	4L	4L	10L
Material examined	Paraffin flot	Paraffin flot	Rewet flot	Rewet flot
INSECTA				
Geotrupinae sp [oa-rf] cuticle fragment	-	-	-	1
Trogidae (hide beetles)				
Trox scaber (Linnaeus) [rt-sf]	-	1	-	-
Scarabaeidae (dung beetles and chafers)				
Calamosternus granarius (Linnaeus) [ob-rf]	1	-	-	-
Melinopterus prodromus or *sphacelatus* [ob-rf]	2	2	-	-
Aphodiinae spp [ob-rf]	-	-	-	1
Elmidae (riffle beetles)				
Esolus parallelepipedus (Müller) [oa-w]	1	-	-	-
Elateridae (click beetles)				
Elateridae sp [ob]	1	-	-	-
Elateridae sp (larval apex) [ob]	+	-	-	-
Ptinidae (spider and woodworm beetles)				
Epauloecus unicolor (Piller and Mitterpacher) [rd-ss-h]	-	-	2	-
Ptinus fur (Linnaeus) [rd-st-h]	-	1	-	-
Ptinus sp indeterminate [rd-sf]	1	-	-	-
Anobium punctatum (De Geer) [l-sf]	4	5	3	-
Monotomidae				
Monotoma sp [rt-st]	-	1	-	-
Cryptophagidae (silken fungus beetles)				
Cryptophagus spp [rd-sf-h]	-	2	-	-
?*Cryptophagus* sp [rd-sf-h]	1	-	-	-
Atomaria sp [rd-sf-h]	4	1	1	-
Nitidulidae (sap and pollen beetles)				
Omosita sp [rt-sf]	1	-	-	-
Endomychidae (handsome fungus beetles)				
Mycetaea subterranea (Fabricius) [rd-ss-h]	-	2	-	-
Corylophidae				
Orthoperus sp [rt-sf]	1	-	-	-
Latridiidae (minute brown scavenger beetles)				
Latridius minutus group [rd-st]	10	5	1	-
Dienerella sp [rd-sf]	1	-	-	-
Corticaria spp [rt-sf]	2	3	-	-
Corticariinae spp [rt]	-	1	-	-
Mycetophagidae (hairy fungus beetles)				
Typhaea stercorea (Linnaeus) [rd-ss-h]	1	-	-	-

Feature	**Pit *177***	**Pit *289***		
Context	***175/176***	***284***	***285***	***288***
Sample	<17>	<46>	<47>	<48>
Original sample volume	10L	4L	4L	10L
Material examined	Paraffin flot	Paraffin flot	Rewet flot	Rewet flot
INSECTA				
Chrysomelidae (seed and leaf beetles)				
Bruchus ?*rufimanus* Boheman [sf]	2	-	-	-
Longitarsus sp [oa-p]	1	-	1	-
Phyllotreta sp [oa-p]	2	-	-	-
Alticini sp [oa-p]	1	-	-	-
Apionidae				
Apionidae spp [oa-p]	2	1	-	-
Dryophthoridae				
Sitophilus granarius (Linnaeus) [g-ss]	-	1	1	-
Curculionidae (weevils)				
Ceutorhynchus sp [oa-p]	1	-	-	-
Curculionidae sp [oa-p]	2	-	-	-
Coleoptera spp and sp indeterminate [u]	2	-	1	-
DIPTERA (flies)				
Syrphidae sp larval spiracular processes	+	+	-	+
Diptera spp adults	-	+	-	-
Diptera spp puparia/pupae	+++	++	+	+
HYMENOPTERA (bees, wasps and ants)				
Formicidae spp	-	+	-	-
Hymenoptera Parasitica spp	+	-	-	-
ARACHNIDA				
Acarina spp (mites)	+++	++	+	-
TOTAL ADULT BEETLES AND BUGS	173	76	20	4

APPENDIX E PLANT REMAINS FROM PHASES 2 AND 3 PITS

*Numbers without brackets = actual counts. Numbers with brackets = scale of abundance where: 1 = 1-5; 2 = 6-25; 3 = 26-100; and 4 = >100 items. Plant remains are seeds/fruits unless stated otherwise. Cul =culinary; Med=medicinal. * Diversity counts used to create Figure 17.*

PHASE 2 PLANT REMAINS

			Context No	***176***	***216/217***	***215***	***372***	***371***	***325***	***322***
			Sample No	17	25	24	75	74	60	59
			Feature	Pit ***177***	Pit ***212***		Pit ***373***		Pit ***327***	
			Sample volume (L)	10	10	10	10	10	30	4
			Flot volume (ml)	300	217	180	260	300	370	110
			% flot analysed	100% >2mm, 50% >2mm	100	100	100	100	100	100
Charred plant remains										
Cereal caryopses										
Triticum aestivum-type	Bread wheat-type			7	49	20	5	2	7	
Avena sp	Oat			1	41	30	4	1	7	
Secale cereale	Rye				3	1	2			
Indeterminate cereals				1	30	9	4			
Total charred cereals				**9**	**123**	**60**	**15**	**3**	**14**	**0**
Cereal chaff				(3) lemma/palea			(1) rye rachis and lemma/palea			
Pisum sativum/Vicia faba	Garden pea/bean							1	3	

			Context No	*176*	*216/217*	*215*	*372*	*371*	*325*	*322*
			Sample No	17	25	24	75	74	60	59
			Feature	Pit ***177***	Pit ***212***		Pit ***373***		Pit ***327***	
Weed seeds				1 (small Fabaceae)	4 (small Fabaceae)		6 (small Fabaceae and Poaceae)	1 (*Chenopodium album*)	5 (small Fabaceae and Poaceae)	
Waterlogged Plant Remains		***Additional habitat or status***	**Use (after Grieve 1931)**							
Edible fruits and nuts										
Corylus avellana	Hazelnut fragments									
Ficus caria	Fig			(1)			(2)	(4)		
Fragaria vesca	Wild strawberry									
Malus sylvestris/Pyrus communis	Apple/pear									
Prunus avium/cerasus	Sweet/sour cherry									
Prunus domestica ssp *Insititia*	Wild plum/damson									
Prunus spinosa	Blackthorn/sloe									
Rubus fructicosus L agg	Blackberry			(4)	(2)	(1)	(2)	(3)		
Sambucus nigra	Elderberry			(4)	(1)	(1)	(3)	(2)	(3)	(3)
Vaccinium myrtillus	Bilberry									
Vitis vinifera	Grape									
Fruits and nuts diversity*				**3**	**2**	**2**	**3**	**3**	**1**	**1**

			Context No	*176*	*216/217*	*215*	*372*	*371*	*325*	*322*
			Sample No	17	25	24	75	74	60	59
			Feature	Pit *177*	Pit *212*		Pit *373*		Pit *327*	
Other woodland, scrub and hedgerow plants										
Betula pendula	Silver birch	Mostly acid soils, especially heathland								
Lapsana communis	Nipplewort	Also waste and rough ground		(1)						
Stachys sylvatica	Hedge woundwort		Med/Other							(1)
Viola cf *odorata*	Sweet violet	mostly base-rich soils	Cul/Med/Other							
Other woodland, scrub and hedgerows diversity				**1**	**0**	**0**	**0**	**0**	**0**	**1**
Herbs										
Waste and cultivated ground										
Aethusa cynapium	Fool's parsley		Med	(1)						
Agrostemma githago	Corncockle	Major crop weed	MedP							
Anagallis arvensis	Scarlet pimpernel		Med/Other					(1)		
Anthemis cotula	Stinking chamomile	Major crop weed	Med							
Centaurea cyanus	Cornflower	Major crop weed	Med/Other					(1)		
Chenopodium sp	Goosefoot		Cul/Med/Other	(2)			(2)	(3)		
Conium maculatum	Hemlock	Also damp ground, roadsides and ditches	MedP	(3)			(1)	(1)		
Euphorbia helioscopia	Sun spurge						(1)	(1)		
Fumaria officinalis	Common fumitory		Med							

			Context No	***176***	***216/217***	***215***	***372***	***371***	***325***	***322***
			Sample No	17	25	24	75	74	60	59
			Feature	Pit ***177***	Pit ***212***		Pit ***373***		Pit ***327***	
Galeopsis tetrahit	Common hemp-nettle	Also woodland clearings or damp places	Cul							
Glebionis segetum	Corn marigold	Major crop weed						(1)		
Hyoscyamus niger	Henbane	Especially manured by rabbits or cattle	MedP, possibly cultivated	(1)				(1)		(1)
Lamium cf *album*	White dead-nettle	Archaeophyte; hedgebanks, waysides, rough ground	Med	(1)						
Persicaria lapathifolia	Pale persicaria	Especially damp ground		(1)			(1)			
Ranunculus arvensis	Corn buttercup	Major crop weed								
Solanum nigrum	Black nightshade		MedP	(2)			(1)			
Stellaria media	Common chickweed	Major crop weed	Cul/Med/Other				(2)			
Urtica urens	Small nettle		Cul/Med/Other	(3)			(3)	(2)		
Waste and cultivated ground diversity				**8**	**0**	**0**	**7**	**8**	**0**	**1**
Grassy places										
Leontodon sp	Hawkbits		Med							
Plantago lanceolata	Ribwort plantain								(1)	
Poaceae 2-4mm	Grass family						(1)	(3)		
Prunella vulgaris	Selfheal	Also rough ground	Med						(1)	
Rumex acetosella	Sheep's sorrel		Med							
Stellaria graminea	Lesser stitchwort							(1)		
Grassy places diversity				**0**	**0**	**0**	**1**	**2**	**2**	**0**

			Context No	*176*	*216/217*	*215*	*372*	*371*	*325*	*322*
			Sample No	17	25	24	75	74	60	59
			Feature	Pit *177*	Pit *212*		Pit *373*		Pit *327*	
Damp, wet ground										
Carex sp biconvex nutlets	Sedges with biconvex nutlets			(1)			(1)	(2)		
Carex sp trigonous nutlets	Sedges with three-sides nutlets			(3)			(2)		(2)	(2)
Comarum palustre	Marsh cinquefoil			(1)						
Eleocharis palustris	Common spike-rush						(1)			
Juncus sp	Rushes			(2)			(1)	(2)	(3)	(2)
Mentha sp	Mints		Cul/Med							
Ranunculus sceleratus	Celery-leaved buttercup		Cul/Med	(1)						
Damp, wet ground diversity				**5**	**0**	**0**	**4**	**2**	**2**	**2**
Aquatics										
Lemna sp	Duckweed								(1)	(1)
Aquatics diversity				**0**	**0**	**0**	**0**	**0**	**1**	**1**
Broad ecological groupings										
Asteraceae	Carrot family		Cul/Med							
Brassica sp	Cabbages	Includes wild species	Cul/Med	(1)			(1)			
Caryophyllaceae	Pink family									
Lamium sp	Dead-nettles		Med	(1)			(1)			
Polygonum aviculare	Knotgrass	All sorts of open ground	Med	(1)						
Potentilla erecta-type	Tormentil		Med/Other	(1)			(1)			
Ranunculus repens-type	Creeping buttercup			(2)			(1)			
Silene sp	Campions						(1)			

			Context No	*176*	*216/217*	*215*	*372*	*371*	*325*	*322*
			Sample No	17	25	24	75	74	60	59
			Feature	Pit *177*	Pit *212*		Pit *373*		Pit *327*	
Sonchus sp	Sow thistles		Cul/Other							
Urtica dioica	Common nettle	Especially woodland, fens, cultivated ground and where animals defecate	Cul/Med/Other	(2)			(3)	(1)		
Viola-type	Violets		Cul/Med/Other							
Other remains										
Mineralised small culm fragments								(4)		
Amorphous plant remains								(4)		(2)
Very fine plant fibres										
Fungal sclerotia				(1)						(1)
Bryophyte remains	Moss remains							(1)		
Pteropsida sporangia	Fern sporangia							(1)		
Leaf fragments					(1)			(3)		
Wood fragments				(4) including abundant large >4mm fragments			(3)		(2)	(2)
Bark fragments				(3) including large >4mm fragments						
Buds										
Charcoal				(4)		(3)	(4)	(3)	(4)	(4)
Coal						(2)	(2)	(2)	(4)	(4) fine
Heat-affected vesicular material										
Bone fragments					(3)	(3)	(3)	(4)	(2)	
Large mammal bone									(3)	
Fish bone				(1)	(3)	(1)	(3)	(4)	(1)	

			Context No	***176***	***216/217***	***215***	***372***	***371***	***325***	***322***
			Sample No	17	25	24	75	74	60	59
			Feature	Pit ***177***	Pit ***212***		Pit ***373***		Pit ***327***	
Insect fragments				(4)			(2)	(2)	(1)	
Ceramic building material					(2)	(1)	(2)	(1)	(4) often with daub attached	(1)
Hammerscale									(4)	

PHASE 3 PLANT REMAINS

			Context No	*276*	*275*	*288*	*285*	*284*	*282*
			Sample No	44	43	48	47	46	45
			Feature	Pit ***277***		Pit ***289***			
			Sample volume (L)	10	10	10	4	4	10
			Flot volume (ml)	60	25	10	100	100	150
			% flot analysed	100	100	100	100	100	100
Charred plant remains									
Cereal caryopses									
Triticum aestivum-type	Bread wheat-type				1				
Avena sp	Oat								
Secale cereale	Rye								
Indeterminate cereals					1			1	1
Total charred cereals				**0**	**2**	**0**	**0**	**1**	**1**
Pisum sativum/Vicia faba	Garden pea/bean			1			1	1	
Waterlogged Plant Remains		***Additional habitat or status***	**Use (after Grieve 1931)**						
Edible fruits and nuts									
Corylus avellana	Hazelnut fragments			(1)					(1)
Ficus caria	Fig			(2)	(1)		(2)	(3)	(2)
Fragaria vesca	Wild strawberry				(1)			(1)	
Malus sylvestris/Pyrus communis	Apple/Pear			(1)			(1)		(1)
Prunus avium/cerasus	Sweet/sour cherry			(1)		(1)	(1)		
Prunus domestica ssp *Insititia*	Wild plum/damson						(1)		

			Context No	***276***	***275***	***288***	***285***	***284***	***282***
			Sample No	44	43	48	47	46	45
			Feature	Pit ***277***		Pit ***289***			
Prunus spinosa	Blackthorn/sloe			(3)		(1)	(2)		(1)
Rubus fructicosus L agg	Blackberry				(1)	(1)	(1)	(1)	
Sambucus nigra	Elderberry				(1)		(1)	(2)	
Vaccinium myrtillus	Bilberry					(1)			
Vitis vinifera	Grape			(1)			(1)		(1)
Diversity* Fruits and nuts				**6**	**4**	**4**	**8**	**4**	**5**
Other woodland, scrub and hedgerow plants									
Betula pendula	Silver birch	Mostly acid soils, especially heathland				(1)			
Lapsana communis	Nipplewort	Also waste and rough ground							
Stachys sylvatica	Hedge woundwort		Med/Other						
Viola cf *odorata*	Sweet violet	mostly base-rich soils	Cul/Med/Other				(1)		
Other woodland, scrub and hedgerows diversity				**0**	**0**	**1**	**1**	**0**	**0**
Herbs									
Waste and cultivated ground									
Aethusa cynapium	Fool's parsley		Med						
Agrostemma githago	Corncockle	Major crop weed	MedP	(1)		(1)	(1)		
Anagallis arvensis	Scarlet pimpernel		Med/Other	(1)				(1)	
Anthemis cotula	Stinking chamomile	Major crop weed	Med			(1)			

			Context No	***276***	***275***	***288***	***285***	***284***	***282***
			Sample No	44	43	48	47	46	45
			Feature	Pit ***277***		Pit ***289***			
Centaurea cyanus	Cornflower	Major crop weed	Med/Other						
Chenopodium sp	Goosefoot		Cul/Med/Other	(1)				(1)	
Conium maculatum	Hemlock	Also damp ground, roadsides and ditches	MedP						
Euphorbia helioscopia	Sun spurge								
Fumaria officinalis	Common fumitory		Med						(1)
Galeopsis tetrahit	Common hemp-nettle	Also woodland clearings or damp places	Cul						(1)
Glebionis segetum	Corn marigold	Major crop weed							
Hyoscyamus niger	Henbane	Especially manured by rabbits or cattle	MedP, possibly cultivated						
Lamium cf *album*	White dead-nettle	Archaeophyte; hedgebanks, waysides, rough ground	Med						
Persicaria lapathifolia	Pale persicaria	Especially damp ground							
Ranunculus arvensis	Corn buttercup	Major crop weed							(1)
Solanum nigrum	Black nightshade		MedP						
Stellaria media	Common chickweed	Major crop weed	Cul/Med/Other	(1)					
Urtica urens	Small nettle		Cul/Med/Other						
Waste and cultivated ground diversity				**4**	**0**	**2**	**1**	**3**	**4**
Grassy places									
Leontodon sp	Hawkbits		Med						(1)
Plantago lanceolata	Ribwort plantain								

			Context No	***276***	***275***	***288***	***285***	***284***	***282***
			Sample No	44	43	48	47	46	45
			Feature	Pit ***277***		Pit ***289***			
Poaceae 2-4mm	Grass family								
Prunella vulgaris	Selfheal	Also rough ground	Med						
Rumex acetosella	Sheep's sorrel		Med		(1)				
Stellaria graminea	Lesser stitchwort								
Grassy places diversity				**0**	**1**	**0**	**0**	**0**	**1**
Damp, wet ground									
Carex sp biconvex nutlets	Sedges with biconvex nutlets			(1)			(1)		(1)
Carex sp trigonous nutlets	Sedges with three-sides nutlets			(1)	(2)		(1)		(1)
Comarum palustre	Marsh cinquefoil								
Eleocharis palustris	Common spike-rush								
Juncus sp	Rushes			(2)	(3)				(1)
Mentha sp	Mints		Cul/Med					(1)	(1)
Ranunculus sceleratus	Celery-leaved buttercup		Cul/Med						
Damp, wet ground diversity				**3**	**2**	**0**	**2**	**1**	**4**
Aquatics									
Lemna sp	Duckweed								
Aquatics diversity				**0**	**0**	**0**	**0**	**0**	**0**
Broad ecological groupings									
Asteraceae	Carrot family		Cul/Med	(1)					
Brassica sp	Cabbages	Includes wild species	Cul/Med						

			Context No	***276***	***275***	***288***	***285***	***284***	***282***
			Sample No	44	43	48	47	46	45
			Feature	Pit ***277***		Pit ***289***			
Caryophyllaceae	Pink family			(1)					
Lamium sp	Dead-nettles		Med						
Polygonum aviculare	Knotgrass	All sorts of open ground	Med						
Potentilla erecta-type	Tormentil		Med/Other					(1)	
Ranunculus repens-type	Creeping buttercup						(1)	(1)	(1)
Silene sp	Campions								
Sonchus sp	Sow thistles		Cul/Other						(1)
Urtica dioica	Common nettle	Especially woodland, fens, cultivated ground and where animals defecate	Cul/Med/Other	(1)	(1)	(1)		(1)	(1)
Viola-type	Violets		Cul/Med/Other	(1)					
Other remains									
Mineralised small culm fragments									
Amorphous plant remains				(4)	(4)		(4)	(4)	
Very fine plant fibres					(4)				
Fungal sclerotia					(3)	(1)			
Bryophyte remains	Moss remains						(1)		(1)
Pteropsida sporangia	Fern sporangia								
Leaf fragments							(2)	(1)	(2)
Wood fragments				(2)		(4) mostly comminuted	(3) mostly comminuted but including rare twig fragments		(3) including large >4mm fragments and twigs

			Context No	***276***	***275***	***288***	***285***	***284***	***282***
			Sample No	44	43	48	47	46	45
			Feature	Pit ***277***		Pit ***289***			
Bark fragments							(1)		(3)
Buds							(1)		(1)
Charcoal				(4)	(4)		(4)	(2)	(4)
Coal				(2)	(1)		(1)	(2)	(3)
Heat-affected vesicular material				(1)			(2)	(2)	(3)
Bone fragments				(2)	(1)				(3)
Large mammal bone									
Fish bone				(2)	(1)		(1)		(2)
Insect fragments				(1)	(2)	(4)	(3)	(3)	(2)
Ceramic building material						(1)			

LIST OF FIGURES

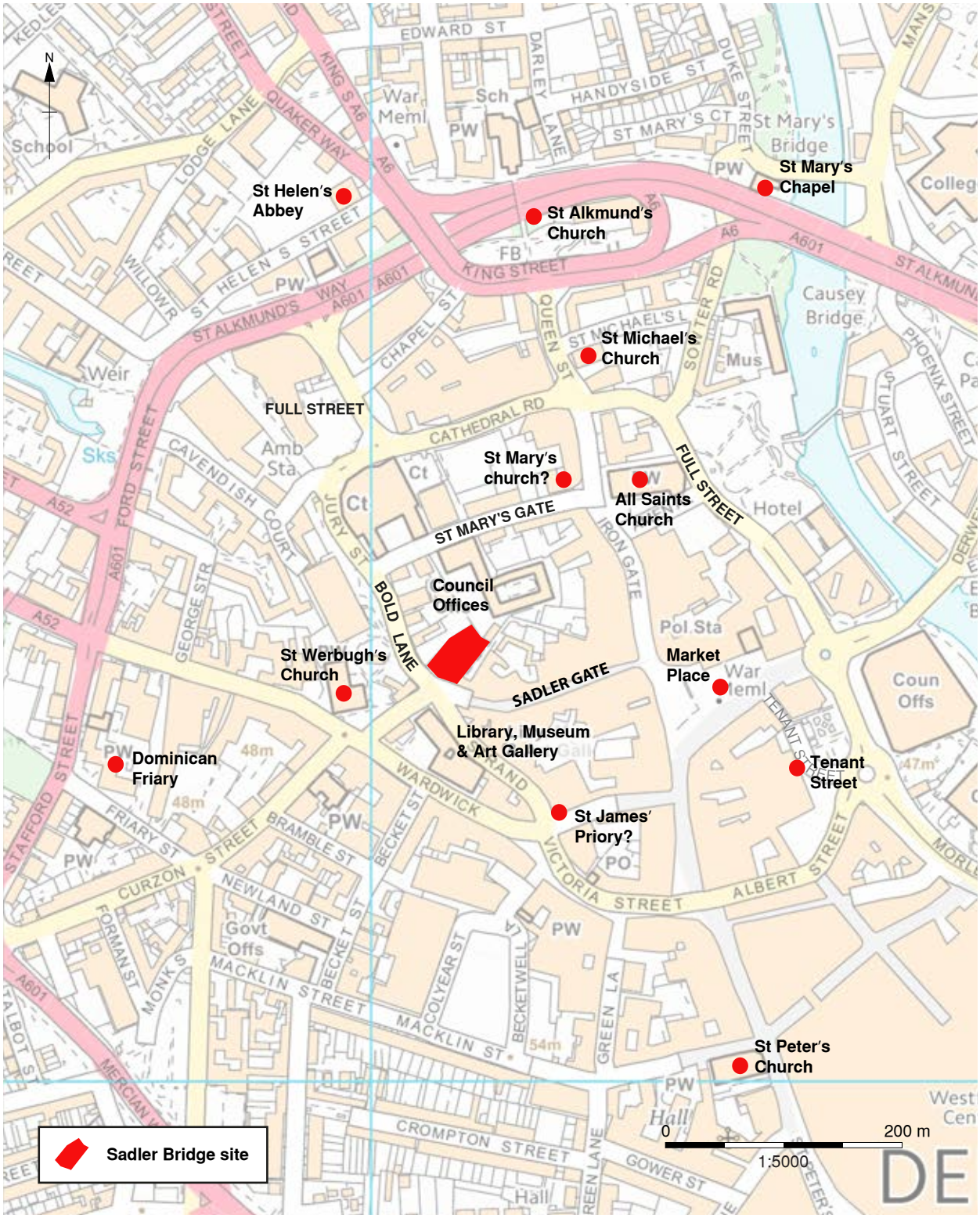

Figure 1: The location of Sadler Bridge Studios in Derby city centre, the medieval market place and medieval ecclesiastical sites

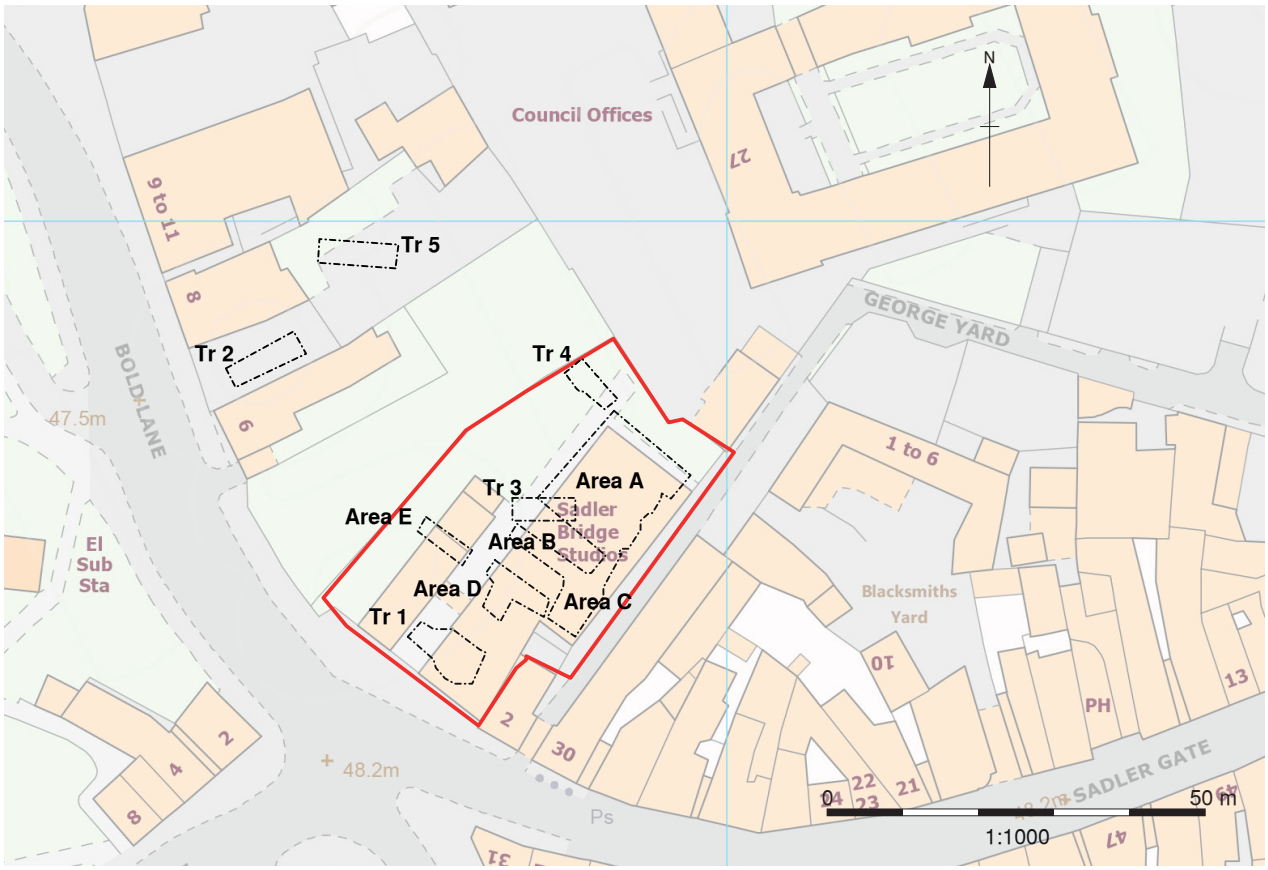

Figure 2: The location of the evaluation and open-area excavation trenches at Sadler Bridge Studios

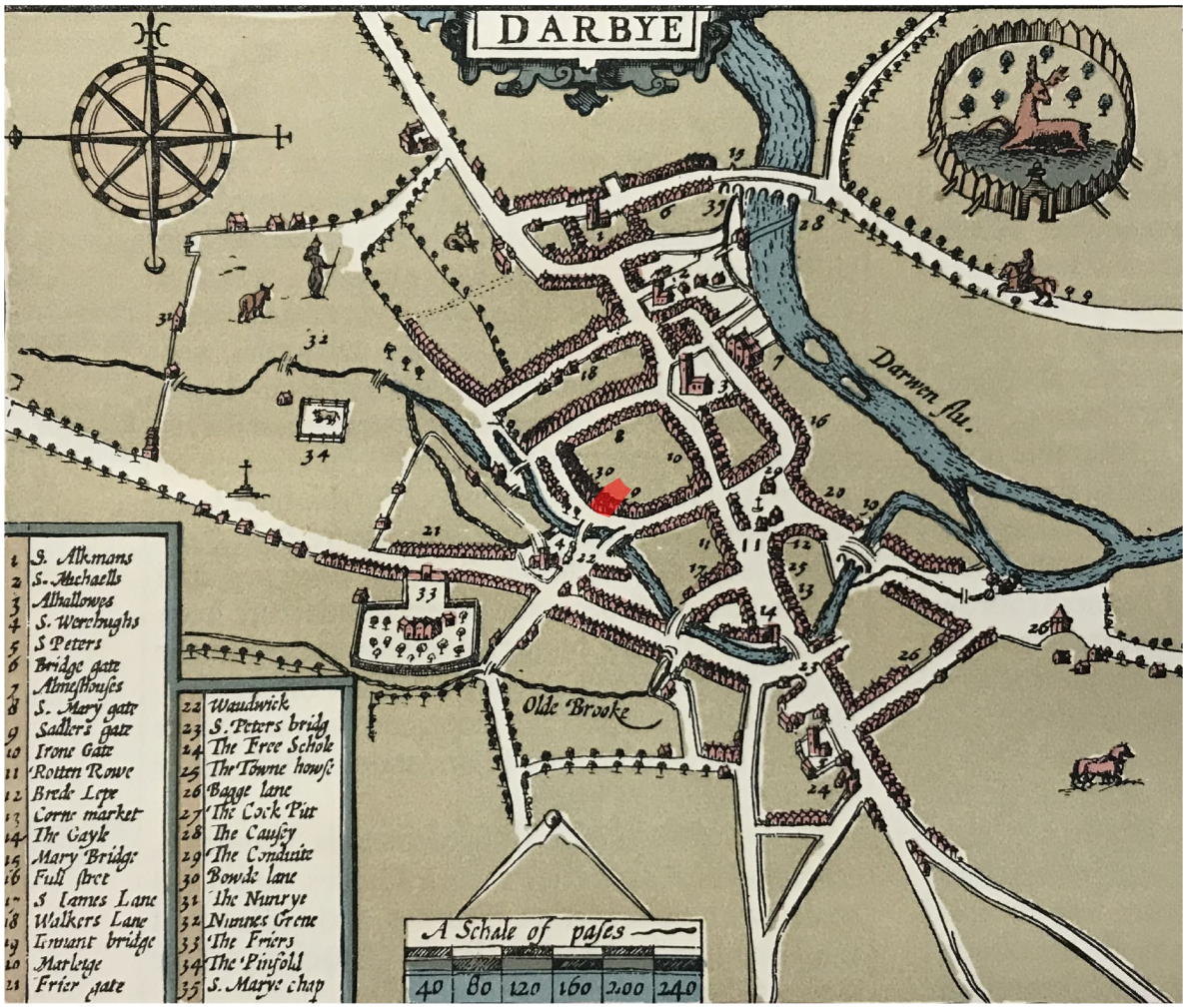

Figure 3: John Speed's map of Derby, 1610, with the location of Sadler Bridge Studios highlighted

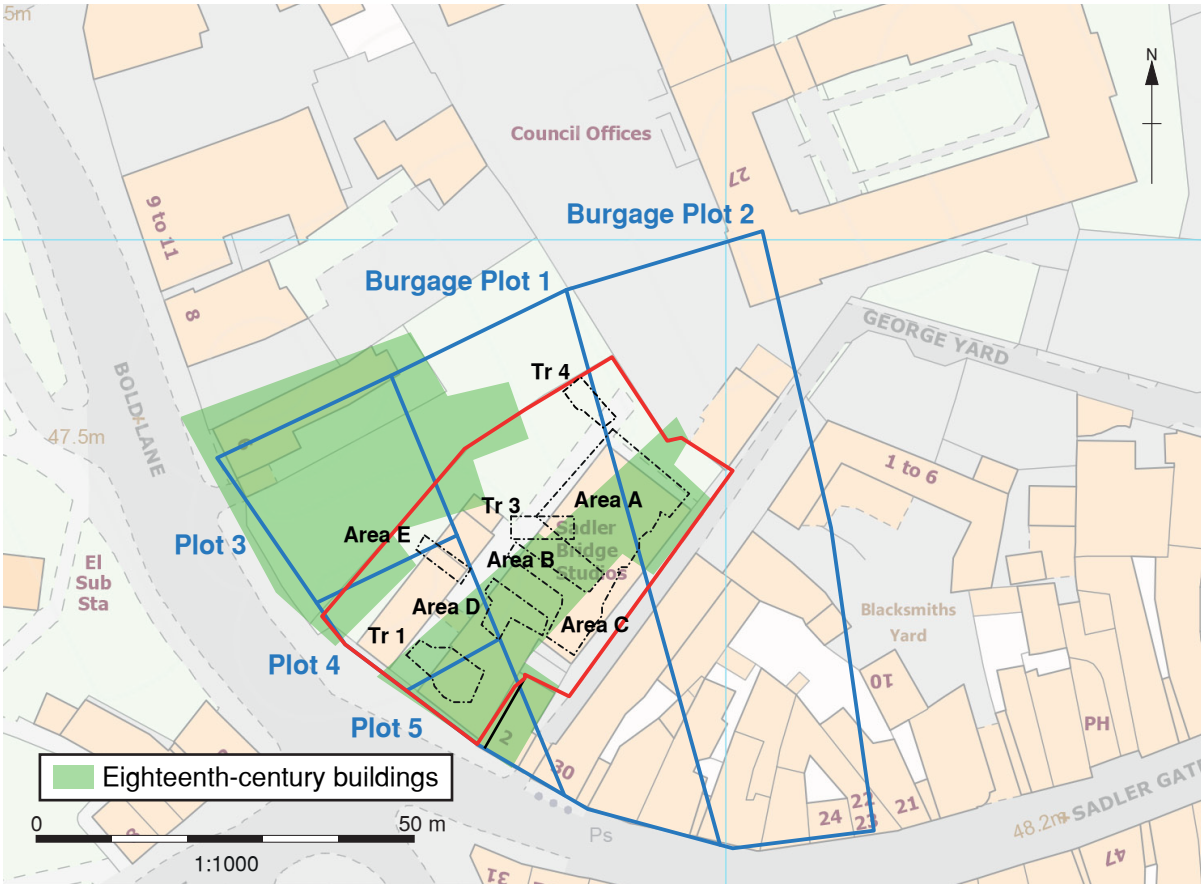

Figure 4: The late medieval/early post-medieval burgage plots spanning Sadler Bridge Studios, as depicted on a map of 1599, and the location of the excavation trenches

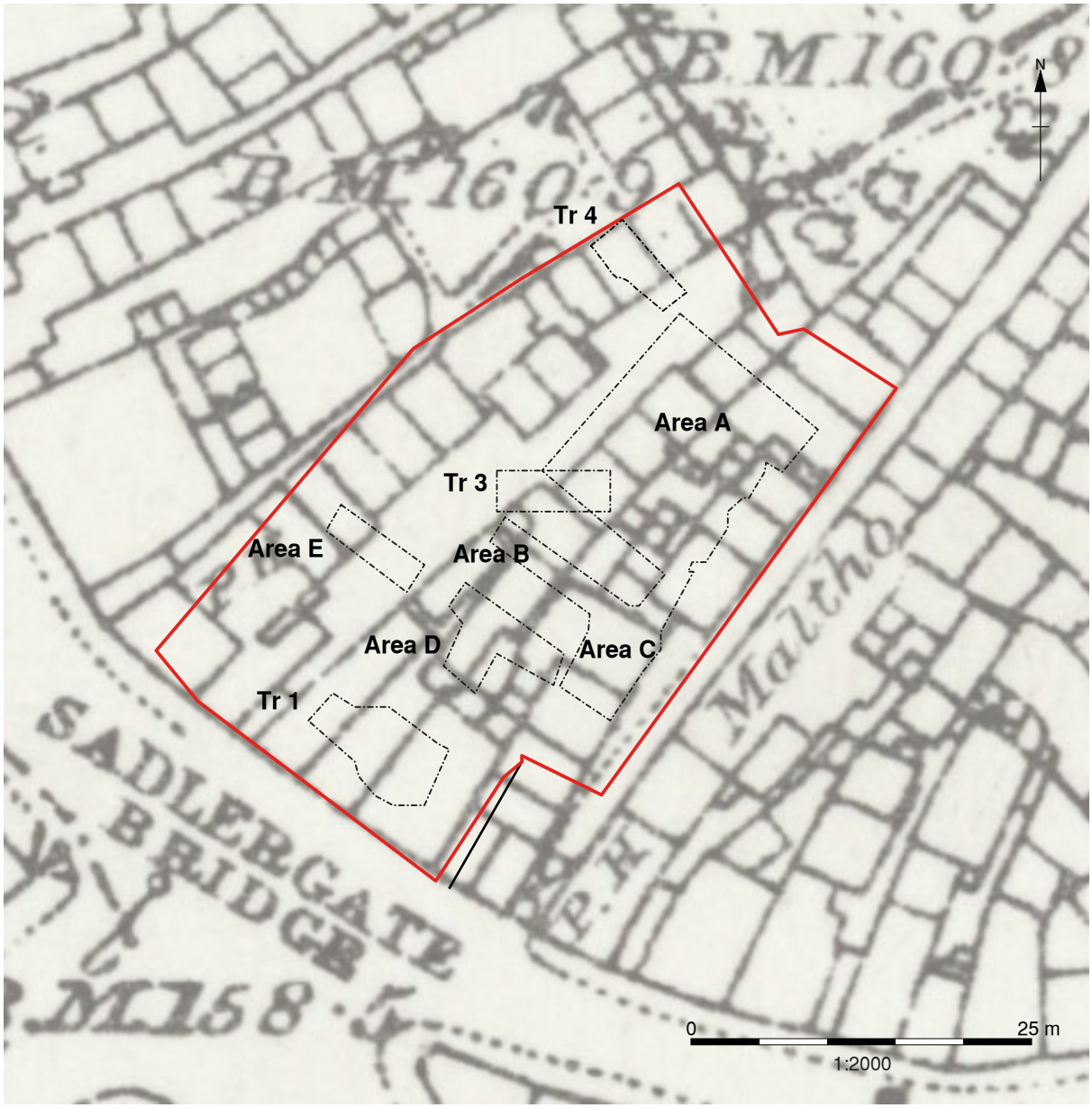

Figure 5: The location of Sadler Bridge Studios, and the excavation and evaluation trenches, superimposed on the Ordnance Survey map of 1882

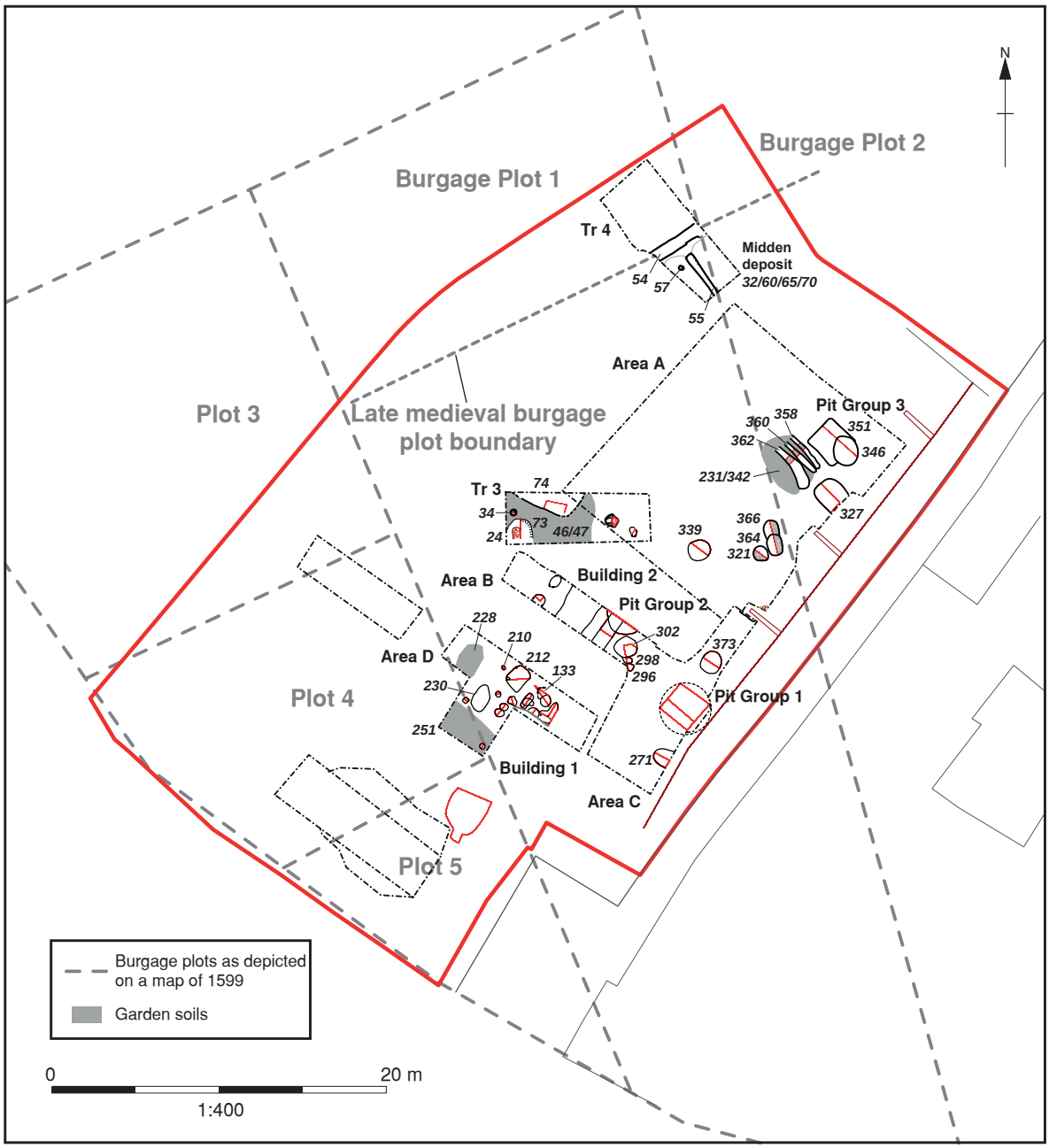

Figure 6: Later medieval (Phase 2) features and deposits

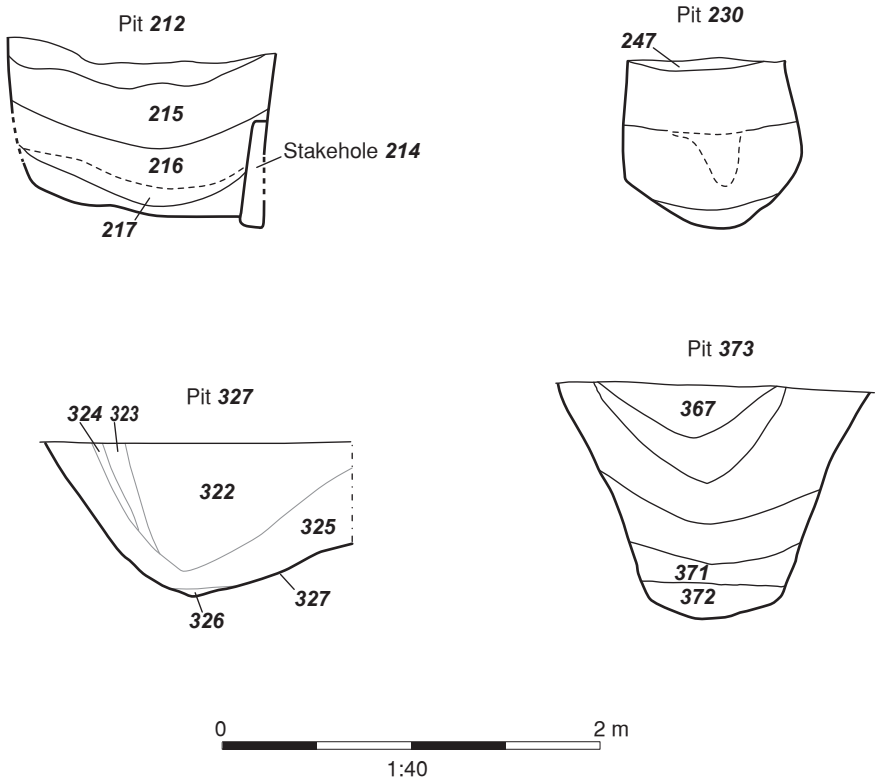

Figure 7: Sections across Phase 2 cess/refuse pits ***212, 230, 327*** and ***373***

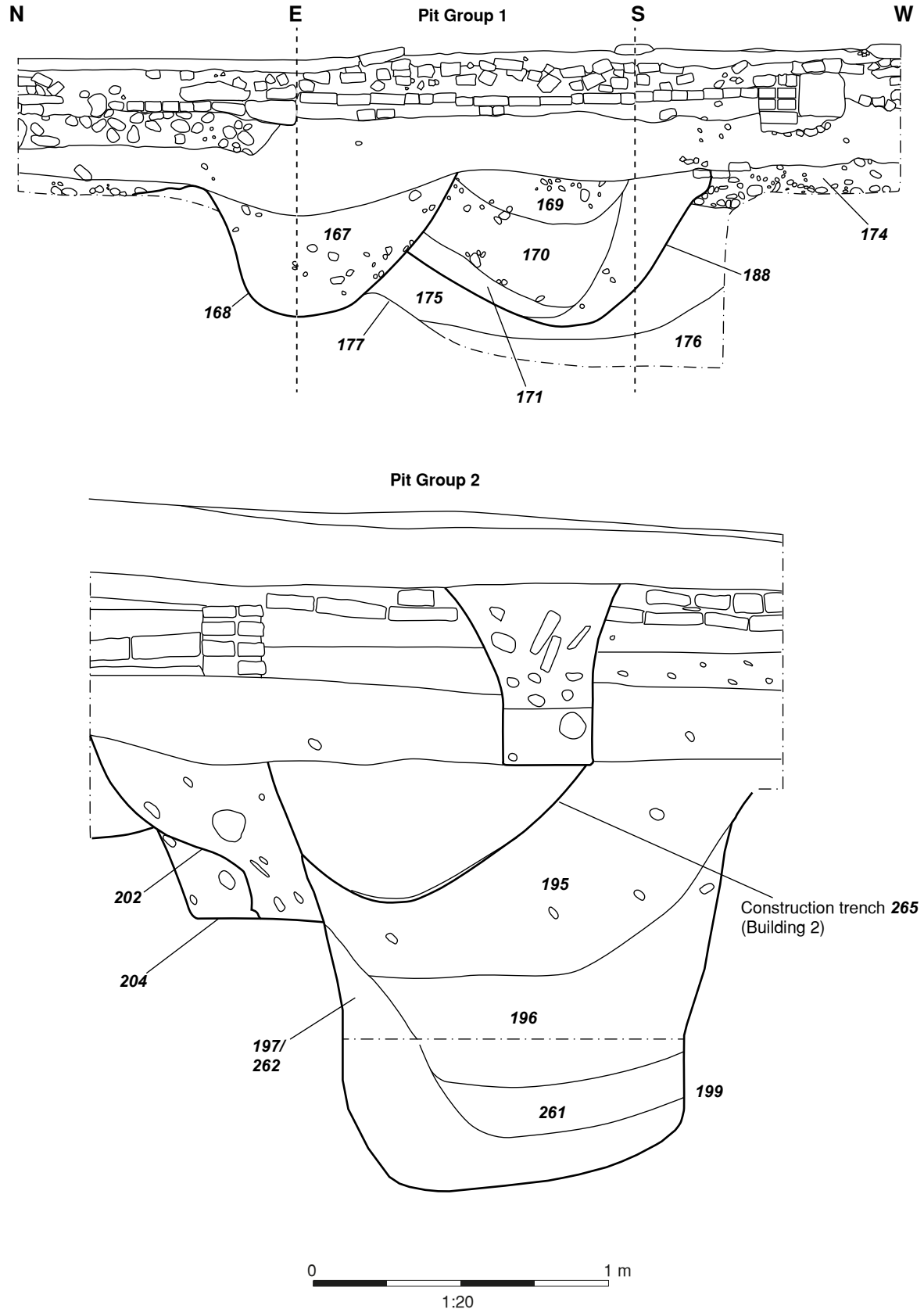

Figure 8: Sections across Pit Groups 1 and 2

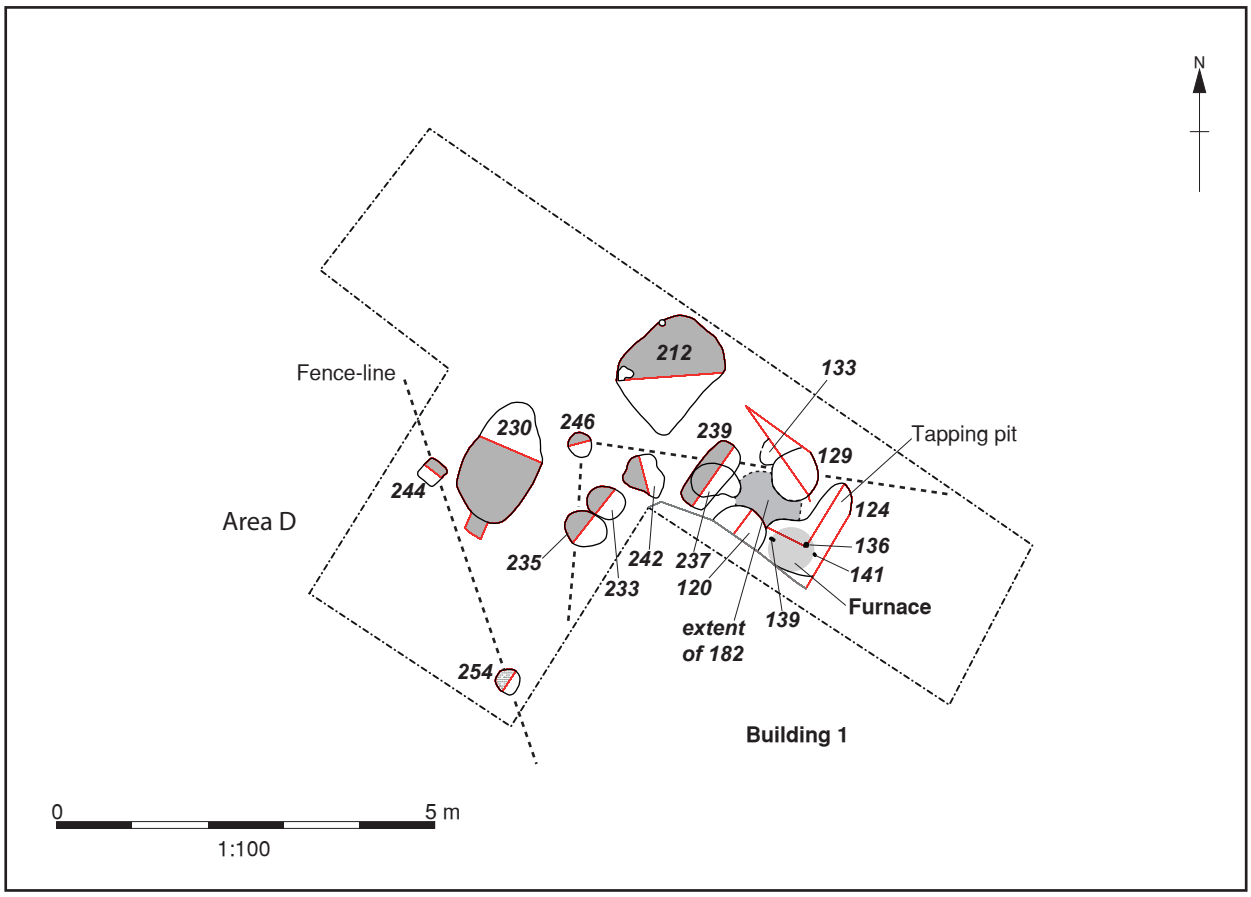

Figure 9: Building 1 and fence-line

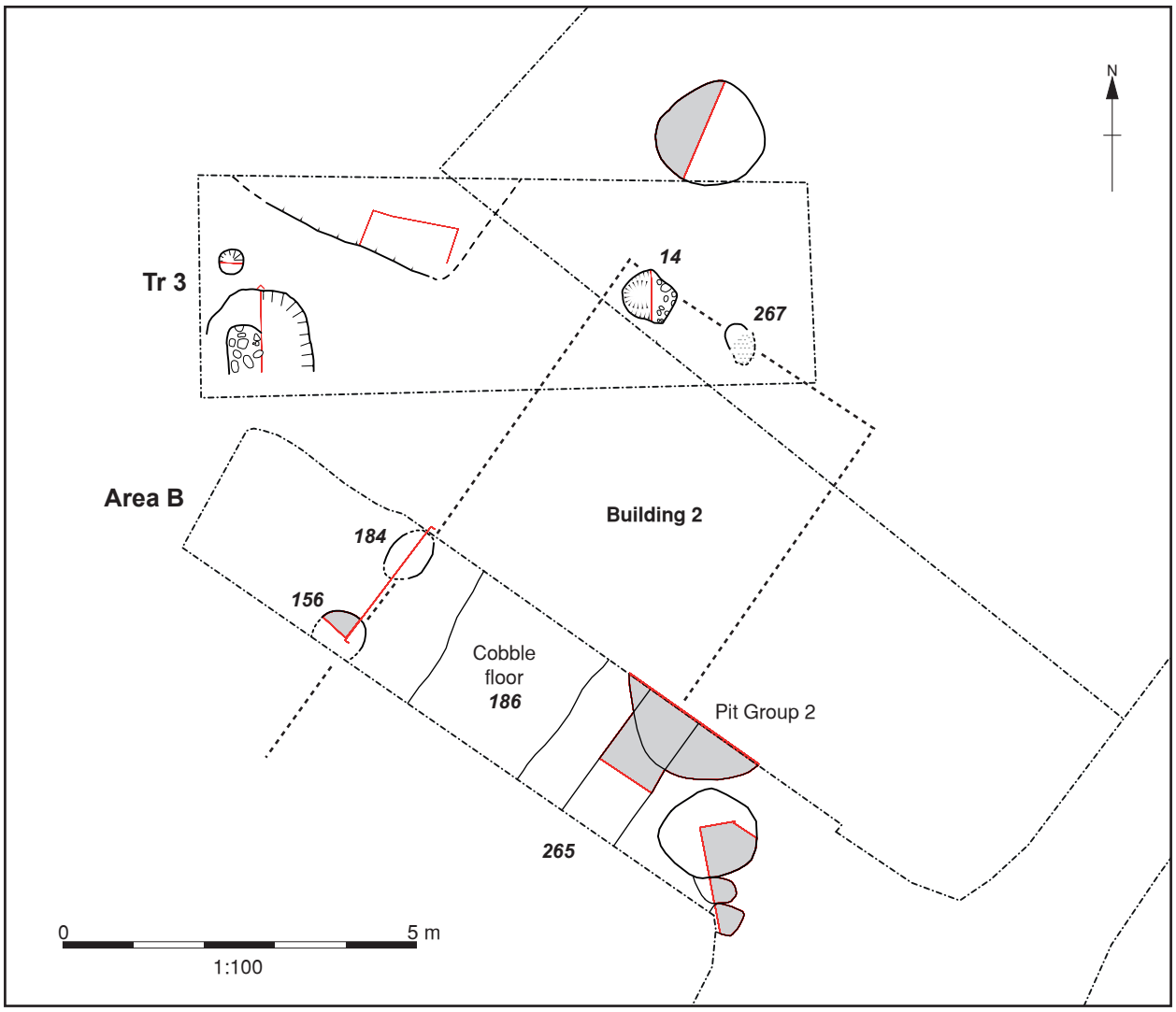

Figure 10: Building 2

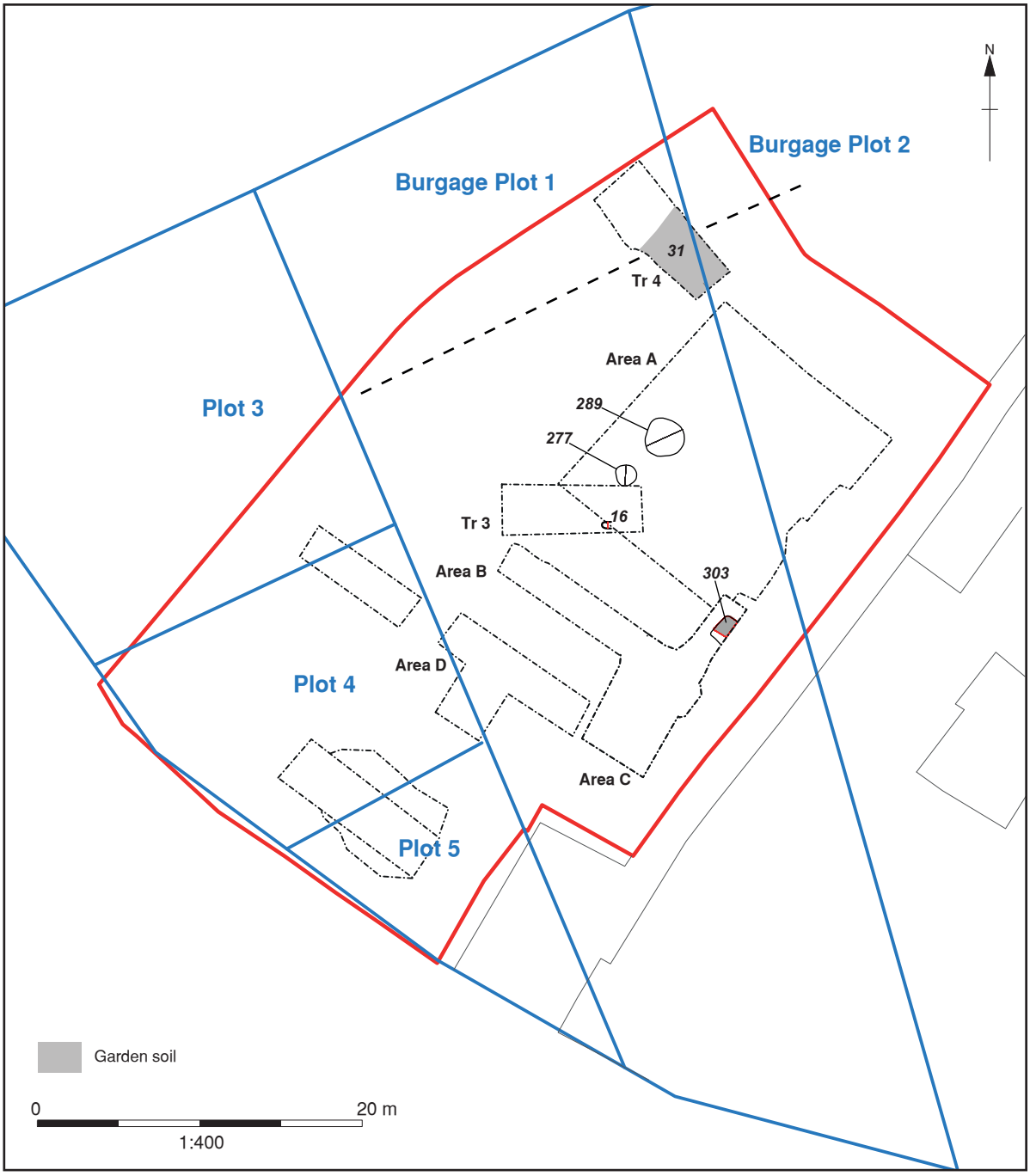

Figure 11: Fifteenth-sixteenth-century (Phase 3) features and deposits

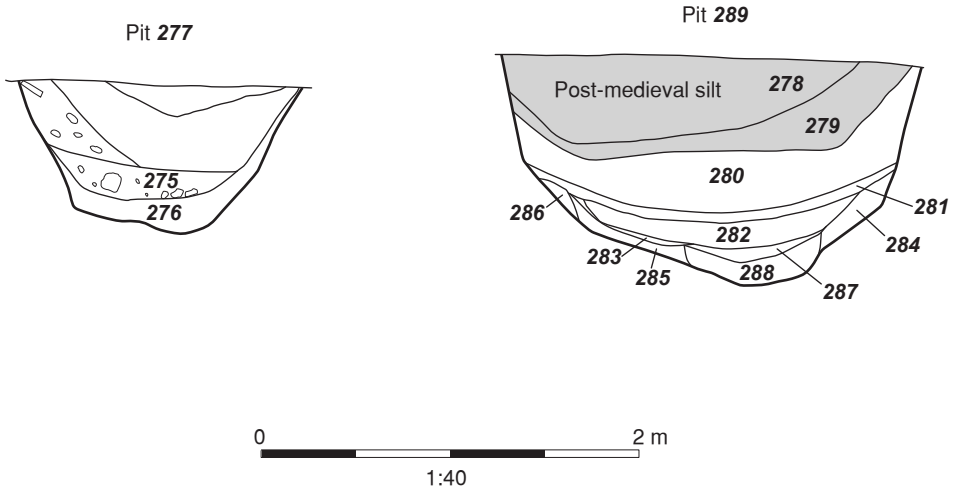

Figure 12: Sections across Phase 3 cess/refuse pits ***277*** and ***289***

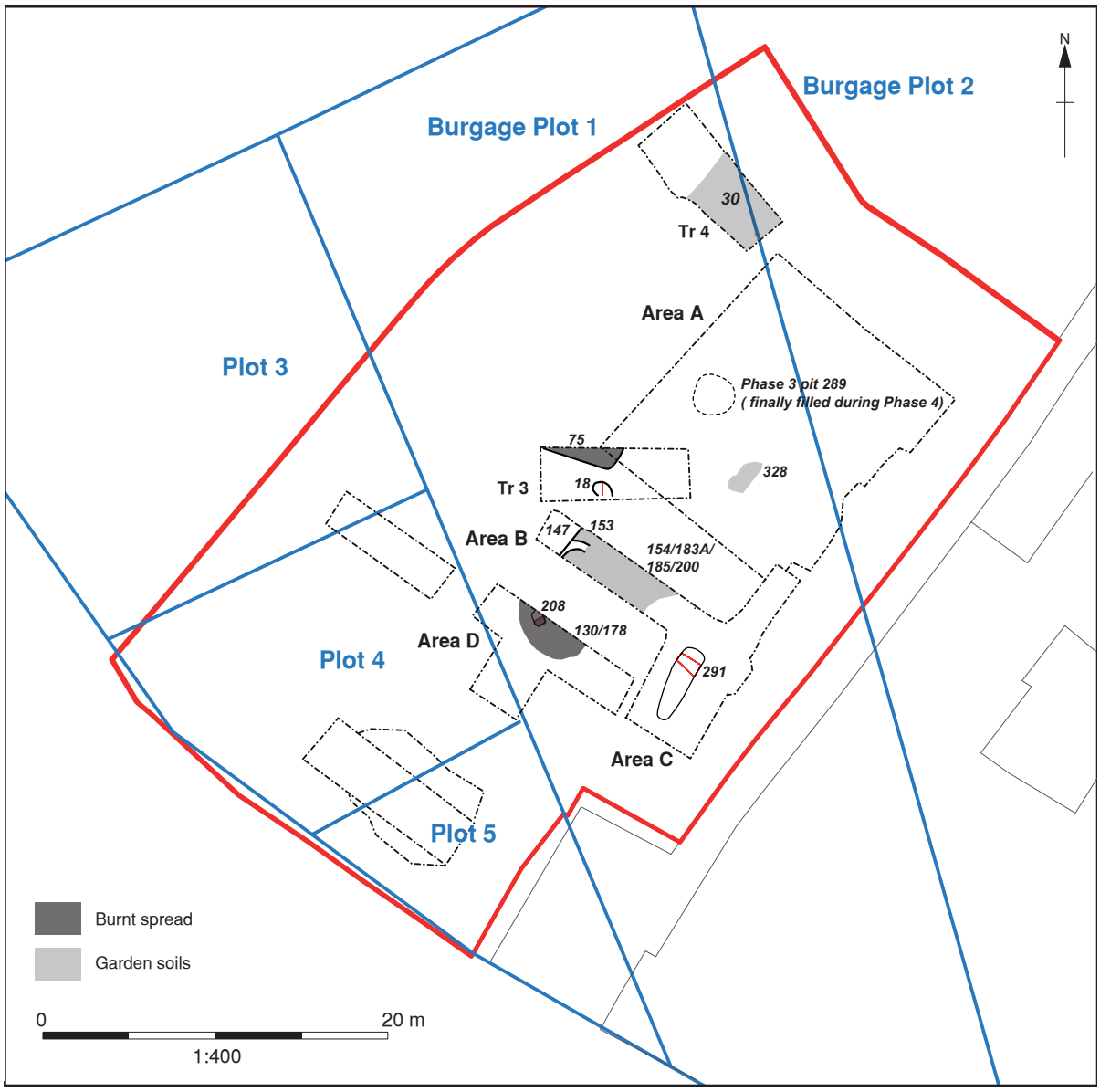

Figure 13: Phase 4 (seventeenth-late eighteenth-century) features and deposits

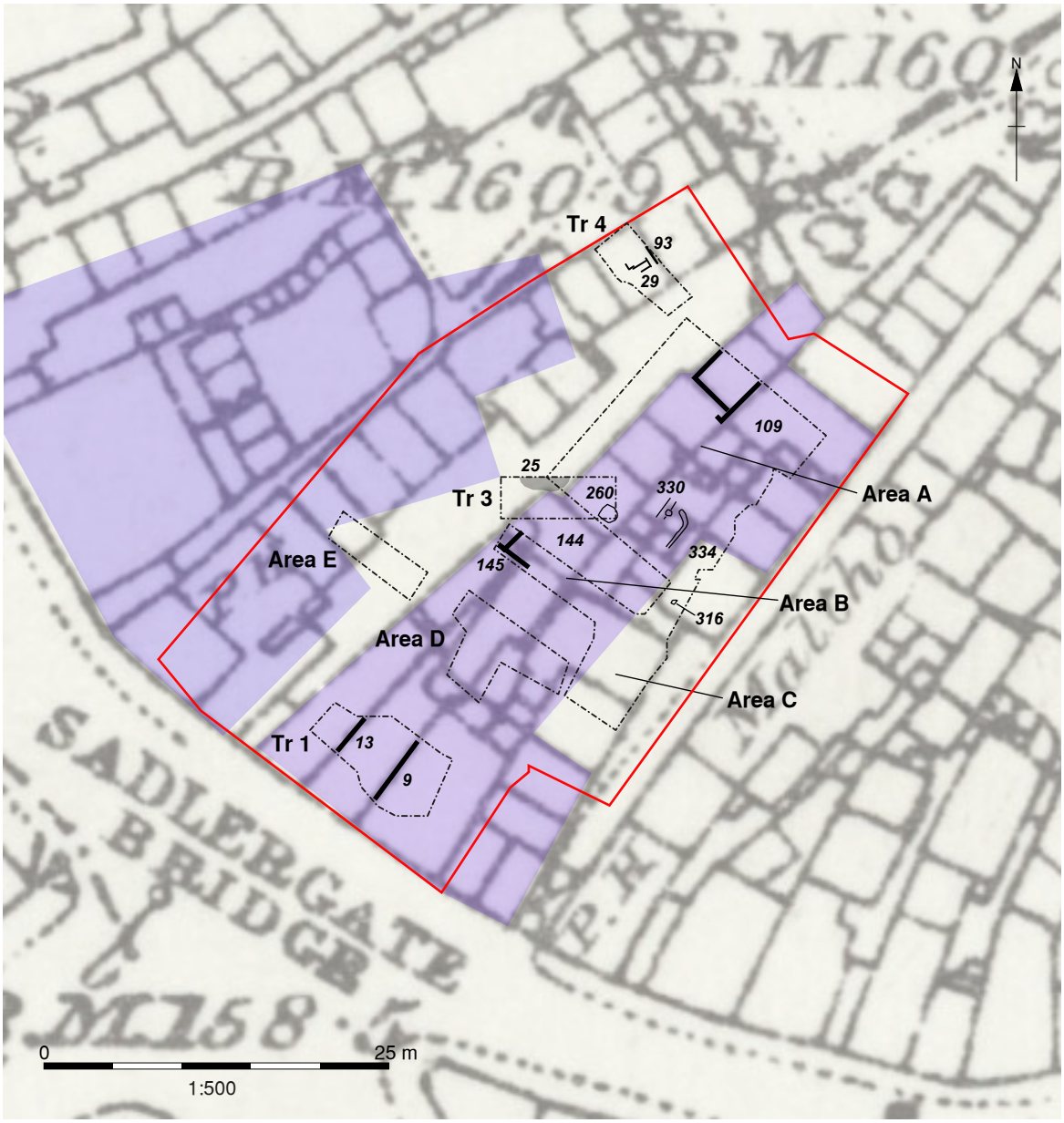

Figure 14: Post-medieval (Phases 5 and 6) features and deposits, superimposed on the Ordnance Survey 1:2500 map of 1882, with the probable footprint of the Georgian buildings highlighted

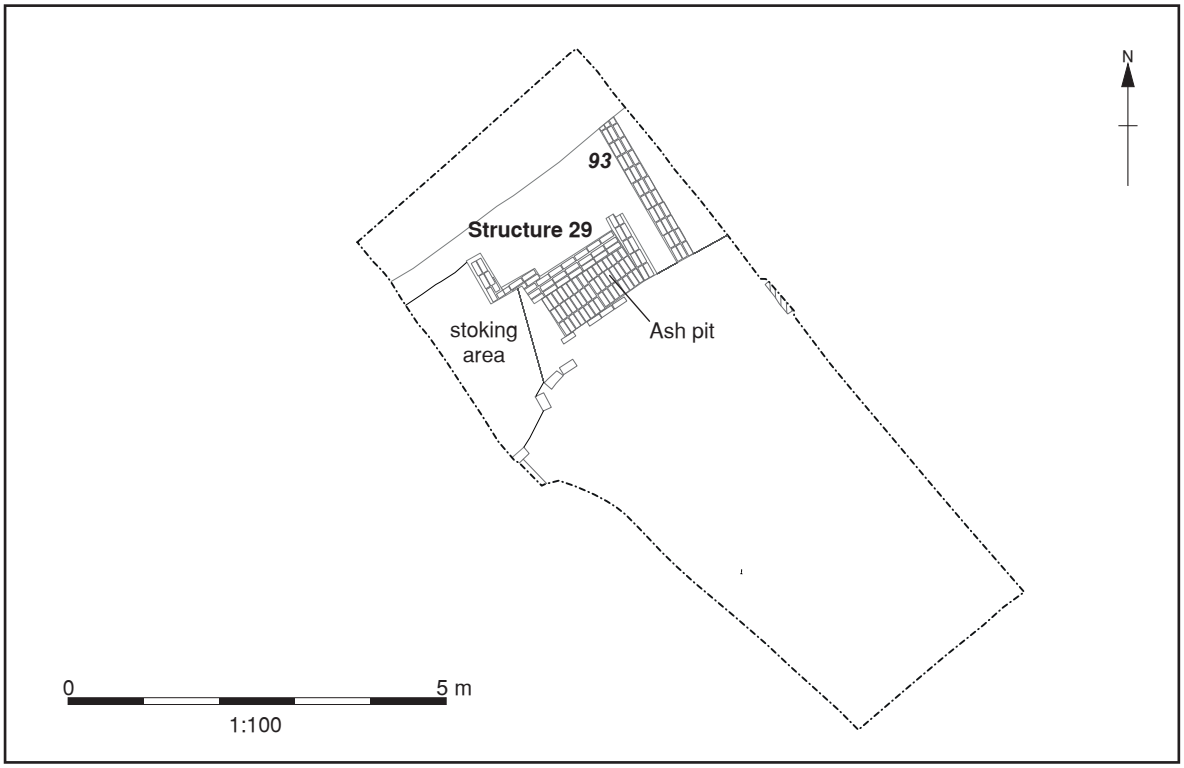

Figure 15: Structure ***29***

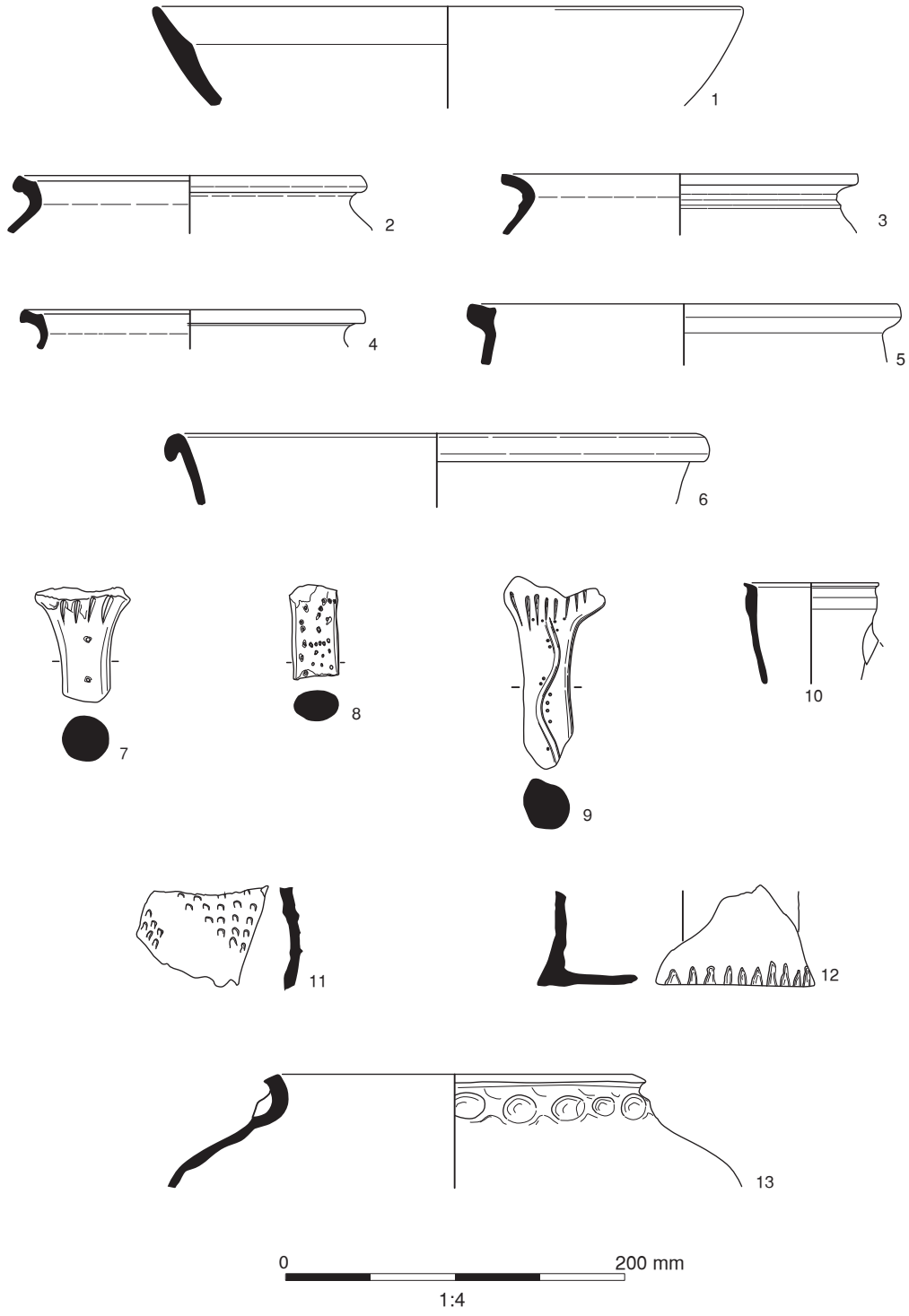

Figure 16: Selected medieval pottery

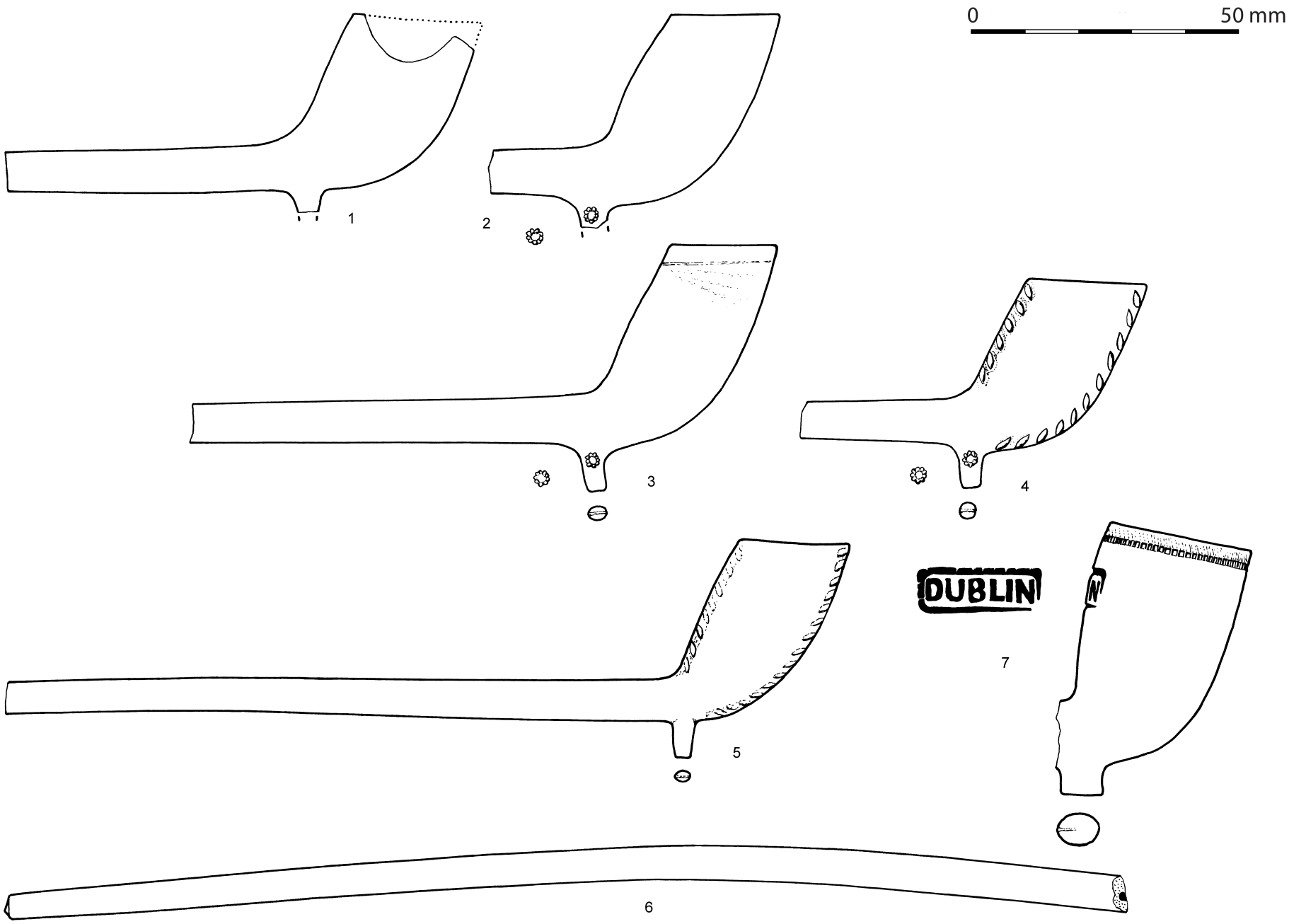

Figure 17: Clay tobacco pipes from the kiln dump (Structure ***29***) of *c* 1806-19 (Nos 1-6) and an Irish-style bowl of *c* 1870-1920 (No 7), from posthole ***316***

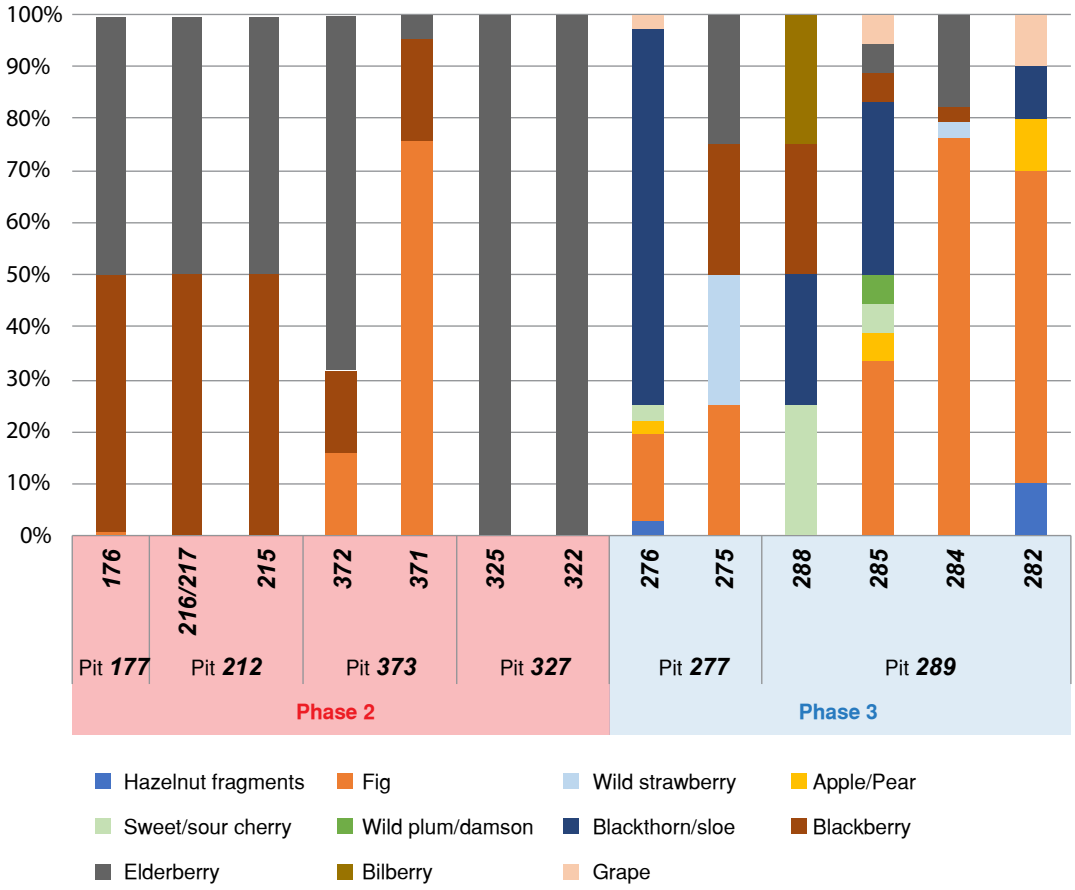

Figure 18: Relative proportions of edible fruits and nuts within the analysed Phase 2 and 3 rubbish/cesspits

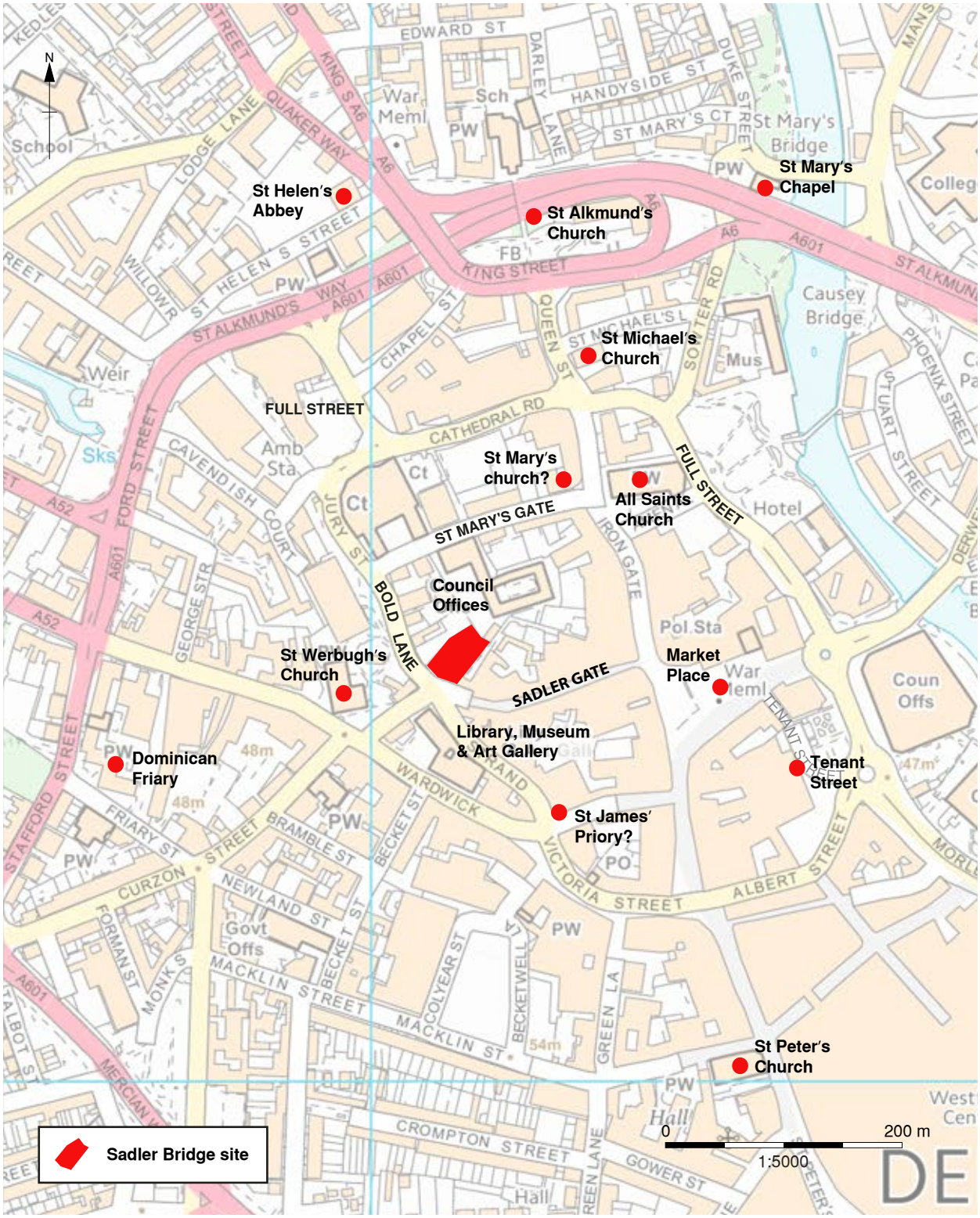

Figure 1: The location of Sadler Bridge Studios in Derby city centre, the medieval market place and medieval ecclesiastical sites

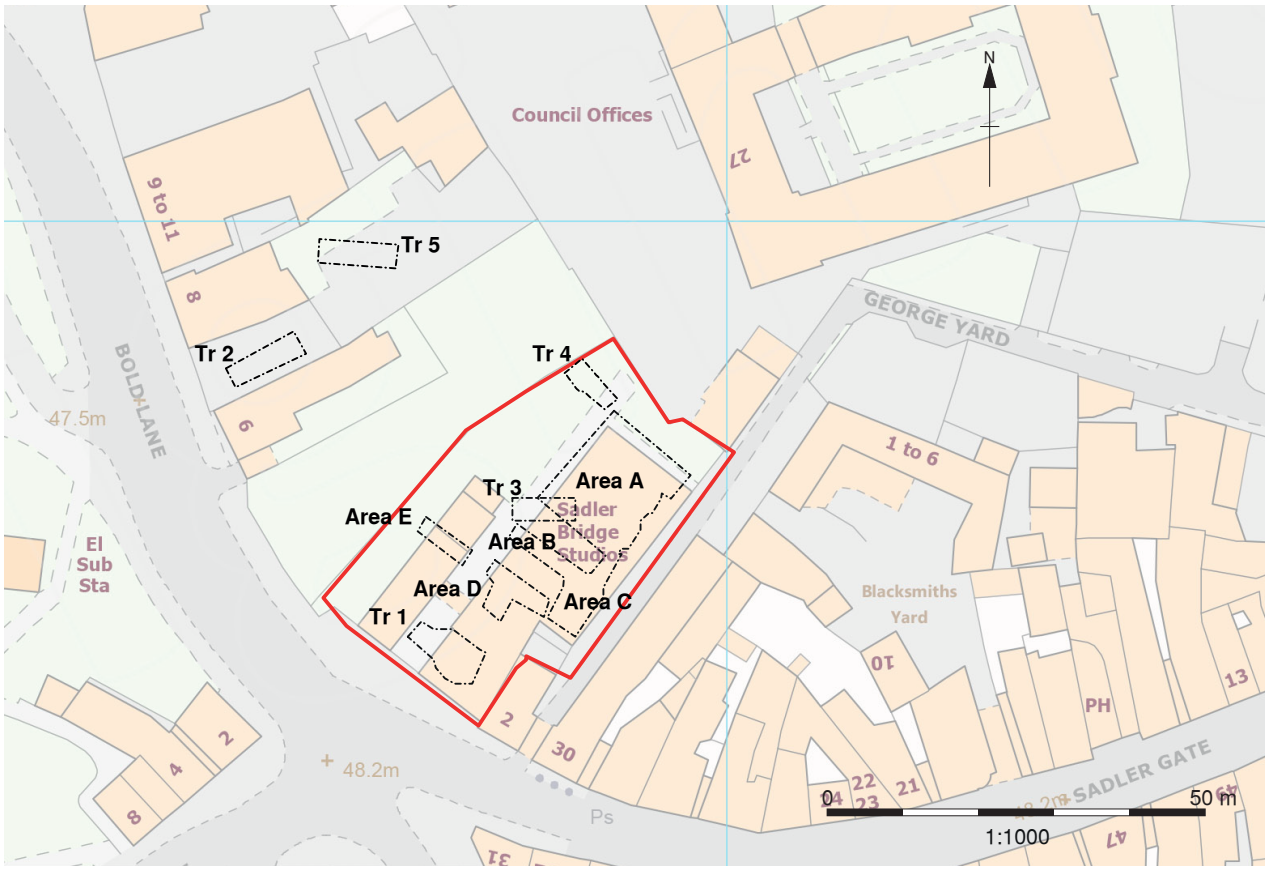

Figure 2: The location of the evaluation and open-area excavation trenches at Sadler Bridge Studios

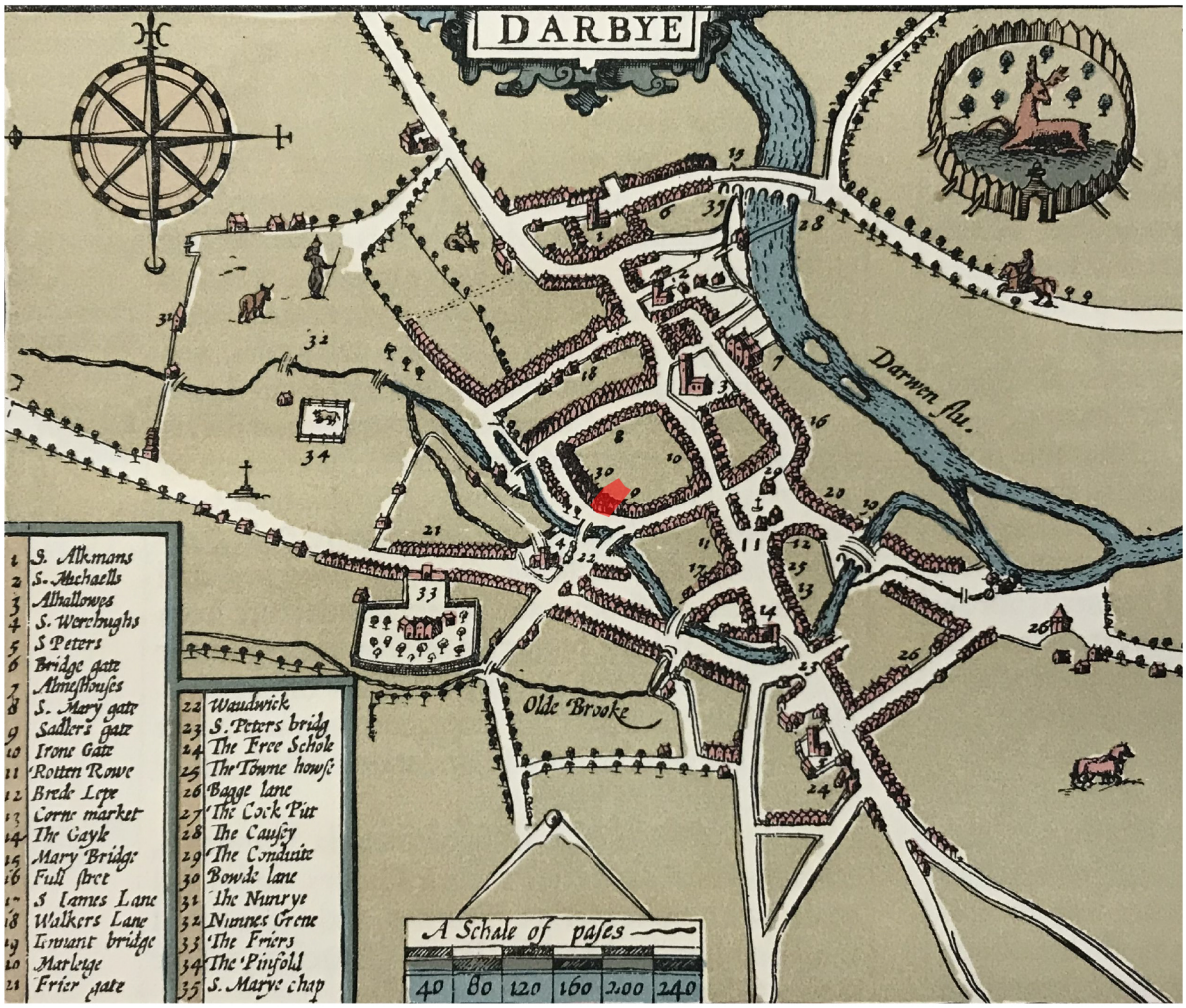

Figure 3: John Speed's map of Derby, 1610, with the location of Sadler Bridge Studios highlighted

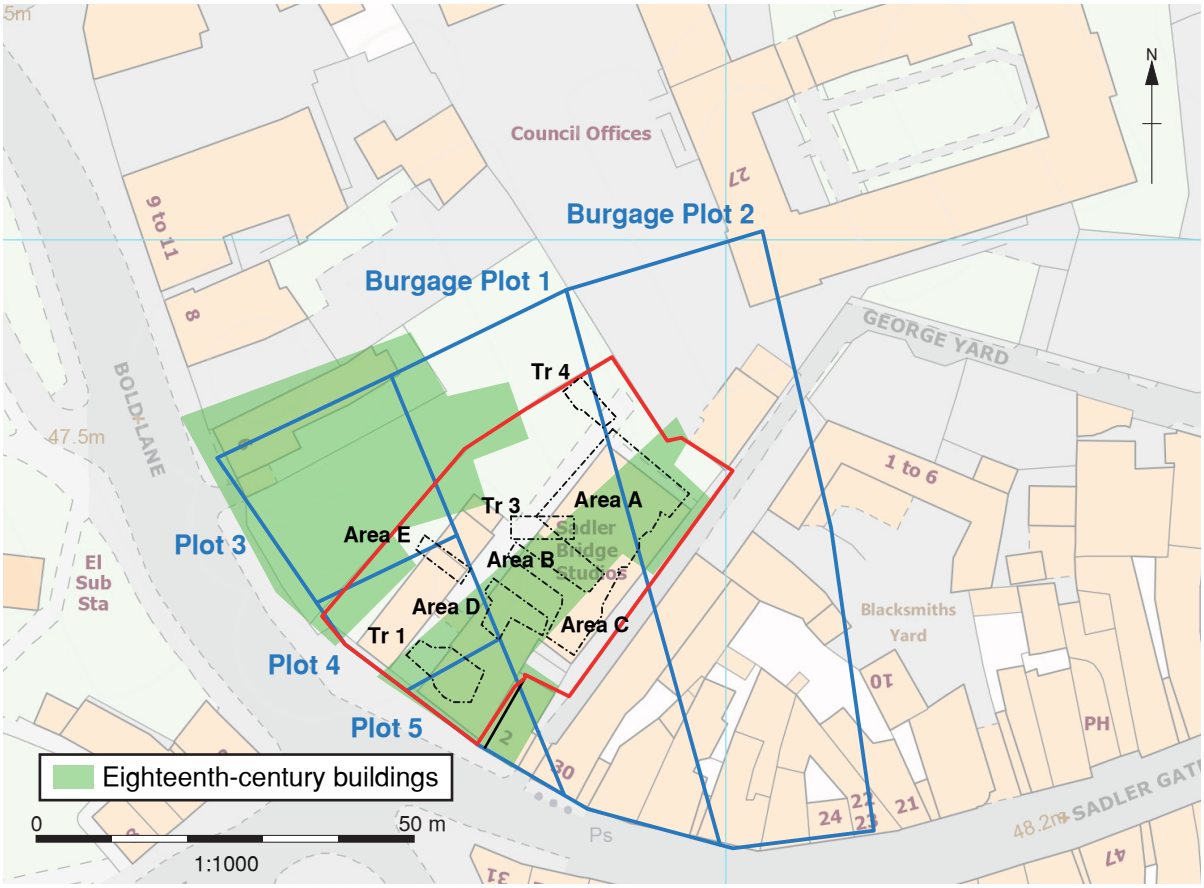

Figure 4: The late medieval/early post-medieval burgage plots spanning Sadler Bridge Studios, as depicted on a map of 1599, and the location of the excavation trenches

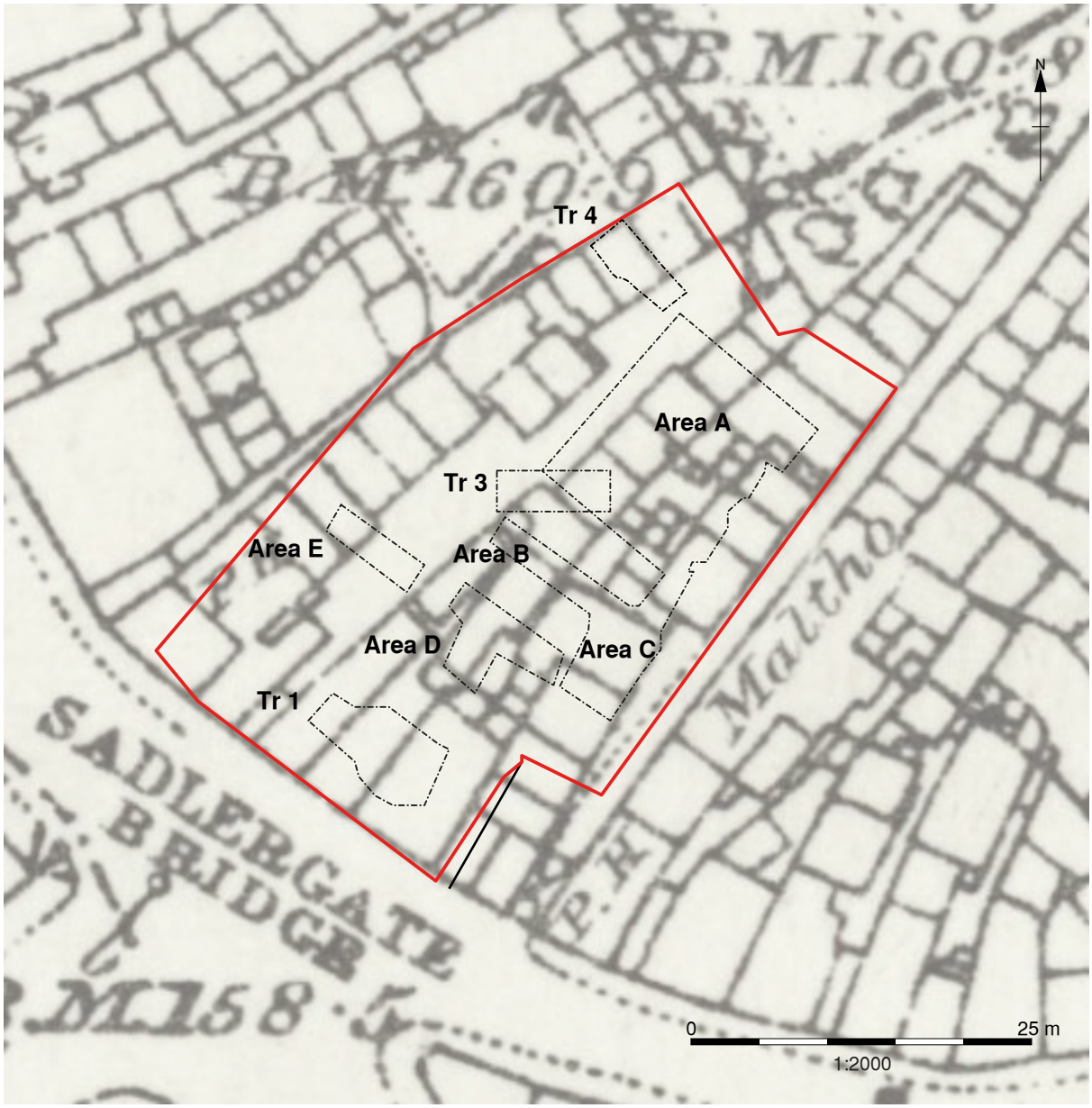

Figure 5: The location of Sadler Bridge Studios, and the excavation and evaluation trenches, superimposed on the Ordnance Survey map of 1882

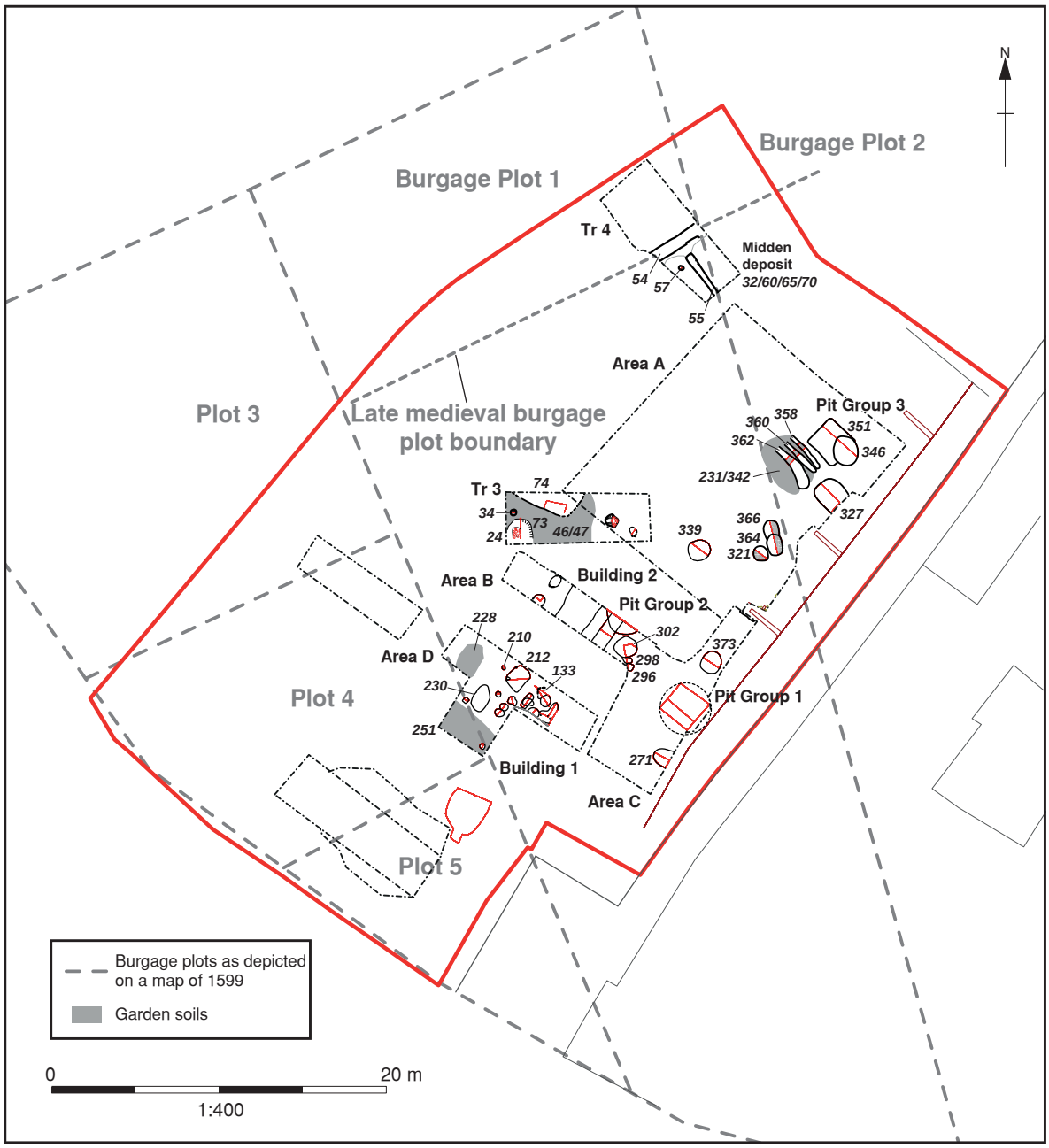

Figure 6: Later medieval (Phase 2) features and deposits

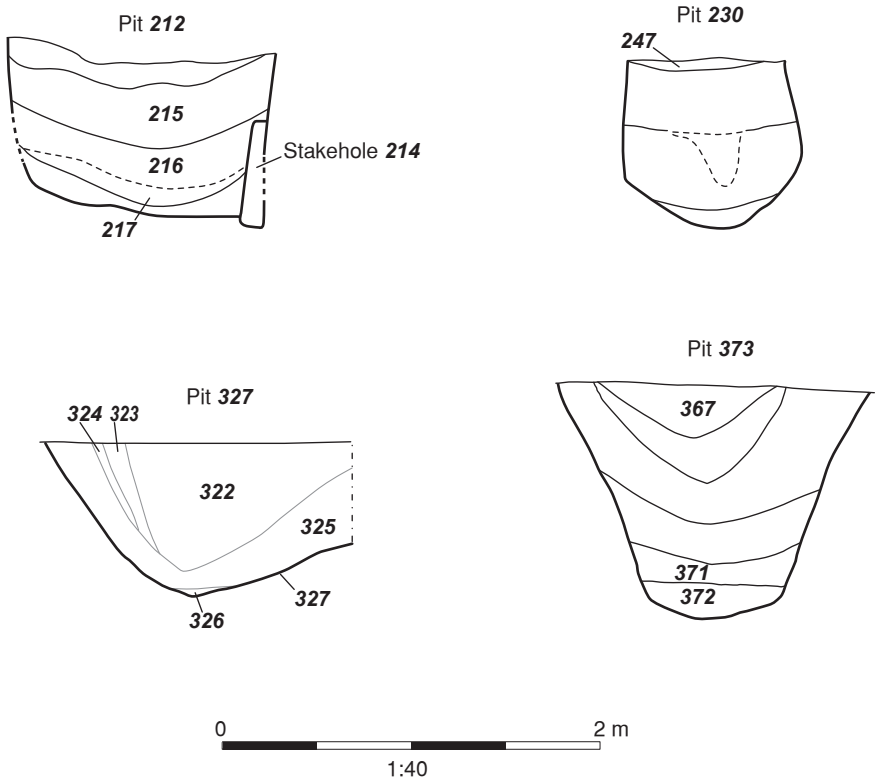

Figure 7: Sections across Phase 2 cess/refuse pits ***212, 230, 327*** and ***373***

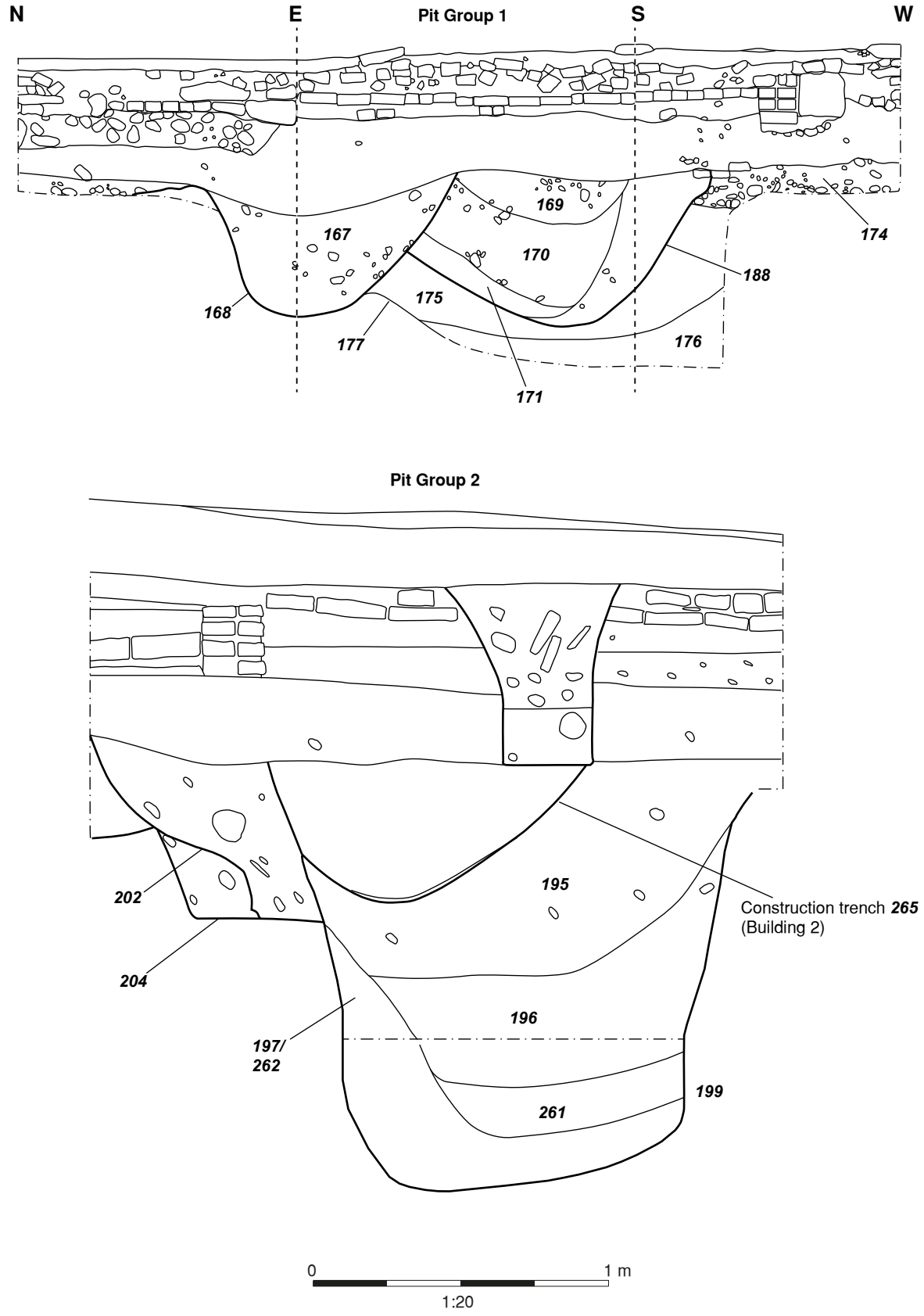

Figure 8: Sections across Pit Groups 1 and 2

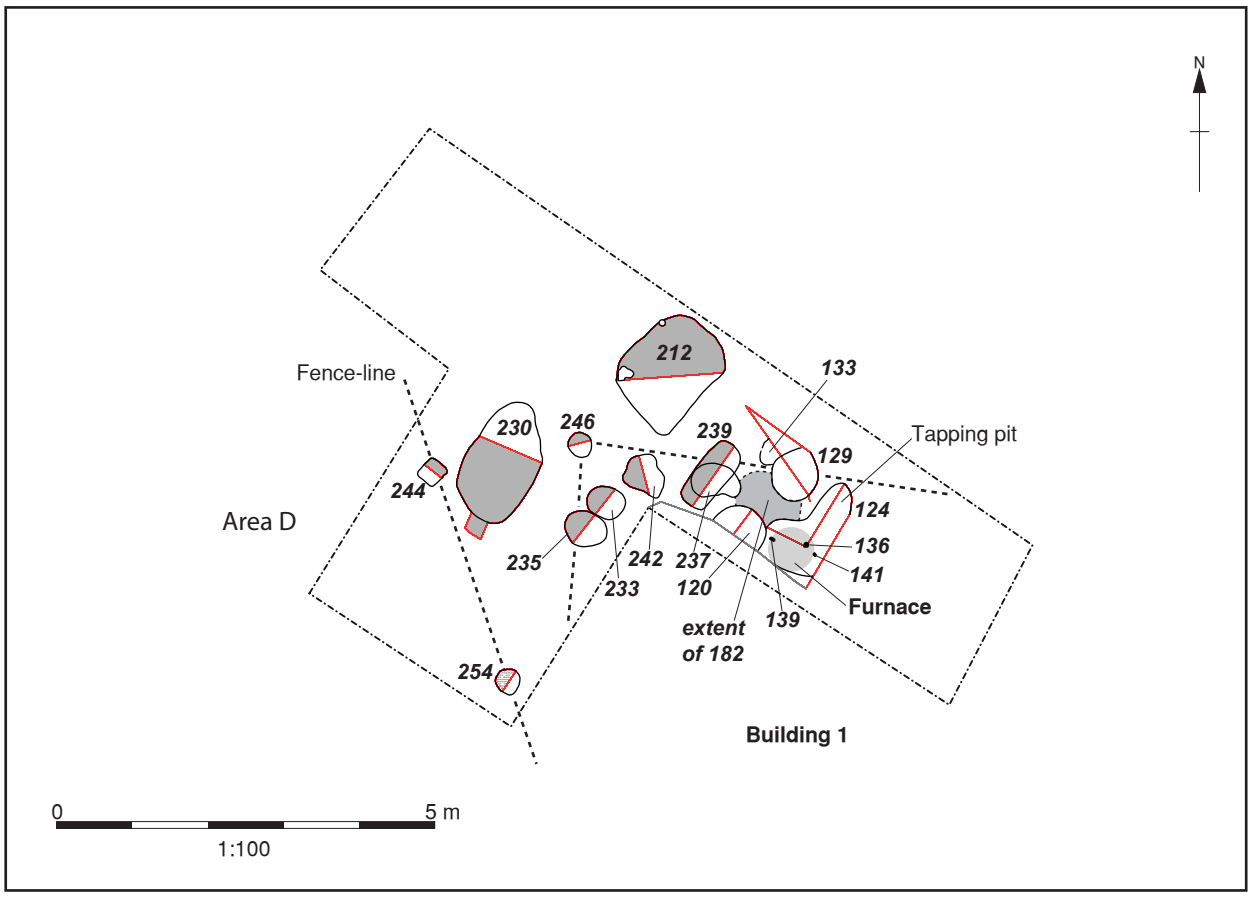

Figure 9: Building 1 and fence-line

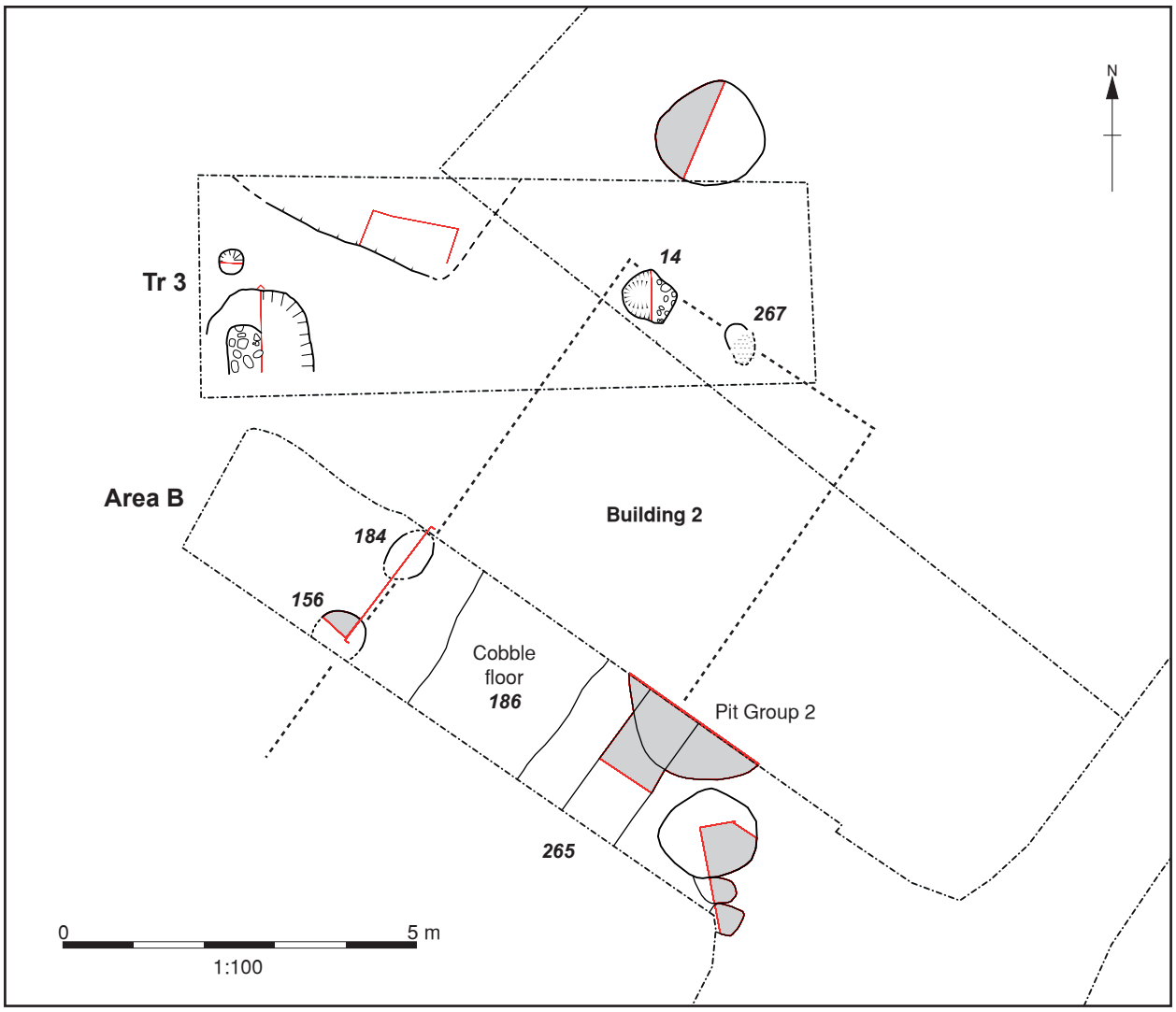

Figure 10: Building 2

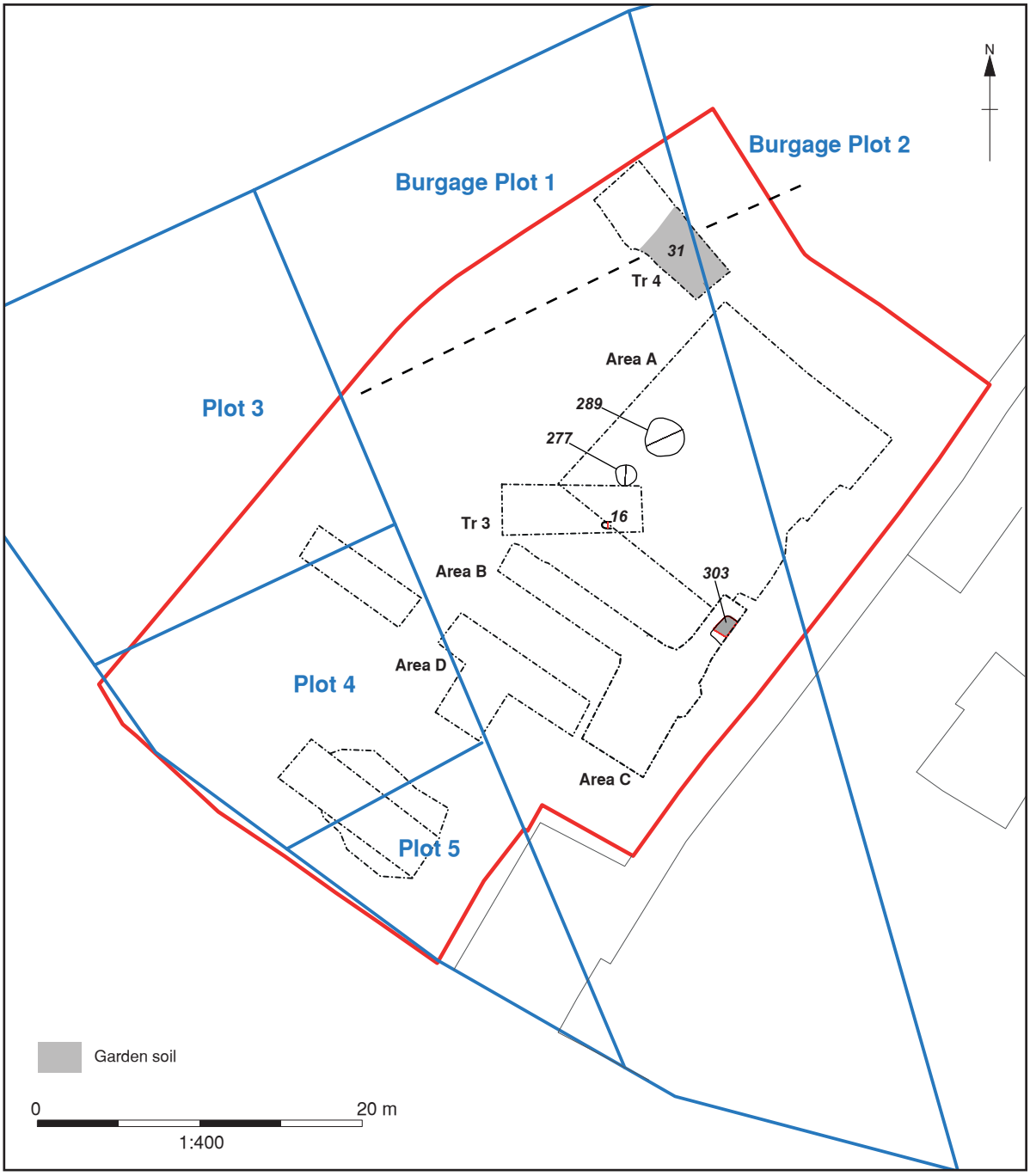

Figure 11: Fifteenth-sixteenth-century (Phase 3) features and deposits

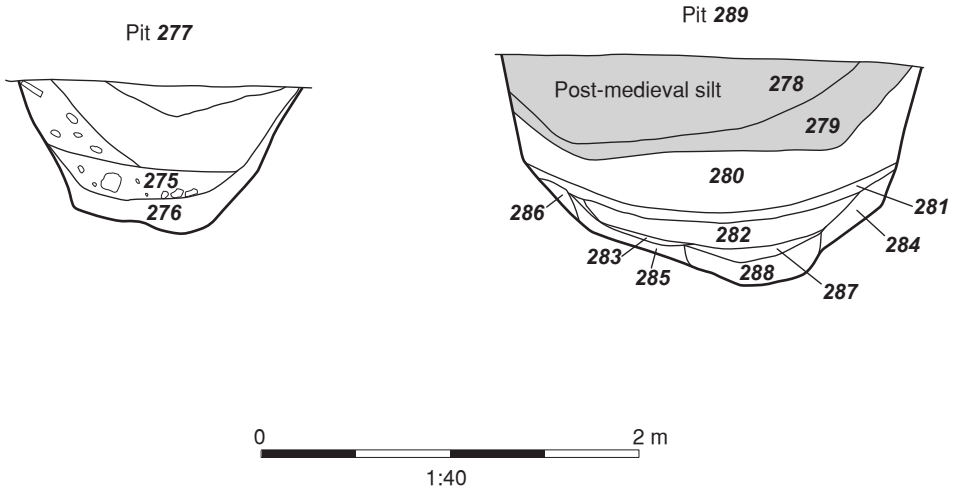

Figure 12: Sections across Phase 3 cess/refuse pits ***277*** and ***289***

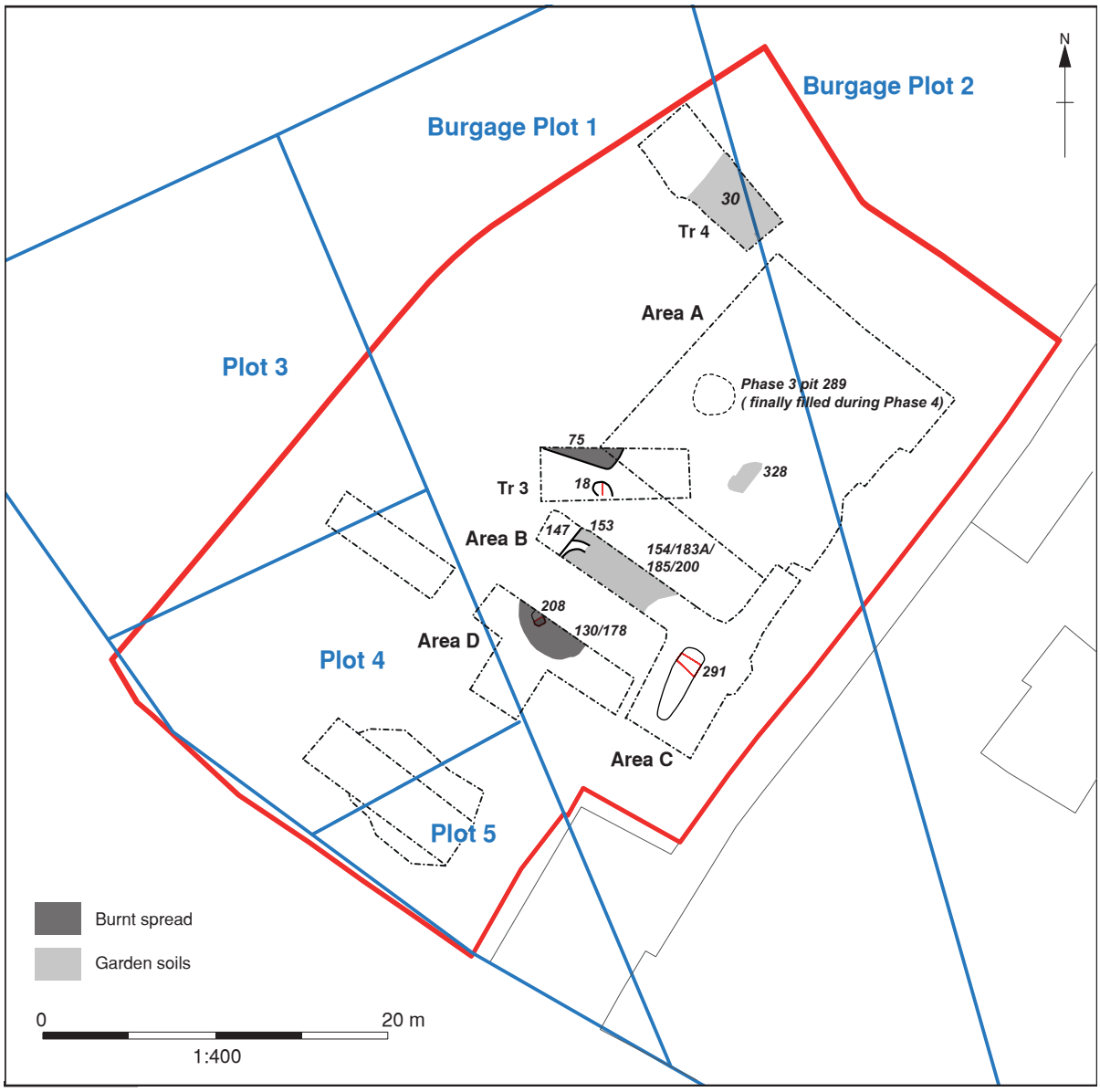

Figure 13: Phase 4 (seventeenth-late eighteenth-century) features and deposits

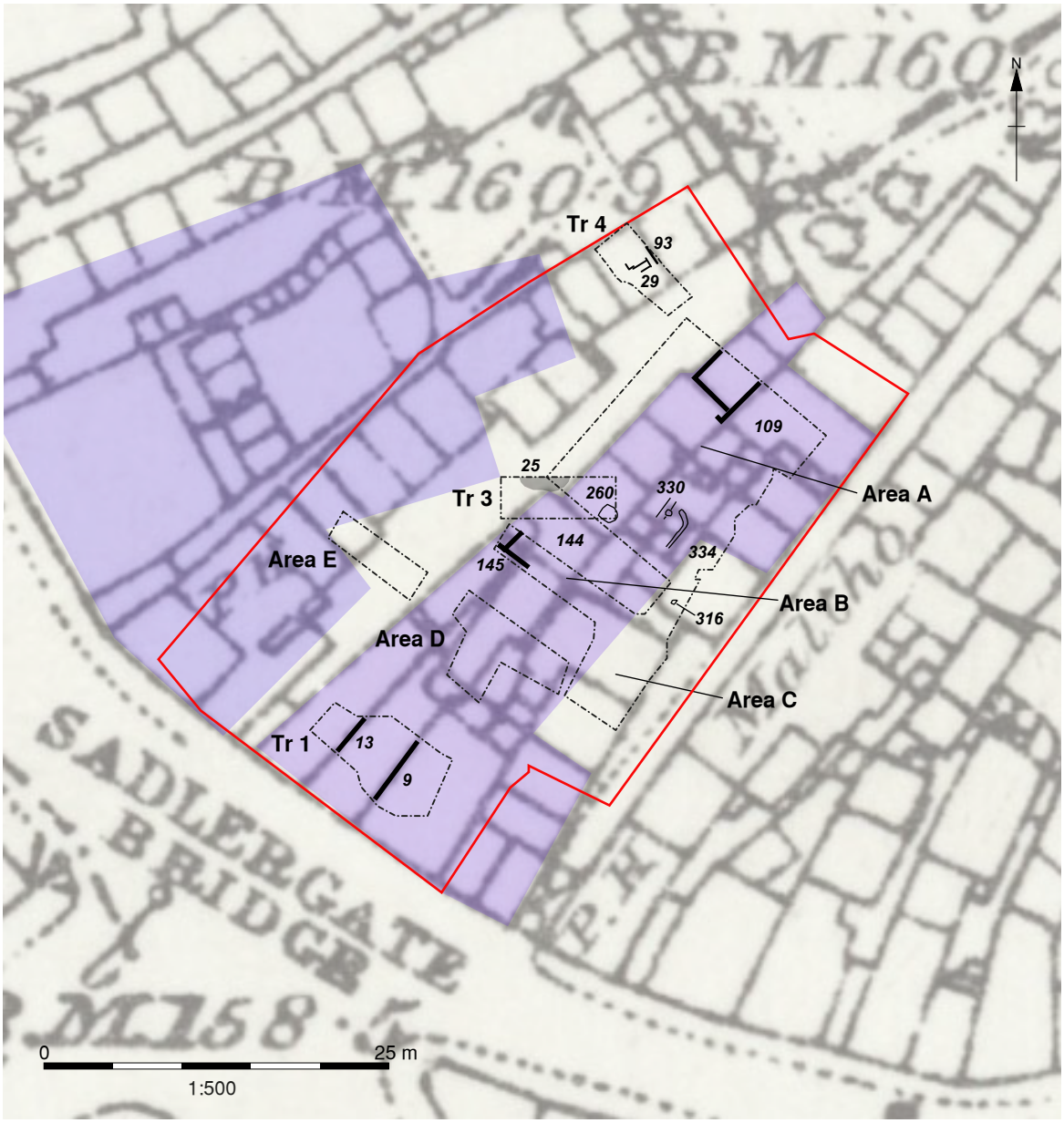

Figure 14: Post-medieval (Phases 5 and 6) features and deposits, superimposed on the Ordnance Survey 1:2500 map of 1882, with the probable footprint of the Georgian buildings highlighted

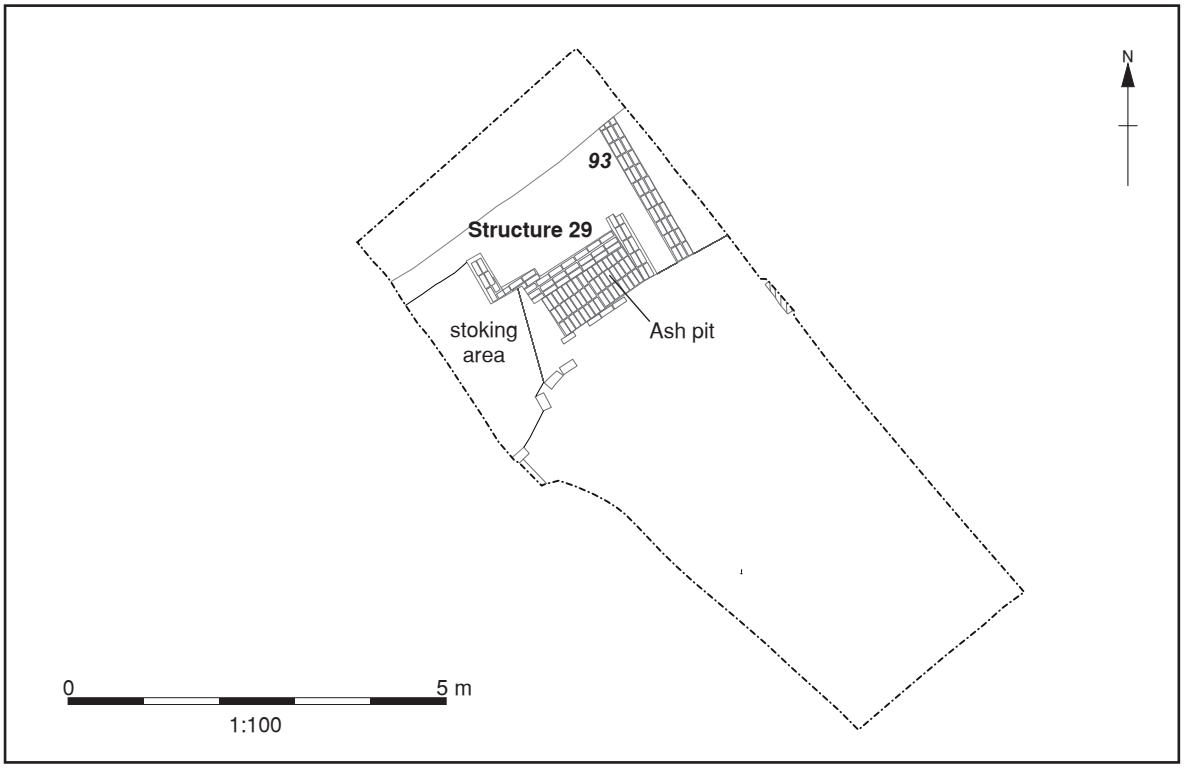

Figure 15: Structure ***29***

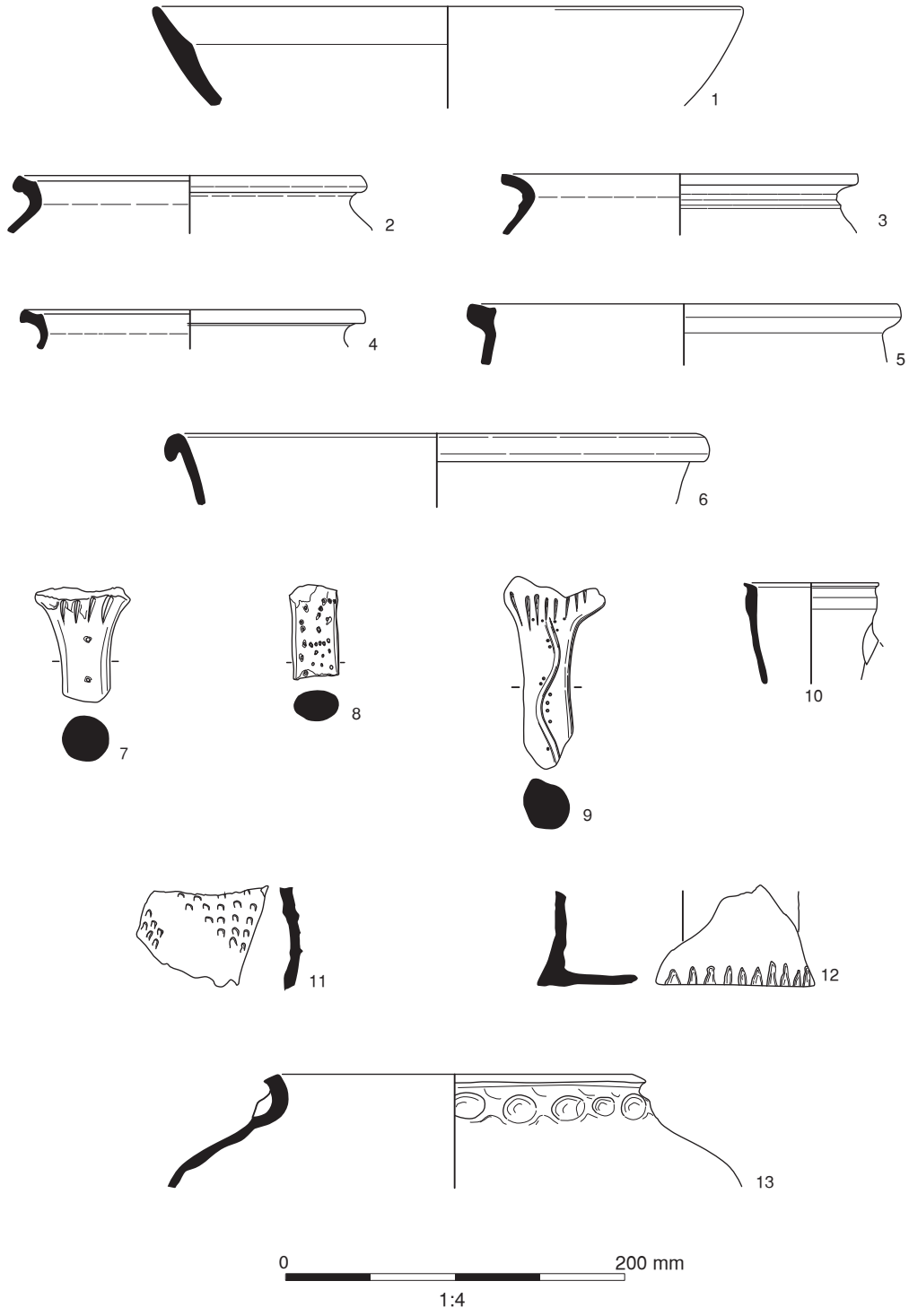

Figure 16: Selected medieval pottery

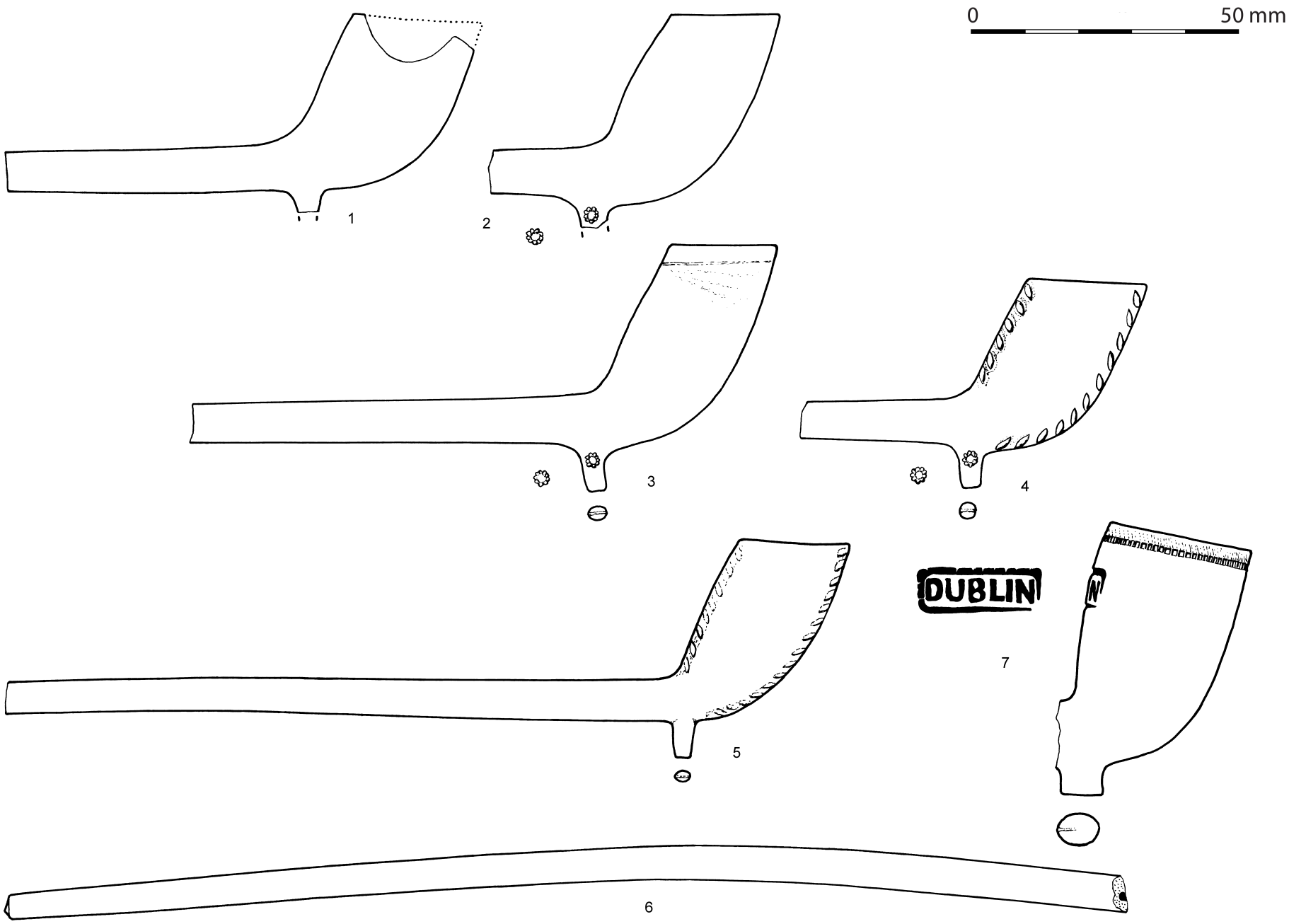

Figure 17: Clay tobacco pipes from the kiln dump (Structure ***29***) of *c* 1806-19 (Nos 1-6) and an Irish-style bowl of *c* 1870-1920 (No 7), from posthole ***316***

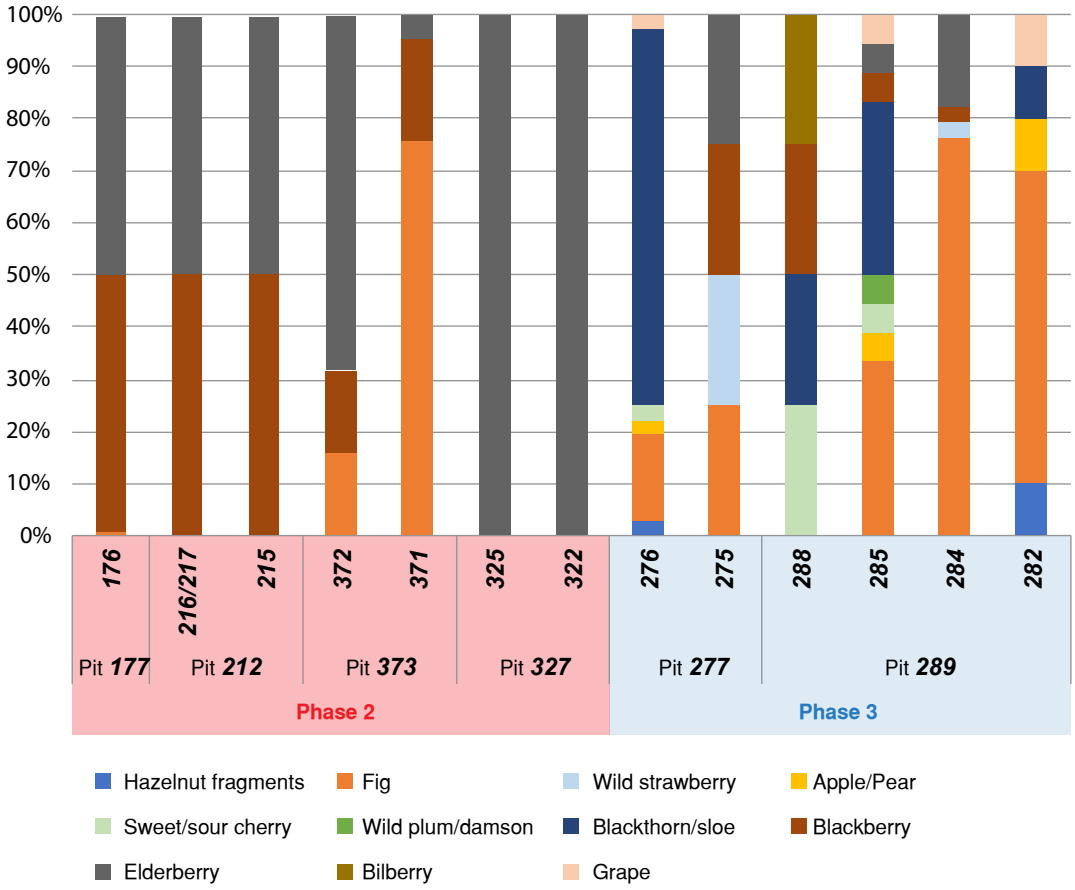

Figure 18: Relative proportions of edible fruits and nuts within the analysed Phase 2 and 3 rubbish/cesspits

oxfordarchaeology

Head Office/Registered Office/ OA South

Janus House
Osney Mead
Oxford OX2 0ES

t: +44 (0) 1865 263 800
f: +44 (0) 1865 793 496
e: info@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA North

Mill 3
Moor Lane
Lancaster LA1 1QD

t: +44 (0) 1524 541 000
f: +44 (0) 1524 848 606
e: oanorth@oxfordarchaeology.com
w: http://oxfordarchaeology.com

OA East

15 Trafalgar Way
Bar Hill
Cambridgeshire
CB23 8SQ

t: +44 (0) 1223 850500
e: oaeast@oxfordarchaeology.com
w: http://oxfordarchaeology.com

REGISTERED ORGANISATION CIfA

Director: Gill Hey, BA PhD FSA MCIfA
Oxford Archaeology Ltd is a Private Limited Company, N°: 1618597 and a Registered Charity, N°: 285627