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# ARCHAEOLOGICAL INVESTIGATIONS AT IRONMONGER ROW BATHS, 1–11 IRONMONGER ROW, ISLINGTON

*Peter Boyer*

*With contributions by Philip Armitage, Märit Gaimster, Kevin Hayward, Chris Jarrett and Kevin Rielly*

## SUMMARY

*Between 2009 and 2011 archaeological investigations were undertaken at Ironmonger Row Baths, 1–11 Ironmonger Row in the London Borough of Islington. The fieldwork revealed residual prehistoric and Roman finds, while the earliest evidence of significant activity probably dates from the 13th or 14th century. This initial medieval activity was probably agrarian, but by the late 15th century the pottery and building material recovered from the site suggests some level of affluence, indicating that this material was derived from a nearby high-status dwelling perhaps situated in the south-eastern corner of the site rather than a farmstead. Early post-medieval features included wells and rubbish and quarry pits. From about the middle of the 17th century the finds and faunal assemblages suggest a decline in the level of the prosperity of the local residents. The impression is that a small high-status suburban population was replaced by a less affluent urban community, the presence of which is demonstrated by the late 18th- and early 19th-century development of high density terraced housing along Ironmonger Row and Church Row. Fragments of several of these properties and their external features were excavated. Associated finds included evidence of bone working. These properties were demolished when the Ironmonger Row Baths were built during the 1930s.*

## INTRODUCTION

Between October 2009 and June 2011 archaeological investigations were carried out by Pre-Construct Archaeology Ltd (PCA) on land at Ironmonger Row Baths, 1–11 Ironmonger Row, Islington, in advance of extensions to the facilities on the site. The site is located on the western side of Ironmonger Row, immediately north of its junction with Norman Street (Fig 1). It is bounded to the north by the backs of properties fronting on to Lever Street and Ironmonger Row, to the east by Ironmonger Row, to the south by Norman Street and to the west by a block of flats fronting on to Norman Street. The Ordnance Survey National Grid Reference for the centre of the site is TQ 3225 8258 and the site code is IRB09.

An archaeological desk-based assessment (DBA) produced in advance of redevelopment (Barrowman 2009) indicated that Ironmonger Row Baths, which includes a Grade II listed building complex and falls within Islington Borough Council's St Luke's Conservation Area, had a moderate to high potential for the survival of medieval and post-medieval remains, despite extensive basement truncation across much of the site. In order to satisfy a planning condition placed on the proposed development, a series of

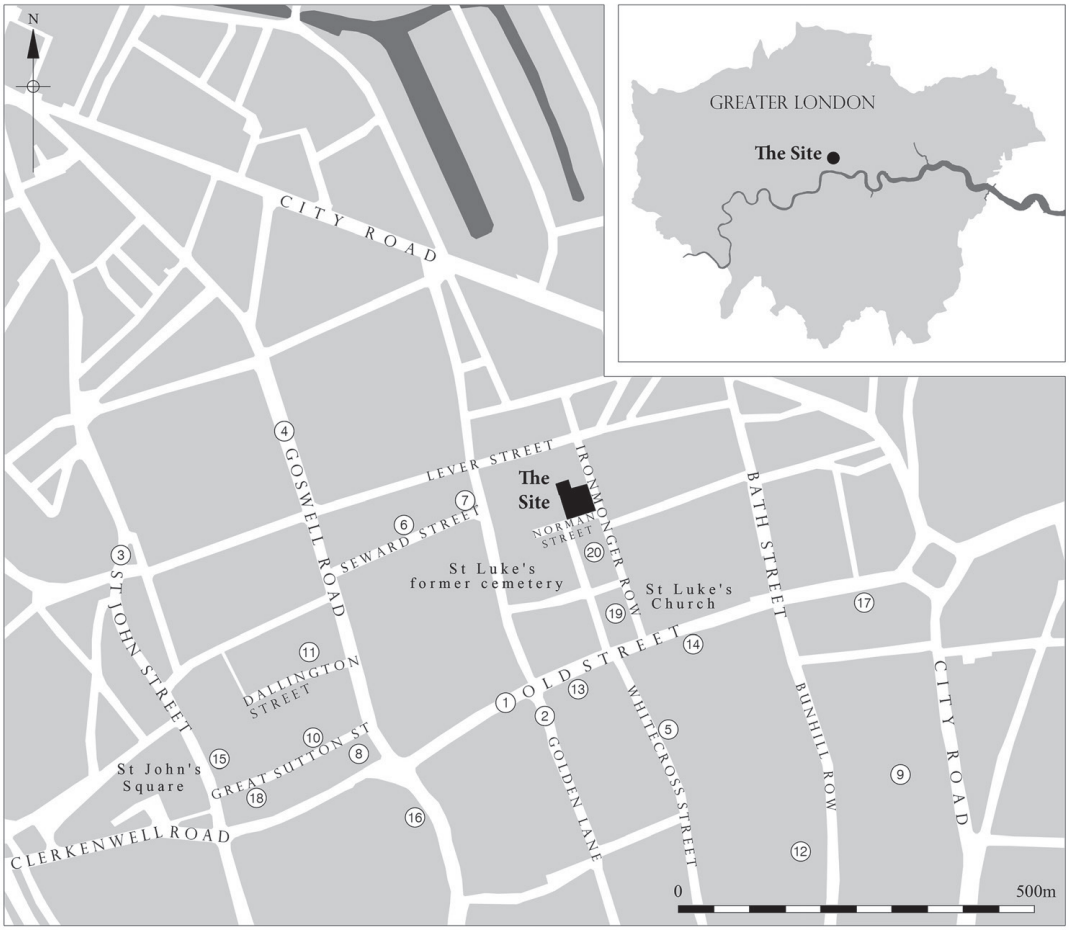


*Fig 1. Site location and other sites mentioned in the text. Key: 1. Roman road (major); 2. Roman road (minor): Golden Lane; 3. Roman road (minor): St John Street; 4. Roman road (minor): Goswell Road; 5. Whitbread's Brewery, Whitecross Street (WTC76); 6. 15–29 Seward Street (SDT99); 7. Seward Street (LVS10); 8. 4–10 Clerkenwell Road (CWL98); 9. Honourable Artillery Company, City Road (HNA04); 10. 44–49 Great Sutton Street (GSS95); 11. 1–7 Dallington Street (DLL97); 12. Bunhill Row (BUW98); 13. 76–78 Old Street (OLD89); 14. 122–128 Old Street (OLS94); 15. 148–180 St John Street (SJO95); 16. Goswell Road (MED90); 17. 198–208 Old Street (ODS92); 18. 29½–30A Great Sutton Street (GSN06); 19. St Luke's Church (OLR00); 20. St Luke's former cemetery (scale 1:12,000)*

archaeological investigations was carried out (Fig 2), which forms the basis for this report. Geotechnical investigations consisting of ten test pits, two boreholes and one window sample were monitored by PCA under archaeological watching brief conditions (Frickers 2009) and formed the first phase of archaeological investigation (Fig 2, TP 1–7, 9–11, BH 1–2, W/S 5). Following these works, a Written Scheme of Investigation (WSI) for further archaeological work, including a mitigation strategy, was produced (Moore 2010). This WSI included the expansion of one of the test pits in the north-west portion of the site to form an evaluation trench (Fig 2, Tr1) and the excavation of an additional evaluation trench in the north-east (Fig 2, Tr2). Subsequently there was a further phase of evaluation (Fig 2, Tr3–4), opening up of other areas (Fig 2, Tr5–8) and a watching brief was maintained on the excavation of further test pits (Fig 2, TP FT 1–3).

The evaluation trenches revealed an archaeological sequence suggesting some medieval activity in the area followed by brickearth quarrying and widespread external dumping as a precursor to the building of 18th- and 19th-century terraced housing that occupied the area prior to construction of the extant bathhouse

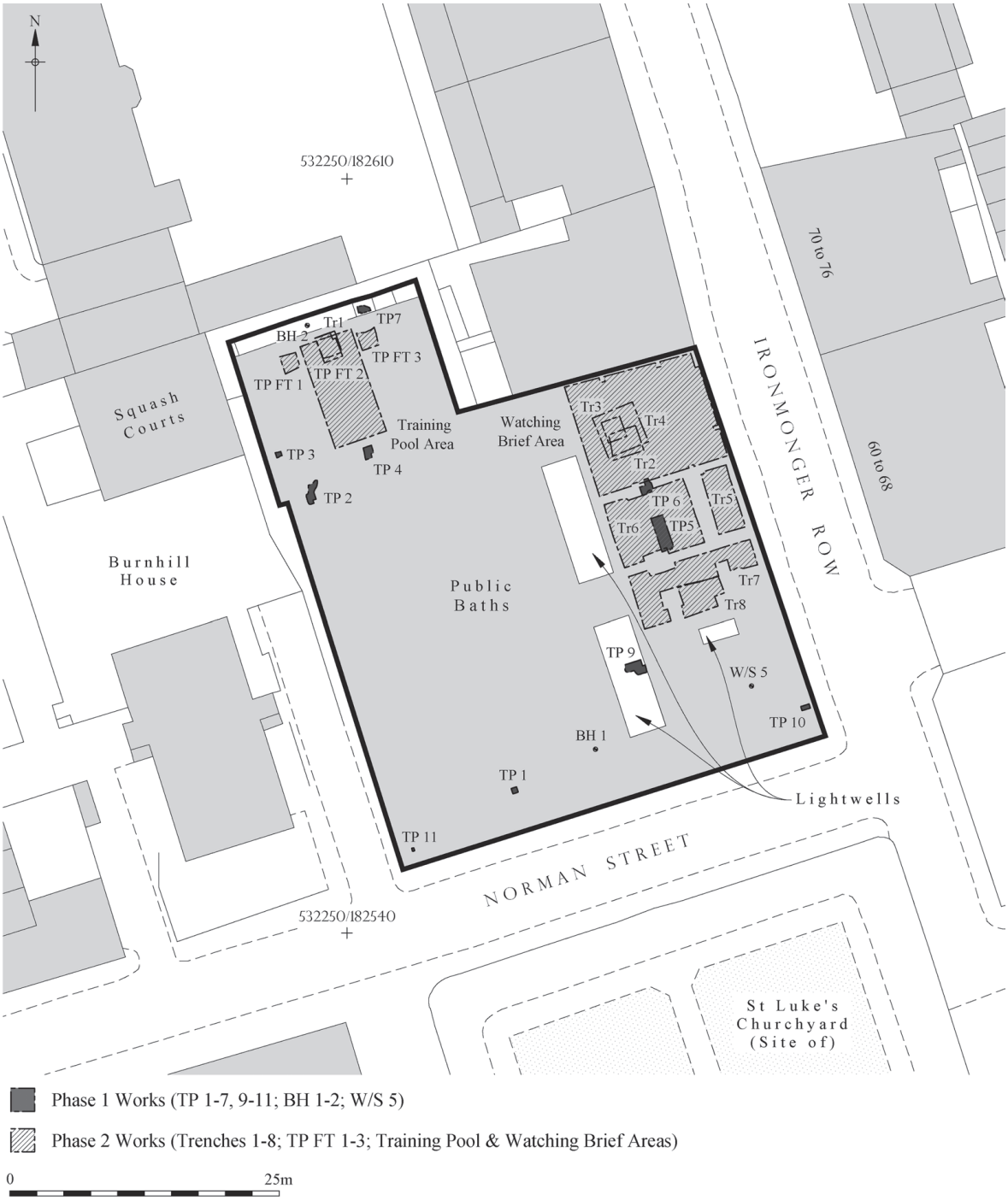


*Fig 2. Detailed site location showing the areas and trenches investigated (scale 1:675)*

buildings in the 1930s. The first part of the mitigation strategy undertaken was monitoring of the ground reduction of archaeological stratigraphy surrounding the second evaluation trench. This was followed by a downward extension of the evaluation trench and excavation to naturally deposited and archaeologically sterile layers. Further to this, archaeological excavation of basement rooms throughout the remainder of the building as well as a Training Pool area was undertaken prior to ground reduction.

This report considers the evidence derived from the interventions undertaken and

places these within a broad chronological framework, also taking into account documentary and cartographic evidence and the findings from other archaeological investigations in the south Islington area. Site codes used in the text refer to Museum of London (MoL) investigations unless stated otherwise.[1] Within the text, numbers in square brackets ([1] *etc*) refer to contexts and those within angle brackets (<1> *etc*) denote small find (Sf) numbers. Detailed descriptions of the building material fabrics and pottery codes with date ranges used in this report are posted on the Museum of London Archaeology (MOLA) website.[2]

## ARCHAEOLOGICAL AND HISTORICAL BACKGROUND

There is little indication of early prehistoric occupation within the vicinity of the study site, despite the Pleistocene Terrace Gravels further to the west being a relatively rich source for such evidence. Palaeolithic hand axes have been recovered from Old Street and Bath Street to the south and east respectively (Fig 1), the latter having been described by Roe (1968, 193). Limited Mesolithic finds are also known, such as deer antler picks from Finsbury Circus in the City of London, whilst Neolithic axes have been recorded from Finsbury Circus (Deeves 2002). An increase in the volume of archaeological evidence suggests more intensive activity by the 7th century BC, sherds of pottery of this date for example having been found around Moorfields, also in the City of London, to the south-east of the site. There is an increase in evidence for occupation across the wider area from the Iron Age, with pottery assemblages from Finsbury Circus, and the Honourable Artillery Company Sports Ground and Finsbury Pavement in Islington. It has been suggested that this evidence reflects an agrarian landscape of fields and scattered farmsteads (*ibid*).

During the Roman period the site is likely to have lain within agricultural land on the outskirts of Londinium. Old Street, to the south of the site, is thought to follow the line of a major Roman road (Margary 1967) (Fig 1, no. 1), whilst minor roads are believed to have followed the lines of Golden Lane, St John Street and Goswell Road (Fig 1, nos 2–4). Excavations at the latter have exposed road surfaces and a roadside ditch that contained 2nd-century AD pottery (Deeves 2002).

There is no evidence for Saxon activity within the vicinity of the site and it is likely that its land use was agrarian. During the medieval period the site was probably part of an agrarian landscape occupying the area between the City of London and the village of Islington, though Goswell Road existed as part of the route between London and St Albans (Hertfordshire). An evaluation by trial trenching conducted on Whitecross Street (Fig 1, no. 5) uncovered the line of an unnamed medieval road through the area, whilst an evaluation undertaken at Seward Street (Fig 1, no. 6) revealed mounded dump deposits (Knight 1999). These deposits were up to 2.7m thick and contained late medieval pottery, along with other artefacts and well-preserved organic remains. A short distance to the east (Fig 1, no. 7) another evaluation revealed possible quarry pits of medieval date (Hawkins 2011). Medieval quarry pits have been recorded locally at locations including Clerkenwell Road (Thompson 1999), City Road (Wessex Archaeology 2006), Great Sutton Street, Dallington Street (Miles 1997) and Bunhill Row (Cowan 1998; Elsden 2000) (Fig 1, nos 8–12). Archaeological investigations along Old Street have revealed limited medieval evidence of activity south of the site: stratified medieval deposits were recorded at 76–78 Old Street and evidence of 13th- to 15th-century structures was revealed at 122–128 Old Street (Burton 2007) (Fig 1, nos 13 and 14).

Brickearth quarrying, which had begun during the Middle Ages, became far more extensive during the post-medieval period as the expansion of London required an increasing number of bricks. Large areas were heavily truncated by the quarries and, in addition to areas mentioned above, post-medieval quarries in the vicinity of the study site have been identified archaeologically at locations such as St John Street (Tyler 1998), Goswell Road, Old Street (Sankey 1995) and Great Sutton Street (Ferguson 2007) (Fig 1, nos 15–18). It is likely that excavation of these quarry pits has been widely responsible for the destruction of earlier archaeological deposits across a significant proportion of the surrounding area.

Two plague pits of possible medieval date are also documented as being within the study area. Mountmill Pit, believed to be in the Seward Street area, was also used in the post-medieval period, as William Pinks documented 1,377 residents of Clerkenwell as having died of the plague by 19 December 1665, with the majority of them being buried in this pit (Pinks 1881). The existence of the second plague pit is ascribed solely to local tradition (Greater London Historic Environment Record 080519/00/00).

From the early post-medieval period the area occupied by the site is recorded cartographically. The Agas map of *c.*1562–70 is the earliest representation of the area. It shows the site located within fields between the outskirts of London to the south and the village of Islington to the north (Prockter & Taylor 1979, pl 7). No buildings appear to be present within the site, but this could be because the site is situated on the northern edge of the map where the level of detail shown is more limited than areas further south. The alignments of what would become Goswell Road and Old Street, however, are clearly shown. By the late 17th century this area was known as 'Finsbury Fields' (Brett-James 1935, 216).

The area of the site is shown in a little more detail on later maps depicting land held by the Worshipful Company of Ironmongers along Old Street. A block of land amounting to some ten acres was bequeathed to the Ironmongers' Company in 1527 by Thomas Mitchell, an ironmonger and citizen of London (Willats 1988). This block included the area of the study site and further lands to the south. The Ironmongers' Company was one of the 12 major livery companies of the City of London and had been in existence since at least the 14th century. Along with its holdings along Old Street, it owned various other lands in London and beyond, many of them bequeathed by former members or sympathetic donors. A number of officials of the company also served as Lord Mayor of London (Nichol 1851; Noble 1889). The maps showing this land are held within the company's archive at the London Metropolitan Archives[3] and they show development of the land from the late 16th century to the second half of the 19th century. The earliest map dated 1592 shows a simple block of land extending north of Old Street with few features present.[4] However, a number of buildings are visible, mostly along the northern side of Old Street with a few isolated examples further north. It is difficult to define the actual site area on the map with so few reference points, but one such building appears to be located on the site. By the time that another map was produced in 1633 the company's land had been developed, though mostly it appears as formal gardens and/or for horticultural purposes.[5] A few houses are shown north of Old Street and one of these appears to be situated on the south-eastern portion of the site.

Partly as a result of the destruction of churches in the Great Fire and partly because of subsequent rapid population growth, there was a significant shortage of places of worship in London by the end of the 17th century. Consequently, the Commission for Fifty New Churches was set up in 1711 with the aim of establishing the number of new places of worship that were required and where they should be located. One such location was the land immediately south of the study site, which the commission bought from the Ironmongers' Company in 1718 for the sum of £900 (Coath *et al* 2000, 15; Boyle *et al* 2005, 28). Although it was a lengthy process, the new church of St Luke was built on the site between 1727 and 1733 (Fig 1, no. 19), possibly to the designs of John James and Nicholas Hawksmoor. The surrounding area became the new parish of St Luke, having previously been within the parish of St Giles Cripplegate. As part of this development, Ironmonger Row was created, extending northwards from Old Street, along the eastern edge of the church and churchyard (and the site), the name being recorded as early as 1723 (Willats 1988).

Rocque's map of 1746 shows the study site defined by Ironmonger Row to the east and a street (later Wenlock Street) to the south, separating it from St Luke's churchyard (Hyde 1982, pl 5) (Fig 1, no. 20). A large building is shown occupying the south-eastern corner of the site, and situated to the north and to the west of it was an area of horticultural plots or garden (see Fig 9, inset). At this time the site was situated on the periphery of the rapidly expanding metropolis. Already

the eastern side of Ironmonger Row was developed. Horwood's map of 1813 shows that Wenlock Street (later Norman Street) and Church Row were both lined with small terraced houses, while the western side of Ironmonger Row (within the site footprint) was still largely undeveloped (Laxton 1985, pl 5). An evaluation undertaken at Seward Street recorded 18th-century pits, garden soil and levelling layers (Knight 1999; Fig 1, no. 6).

The 1838 Ordnance Survey map shows that Church Row was now closed off at its southern end and the burial grounds of St Luke had by this time been converted to public gardens suggesting that they had reached full capacity. A plan of the Worshipful Company of Ironmongers' estate in Old Street, produced in the same year,[6] shows the extent of the now developed landholding, with the study site occupying a large part of a block at the northern edge of the estate. An 1840 plan of the estate is at a larger scale but omits the properties on the site along the western side of Ironmonger Row, possibly suggesting these were no longer owned by the company. However, a plan of 1843[7] again shows these properties, as do subsequent plans produced in 1849–50,[8] 1856[9] and 1870–1.[10]

The Ordnance Survey map of 1871 shows the site was occupied by three rows of terraced buildings fronting Helmet Row, Church Row and Ironmonger Row, with Church Row continuing to divide the site. Behind the terraced houses were backyards of varying size, many of which contained outbuildings such as privies. The 1894 Ordnance Survey map shows numerous changes to many of the outbuildings, probably as the result of better municipal sewage/drainage provisions, though the main buildings appear to be unchanged. Similar minor changes have also occurred in the surrounding area. The 1914–16 Ordnance Survey map shows that the terraces on the site fronting Ironmonger Row had been replaced by other larger buildings, as had many to the north and west, and many of those on the eastern side of Ironmonger Row.

The Ironmonger Row Baths were opened on 13 June 1931, having been designed by the architects A W S and K M B Cross. The original building comprised a public laundry on the ground floor and slipper baths on the first and second floors. The basement housed the boilers and calorifiers. Extensions were opened on 22 October 1938 and included the addition of the main 100ft (30.48m) swimming pool, a children's pool, male and female changing areas, the pool gallery and café gallery. In addition, a Turkish baths was opened in the basement. A large part of the eastern side of the site was affected by bomb damage during World War II, as indicated on the London County Council War Damage map, though this is a little misleading as it was adapted from the 1914–16 Ordnance Survey map, which shows the site layout prior to the building of the baths (Saunders 2005, map 50). The layout of the baths is shown, however, on the Ordnance Survey map of 1952. The area to the immediate north had also been heavily redeveloped by this time, whilst a council depot and public house now existed immediately to the west.

In 1959 St Luke's Church was deemed unsafe and the roof was removed, leaving only the obelisk spire and walls. In 2000 a major restoration of the church begun, and since 2003 this Grade I Listed building has now been used by the London Symphony Orchestra to house its education and community programme (Weinreb *et al* 2008, 781–2). Archaeological work undertaken at the site in 2000 recorded the funerary architecture and crypt structure, and also the exhumation of all burials in the northern and southern churchyards along with the clearance of the crypt burials, with 1,052 interments being recorded and removed (Boyle *et al* 2005). The Ordnance Survey map of 1960 shows there were no changes to the study site from eight years before, whilst the area on the eastern side of Ironmonger Row had changed considerably. In 1960 a self-service municipal laundry was opened on the site of the original 1931 public laundry and the slipper baths were still in use in 1963. The Ordnance Survey map of 1975 shows no changes to the study site itself, though the council depot to the west had been replaced by Burnhill House and squash courts. To the south-west the replacement of terraces with housing blocks had continued, with a sports hall now present, and further alterations were also seen on the eastern side of Ironmonger Row. The Ordnance

Survey map of 1985 continued to show no changes to the study site. However, the redevelopment in the immediate surrounds had continued. Buildings directly to the north had been demolished and the area remained open space whilst a new building had been constructed in what was the ground of the Frank Barnes Primary School to the west. In 1987/1988 Ironmonger Row baths was refurbished at a cost of £1.5m; work comprised a 'facelift' for the public laundry and pool, some modernisation of the Turkish baths and cosmetic alterations to the building.

## THE STRATIGRAPHIC SEQUENCE

### *Introduction*

Despite extensive truncation in parts of the site and the somewhat piecemeal nature of the archaeological investigations, the work revealed human activity in the vicinity over a considerable length of time, though there was not clear occupation on the site until the medieval period. A single struck flint recovered from a post-medieval feature has been broadly dated to the Neolithic or Bronze Age (Bishop 2012). Roman building material was recovered from various residual contexts. Its presence is probably the result of the practice of manuring of the fields in the hinterland of Londinium with urban waste. Sustained activity on the site begun during the Middle Ages, and continued with various phases of development throughout the medieval and post-medieval periods. Although the datable evidence from a number of features has been a little sparse and in some cases inconsistent, it has been possible to build up a broad chronology of activity on the site, which can be incorporated into a broader history of the south Islington area derived from documentary evidence and other archaeological interventions nearby, as outlined above.

### *Geology and Topography (Phase 1)*

The underlying solid geology of the site consists of Eocene London Clay. The British Geological Survey (2004) sheet 256 (North London) shows this to be overlain by a Pleistocene drift geology comprising Hackney Terrace Gravels. It is likely that these drift deposits were originally covered by brickearth deposits of the Late Pleistocene Langley Silt Formation although it has been largely removed by quarrying and development.

Geotechnical investigations conducted in 2009 included a borehole which was drilled in the boiler room area of the swimming pool (Fig 2, BH 1). It revealed the terrace gravel at 16.10m OD. Above this was a layer of brown clay, probably brickearth, with a top surface at 16.50m OD.

Natural deposits were not exposed in all areas of excavation, but in the eastern extended area of evaluation trenching a mid-orange-brown deposit of brickearth was recorded at an upper elevation between 16.46m OD and 16.75m OD. Mottled patches of grey material were interpreted as root disturbance and suggested an extensively vegetated palaeoenvironment. Similar material was recorded between 16.78m OD and 17.04m OD further south. In the Training Pool area at the north-west of the site, loose reddish-brown sand and gravel was recorded at an upper elevation of 16.37m OD and dark reddish-brown clay was recorded between 16.04m OD and 16.32m OD, suggesting the brickearth had been truncated in this area.

The site is located at the boundary between the western edge of the Hackney Gravel Terrace and the eastern edge of the Fleet Valley at a surface elevation of *c.*21.0m OD. While the natural topography of the site appears to have been fairly flat, the topography of the area generally shows a slight slope towards the south-east.

### *The Medieval Period (Phase 2)*

Initial occupation of the site left little physical evidence and even fewer datable artefacts, though there may have been some activity here from as early as the 11th century. The earliest feature was a shallow, east to west aligned ditch, [227], cut into natural brickearth but surviving to a depth of just 0.12m (Fig 3). A small ceramic assemblage recovered from the backfill of this ditch dates to 1180 to 1350 (see Jarrett below). Although it is difficult to interpret such a small portion of what appears to be a linear feature, it may


*Fig 3. Phase 2: medieval features, Trenches 4–8 and (inset) details 1 and 2. The excavated portion of the feature is shown by the dark tone and the conjectured portion by the light tone (scale 1:200)*

have been the basal remnant of a field ditch. A small, oval feature, [194], a short distance to the south was interpreted as a rubbish pit, the presence of a piece of Flemish glazed floor tile dated *c.*1300 to *c.*1550 suggesting it may have post-dated the ditch.

To the north were two irregular features, [232] and [213] (Fig 3), which, given their

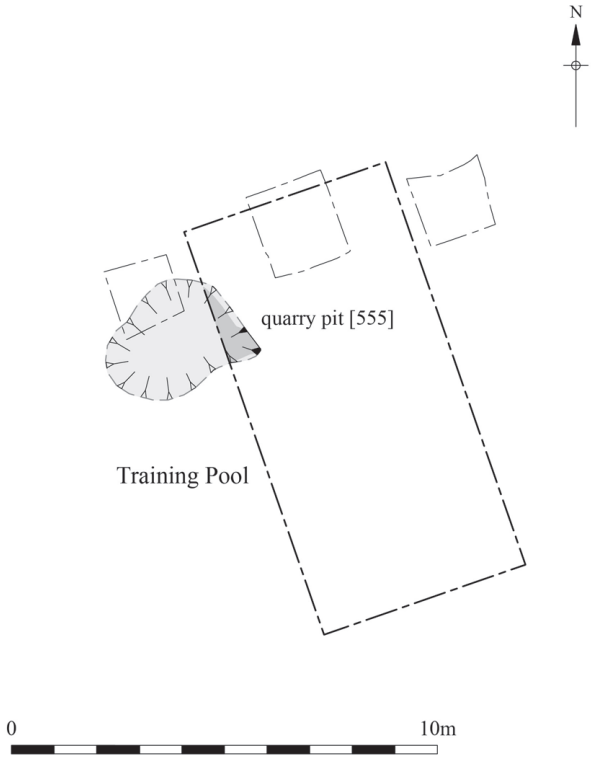


*Fig 4. Phase 2: medieval features, Training Pool area (for location see Fig 3, inset detail 2) (scale 1:200)*

extent and irregularity, were probably brickearth quarry pits, probably of 13th-century date judging by associated ceramics. Another large brickearth quarry pit, [181], was partly exposed further to the north. A small finds assemblage suggests this feature dated to the 15th century, though there had been earlier activity in this area as the pit appeared to truncate a stakehole that was part of an east to west alignment. A small pit, [179], immediately adjacent to the quarry may have been contemporary with the apparent fence line, and another row of stakeholes, on a slightly different alignment, was recorded further to the north. These may have been contemporary, but produced no datable finds.

A short distance east of the southernmost quarry pits were two slightly later features, a north-east to south-west aligned gully, [208], and a sub-rectangular pit [210] (Fig 3). Finds suggest that both features were backfilled during the 14th or 15th centuries. The gully may originally have drained into the earlier ditch to the south and the pit saw secondary usage for waste disposal, particularly demolition rubble. Further west, gully [272] was aligned perpendicular to [208] and may have been another contemporary feature that drained into the earlier ditch.

A further possible medieval brickearth quarry pit, [555], was identified towards the north-west corner of the site (Fig 3, inset detail 2, and Fig 4), whilst other medieval activity in this area was evidenced by external dumping that had survived the extensive truncation seen elsewhere; finds from these layers suggest 14th- to 15th-century deposition. These layers appear to have been primarily ground-raising deposits, though the uppermost ones may have comprised a bedding deposit with an overlying floor surface.

The evidence, although somewhat sparse, suggests there was a presence in the area possibly as early as the 11th century, but certainly during the 13th to 15th centuries, though the activity appears to have been mostly associated with activities peripheral to any areas of settlement, including quarrying, water management and land division. The quantity and range of building materials present suggests that there were masonry structures within the vicinity of the site from at least the later 12th century (see Hayward below).

### *The Early Post-Medieval Period, Late 15th to 17th Centuries (Phase 3)*

The early post-medieval period witnessed more intensive activity in all parts of the site, though this was most apparent towards the north-west, where a number of sub-phases were detected. One of the earliest and most extensive features in this area was a north-west to south-east aligned ditch, [529] (Fig 5), which was 2.9m wide and had originally been in excess of 1m deep. It cut through earlier, medieval deposits and was probably dug as a land boundary and/or drainage feature, though it was subsequently backfilled with domestic waste and demolition rubble probably during the 16th century. The backfilled feature was cut by a truncated oval pit, [110]. Pottery recovered from the pit was datable to between *c.*1480 and *c.*1600, though it also contained a great deal of residual material, mostly domestic waste and demolition rubble. A short distance to the east two discrete layers, [220] and [219] (not illustrated), are interpreted as levelling dumps recorded at a maximum elevation of 17.06m OD, deposited as a precursor to construction or occupation in the area. They were predominantly composed of clay and contained finds of late 16th- to 17th-century date.

Shortly after ditch [529] had become in-

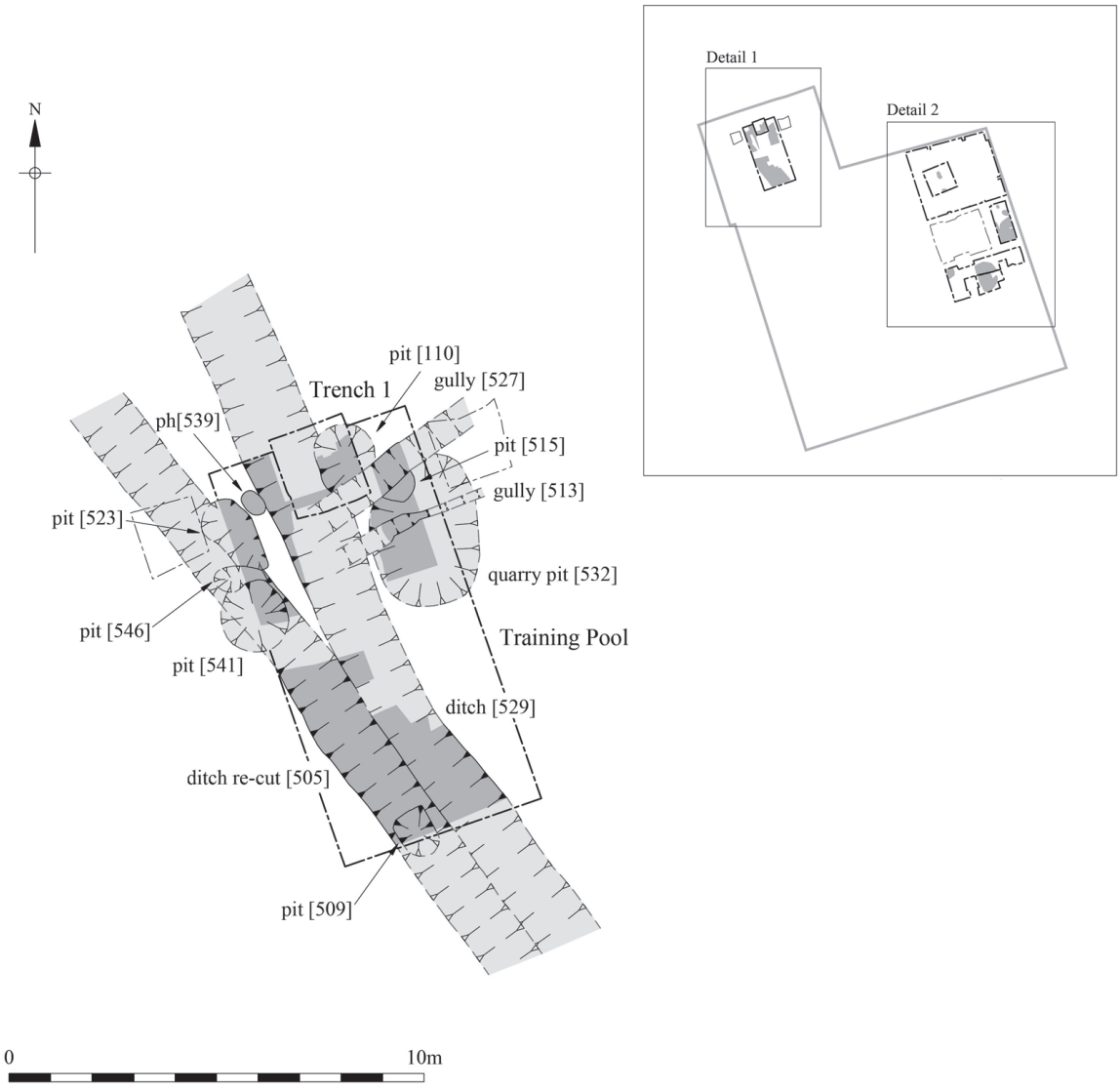


*Fig 5. Phase 3: late 15th to 17th century, Trench 1/Training Pool area and (inset) details 1 and 2 (scale 1:200)*

filled, it was recut, [505], on a slightly more westerly alignment (Fig 5). It was unclear why the ditch should be recut after being completely infilled, but this action may have been associated with a slight realignment of property boundaries. A posthole, [539], located east of the divergent recut, partly truncated the backfilled earlier feature and may have been part of an alignment associated with the recut. After ditch [505] was infilled, a rubbish pit, [523], was cut into it. The fills of this pit produced a range of 16th-century plus residual material which suggests that it was used for the disposal of domestic waste. Another feature cut into the infilled ditch was an oval rubbish pit, [541], filled with both domestic waste and demolition debris. It was in turn cut by a heavily truncated rubbish pit, [546]. This pit contained a predominantly 16th-century finds assemblage, including a copper-alloy buckle (<106>; see Gaimster below). Another small pit, [558], cut into this, though it was only seen in section (not illustrated). Further features were also seen in section, indicating that the intensive activity in this area extended to the west. Another rubbish pit, [509], was cut into backfilled ditch [505] at the southern edge of the excavation area, which produced finds of a predominantly 16th-century date.

A sequence of early post-medieval layers recorded in section at the eastern side of the area was cut by a sub-rectangular pit, [532], that has been interpreted as a brickearth quarry pit. Backfilled quarry pit [532] was cut at a later date by a circular pit, [515]. Its single fill contained ceramic peg tile fragments and pottery dated *c.*1500–50, though the feature was probably much later than this material. The pit was in turn truncated by a north-east to south-west aligned gully, [527], probably associated with drainage. The gully fill contained three sherds of 16th-century pottery along with clay tobacco pipe stems and fragments of medieval and post-medieval peg tiles.

Along the northern portion of the site, there was a 0.24m-thick layer of firmly compacted clayey-silt, [160] (not illustrated), recorded in section between 16.56m OD and 16.86m OD and interpreted as either a subsoil horizon or early attempts at ground raising. It was overlain by an additional series of layers up to a maximum elevation of 16.88m OD, which appeared to have been ground-raising or levelling deposits. Finds from the lower levels suggest deposition in the later 16th century, while the upper layers contained mixed finds assemblages of 14th- to 15th-century date suggesting a great deal of residual material. Layer [160] was also directly overlain elsewhere by layer [157], characterised by a high content of crushed chalk. This layer and the other sequence of layers above [160] were sealed by a firm yellowy-grey clay deposit, [147], which appeared to be an attempt at ground raising rather than localised waste disposal. Features cut into this layer included rubbish pits [151] and [154] (Fig 5, inset detail 2, and Fig 6).

Two heavily truncated, apparent pits were recorded in Trench 5. Pit [190] appeared as a linear feature, although was only partially exposed as it extended beyond the western limit of excavation (Fig 6). It contained peg tile fragments dated to *c.*1480–1700. Pit [192] was truncated by a modern concrete footing to the east as well as feature [187] to the west. It contained no dating evidence. Oval pit [187] extended beyond the southern and western limits of excavation. It measured 2.50m north to south by 2.15m east to west and was 0.36m deep. It was backfilled with a soft mid-brown deposit of clayey-silt that contained a mixed finds assemblage and pottery which was dated to the 15th–16th century, whilst building materials included Roman, medieval and post-medieval artefacts. It was interpreted as a large waste pit backfilled with the products of domestic occupation as well as demolition debris. The backfilled pit was in turn truncated by two further features. Irregular shaped pit [185] was just 0.17m deep and it contained several sherds of pottery dated *c.*1480 to *c.*1600 along with building materials of a similar date. Large rubbish pit [177] extended beyond the eastern limit of excavation. Its fill contained pottery and building materials dated *c.*1480 to *c.*1600. Two further small pits were located a short distance to the north: pit [171] contained no dating evidence, whereas rubbish pit [173] contained a single sherd of medieval pottery.

A large, but shallow pit, [224] (up to 0.26m deep), was dug into the earlier features in the

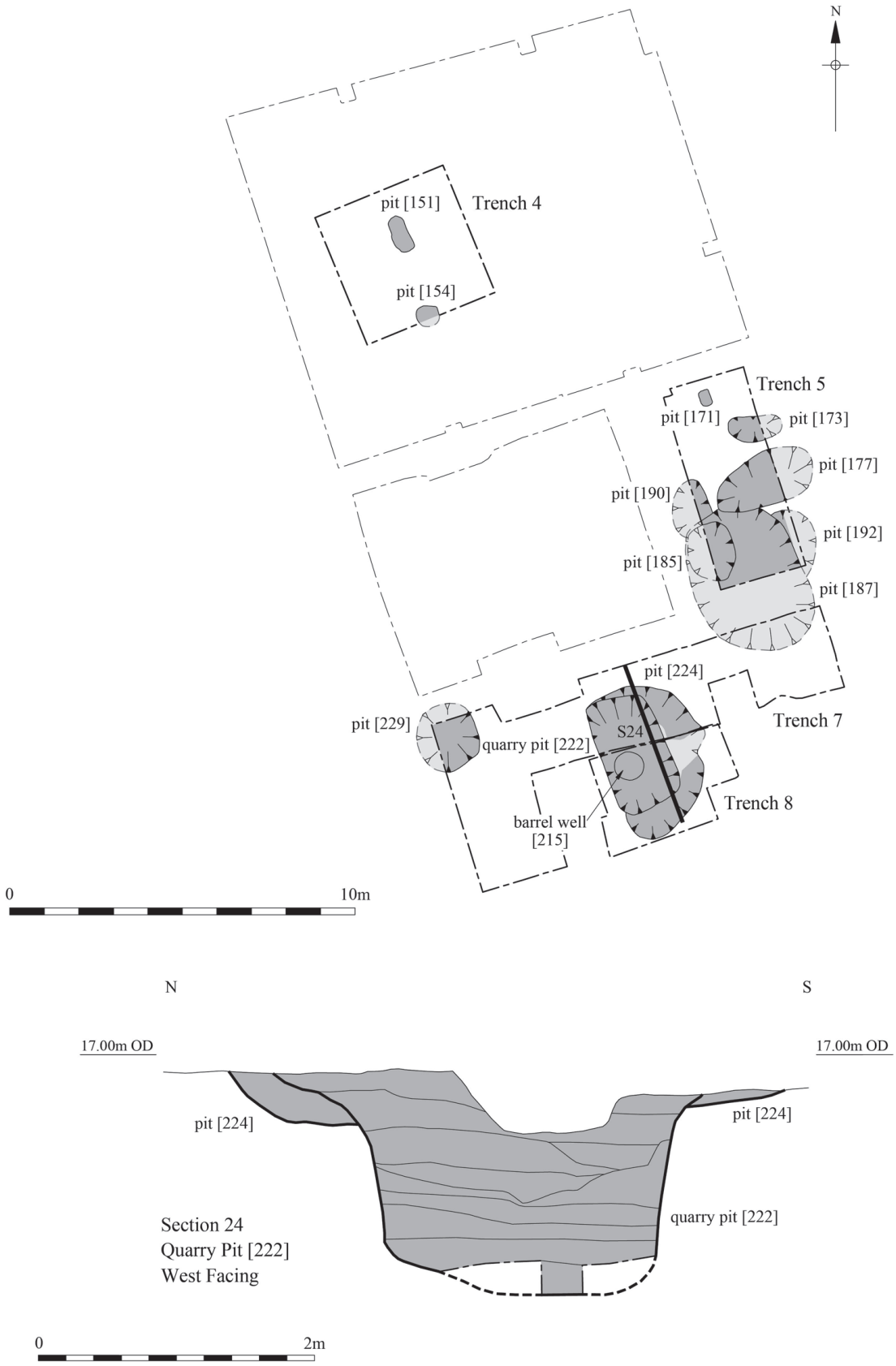


*Fig 6. Phase 3: late 15th to 17th century, Trenches 4–8 and west-facing section of quarry pit [222] (for location see Fig 5, inset detail 2) (scale 1:200, section 1:50)*

*Fig 7. Fully excavated features, barrel-lined well [215] and pits [222] and [224], in Trench 8, view looking north (2.0m scale)*

Trench 7/8 area (Figs 6 and 7). Finds within its fill included medieval peg tile and early post-medieval brick fragments broadly dated *c.*1450–1700. This feature may have been an aborted attempt at digging a brickearth quarry. A more likely quarry was pit [222], which largely removed its precursor [224]. Pit [222] was rectangular in plan and had initially shallow sloping sides that steepened to become near vertical. It measured 2.55m north to south by 1.85m east to west and was 1.70m deep. It was backfilled with a number of deposits containing fragments of animal bone, pottery dated largely to the last quarter of the 16th century (see Jarrett below), building materials (including residual Roman material and fragments of Flemish floor tiles; see Hayward below), and some pieces of slag and metalworking debris. One of the fills, [205], also included a complete iron harness buckle (<25>) and a complete iron knife blade (<145>) (see Gaimster below).

Following the final backfilling of pit [224], a vertical shaft, [215], was dug through it and a barrel-lined well was constructed (Figs

*Fig 8. Barrel-lined well [215], view looking north (0.5m scale)*

6 and 8), which measured 0.80m in diameter and was 2.18m deep in total. The sides of the cut were vertical in order to insert the barrels that would form its lining. The partial remains of severely degraded timbers were seen lining the inside of the cut following the removal of backfilling deposits. It appears from the dating evidence obtained from the final quarry backfill and the primary fill of the well that the latter may have only been in use for 30 years or less, before it was initially backfilled with domestic rubbish and demolition debris. Animal bones retrieved from the well included turkey and game birds, species indicative of an affluent diet (see Rielly below). The primary fill of the well included pottery dated *c.*1580 to *c.*1650 and a large dump of Kentish ragstone, Hassock rubble and Reigate ashlar, plus fragments of medieval and post-medieval tiles and bricks (see Hayward below). Subsequent well fills were dated to the 16th and 17th centuries. The upper surviving fill, [195], contained Chinese Kraak porcelain, an expensive and highly prestigious commodity for this period, whilst finds from lower fills included a barrel-shaped jet bead (<180>) and a *facon de Venice* glass base shard (see Jarrett and Gaimster below). The upper fill also contained the bones of herring, whiting and plaice (see Armitage below) and charred material that had been burnt at very high temperatures, indicating it was waste from industrial hearths. The backfill of oval pit [229] (Fig 6) showed an absence of pottery and animal bones, instead it contained a large amount of stone and ceramic building material, including Kentish ragstone and Reigate stone rubble, medieval and early post-medieval brick and peg tile fragments, plus Flemish floor tiles (see Hayward below). It seems probable that the final function of this pit was the disposal of demolition material from a nearby brick and masonry building with tiled roofs and floors.

### *The 17th to 18th Centuries (Phase 4)*

Evidence from the second half of the 17th century into the middle of the 18th century shows continued activity across most areas of the site, whilst several brick-lined features reflect more permanent structures. Notable exceptions to evidence of continued activity were Trenches 5, 7 and 8, where deposits of this date had been largely removed during construction of the 20th-century basement.

Towards the north-west of the site in evaluation Trench 1, a rubbish pit, [108], was dug into layer [111] (Fig 9). This pit contained pottery dated to *c.*1630–1700, with other inclusions such as oyster shell and animal bones. The backfilled pit was overlain by dumped deposits, the uppermost of which, [105], contained fragments of pottery, building material and bone. The pottery was dated to between *c.*1630 and *c.*1680 and contained remnants of sugar refining wares (see Jarrett below).

The backfilled ditch, [505] (Phase 3; Fig 5), in the Training Pool area, was overlain by a layer of crushed brick, [500], into which a circular, brick-lined well or soakaway, [503], was excavated. This was 1.1m in diameter and only 0.16m deep due to truncation. The bricks used in the lining, [502] (Fig 9), were dated *c.*1725 to *c.*1850. This feature was predominantly filled with silt that contained pottery dated to between *c.*1720 and *c.*1780 and Flemish floor tiles and peg tiles dating from *c.*1600 to *c.*1800. The impression is that this feature may have only been in use for 60 years or less before it was used to dispose of rubbish. Also cut into layer [500] was a small rubbish pit, [511], which contained fragments of abraded peg tiles and animal bones.

A large quarry pit, [140], seen in Trench 4 (Fig 9, inset detail 2, and Fig 10), represents the latest feature recorded here before a phase of external dumping took place. This pit measured 2.20m north to south and was 1.70m wide. It was at least 0.96m deep with steeply sloping sides. The base of this pit was not reached owing to health and safety considerations, but the lowest excavated deposit contained ceramic building material, stonework and pottery dated to between *c.*1580 and *c.*1700. The primary fill of pit [140] included animal bones and oyster shells, indicative of domestic rubbish. The secondary fill of the pit contained an abundance of building material including Portland ashlar and tracery, Kentish ragstone paver and guttering, post-medieval brick and Bath stone tracery and Flemish floor tiles (see Hayward below). It is suggested that the source of this material could have been


*Fig 9. Phase 4: 17th to 18th century, Trench 1/Training Pool area and (inset) details 1 and 2 (scale 1:200)*


*Fig 10. Phase 4: 17th to 18th century, Trenches 4, 6 and Watching Brief area (for location see Fig 9, inset detail 2) (scale 1:200)*

from the demolition of a nearby 17th- to 18th-century ecclesiastical building. Perhaps this material was derived from the repair of St Luke's Church in 1734. The building material was dated to between *c.*1650 and *c.*1850, whilst an equally sizeable pottery assemblage was dated to between *c.*1740 and *c.*1760 (see Jarrett below). The evidence suggests that the quarry pit was backfilled relatively quickly both with domestic waste from local properties as well as with demolition rubble derived from a high-status building. Significantly, there was also a high content of bone-working waste (see Gaimster below). This was represented by six sawn-off cattle metatarsal proximal ends, drilled through the centre and one sawn-off cattle metatarsal distal end.

Also recorded in this trench was a large, shallow, north to south aligned linear feature, [144], 1.20m wide and roughly 0.22m deep, though potentially cut from a higher level than that observed (Fig 10). Finds from its silty backfill included clay tobacco pipe stems, oyster shells, pottery dated to the 18th century and various tile types dated to *c.*1600–1850 (see Jarrett, pottery and glass, below). The texture of this fill suggests it represents the accumulation of fluvial sediments within a drainage ditch. Also in Trench 4 were truncated remains of another pit, [149], the fill of which contained pottery dated *c.*1710–60, animal bones, clay tobacco pipe stems and building material finds which included a piece of post-medieval Flemish floor tile. A north to south aligned brick wall foundation, [137], 0.30m wide and composed of at least three courses of bricks, was dated to 1600–1700 (Fig 10). This foundation appears to be the eastern boundary wall of the area of gardens shown on Rocque's map of 1746, which may have been retained to delineate the rear of the later properties that lined Ironmonger Row.

In Trench 6, activity started with external dumping or levelling, [265] (not illustrated). This deposit was approximately 60mm thick and recorded at an upper elevation of 16.95m OD. It was composed predominantly of clay and contained pottery dated from the mid-17th century to early 19th century. Its building material assemblage included a significant quantity of Purbeck limestone paving, medieval peg tiles, post-medieval peg tiles, Penn and Flemish floor tiles, post-medieval and post-Great Fire bricks and daub, plus a fragment of abraded Roman painted wall plaster. A rectangular rubbish pit, [264] (Fig 10), was dug through layer [265] and contained finds including 16th-century pottery.

Other features dug into layer [265] included sub-rectangular pits [260] and [235]. Pottery from the former feature was broadly dated from *c.*1480 to *c.*1650, whilst an abundance of metalwork was recovered from the latter (Keys 2012), including nine complete iron nails, a complete copper-alloy lace chape (<28>) and an iron belt buckle (<120>) (see Gaimster below). Building materials included Flemish floor tiles as well as medieval to post-medieval peg tiles and bricks. Its fills also included sizeable quantities of animal bone. It appears that both pits were used to dispose of domestic waste and demolition material.

One corner of a truncated brick-lined drain, [240], was recorded (Fig 10). Only a single course of brickwork, broadly dated *c.*1600–1750, survived. A single sherd of pottery dated *c.*1630 to *c.*1650 was recovered from the drain fill. The feature is interpreted as the base of a silt trap where domestic waste accumulated.

Pit [270] contained four discrete backfills dated to the mid-17th to 18th century (Fig 10). Building materials present included fragments of Purbeck limestone, glazed Flemish floor tiles and medieval to post-medieval peg and Penn floor tiles. The presence of animal bones and shell inclusions in these fills suggest the purpose of the pit was to dispose of domestic waste as well as the demolition debris derived from a nearby high-status building.

Two pits were dug into the upper fill of [270] (Fig 10). The primary fill of the larger pit, [262], was composed mainly of redeposited brickearth and two fragments of post-medieval peg tile, whilst no dating evidence was retrieved from its secondary fill. The tertiary fill of [262] was mostly clay containing pottery dated to the late 17th to early 18th century and clay tobacco pipes dated *c.*1680–1710. Building material from this deposit included Kentish ragstone, Hassock chalk and Reigate stone rubble, Roman tile, early post-medieval and thick

post-Great Fire bricks, medieval and early post-medieval peg tile and Flemish floor tiles. The presence of animal bones suggest that this pit was used to dispose of domestic waste as well as demolition rubble.

The primary fill of truncated oval pit [246] was composed mainly of redeposited brickearth (Fig 10). Its secondary fills contained a large amount of pottery dated to the second half of the 17th century with building material of a similar date including fragments of Flemish floor tiles and early post-medieval peg tiles. Clay tobacco pipes dating between *c.*1700 and *c.*1740 were also recovered from its secondary fills. Its tertiary fill was predominantly clay containing mid to late 17th-century pottery, clay tobacco pipes dated *c.*1700–40 and fragments of post-medieval peg tiles. This pit was used to dispose of both domestic waste and demolition rubble. A small oval feature, [251], was observed along the eastern limit of excavation. This may represent the remains of a posthole. Its fill contained iron nails, animal bones as well as building material dated to *c.*1600–1700.

### *The 18th to 19th Centuries (Phase 5)*

*In situ* archaeological deposits survived to the highest elevation in the Laundry Room area in the north-eastern corner of the site as this was where truncation caused by the building of the baths complex was least intrusive (Fig 11). Therefore, the greatest concentration of later features and deposits were present here. Deposit [123]/[138] recorded in this area consisted of 18th-century external dumping intended to raise the ground level as a precursor to building and sealed earlier features. It was recorded at an upper elevation of 18.20m OD and was between 0.5m and 1.5m thick, composed of mid to dark brown silty-sand; the datable finds suggest a mid to late 18th-century date of deposition. Bone-working waste was also present, including a longitudinal segment of cattle long bone, worked on three sides and sawn at both ends. A similar dumped deposit, [507], was recorded in the Training Pool area.

The predominant activity recorded on the site following the late 18th-century dumping was associated with the construction of terraced houses. The dumped deposits in the Laundry Room area were overlain by further rubble dumping, and dug into this deposit were two rubbish pits. The larger pit, [117] (Fig 11), contained a large amount of clay tobacco pipes dated *c.*1780 to *c.*1845 and ceramics dated *c.*1770 to *c.*1800 (see Jarrett below). Other finds included abundant ceramic building materials and stonework. Although animal bone from domestic waste was not present in large quantities, bone-working waste (<150>–<152>) was observed along with an ivory cutlery handle (<15>) and a fragment from a copper-alloy vessel (see Gaimster below). Iron smithing slag recovered from this fill shows that smithing was occurring nearby (Keys 2012). Rubbish pit [122] (not illustrated, recorded in section only) produced limited dating evidence consisting of one sherd of 18th-century pottery, one piece of peg tile with hardened 19th-century mortar and an ivory brushplate that showed green staining from copper-alloy wire fasteners (<16>). The impression is that both these pits were dug within the backyards of the properties fronting on to the western side of Ironmonger Row and were used to dispose of domestic waste (Fig 11, inset). These backfilled pits were superseded by a brick-lined drain or culvert, [113], 0.54m wide, which probably flowed from south to north (Fig 11). It was lined with frogged bricks dated to between *c.*1800 and *c.*1900, which were bedded on a layer of sand, [114]. The southern continuation of the drain, [136], which was associated with a fragment of brick paving, [134], immediately to the east, was recorded at 18.86m OD (Figs 11 and 12). The floor was constructed from reused early post-medieval bricks (Fig 12). It appears to have been part of the backyard area of one of the properties along Ironmonger Row. A copper-alloy teaspoon handle was found on the floor (<18>).

Brick-built wall foundation [131] was aligned east to west and truncated down to its two lowest courses of unfrogged red bricks dated to between *c.*1700 and *c.*1850; it is interpreted as part of the rear of a property fronting on to Church Row (Fig 11 and inset). Another brick-built east to west aligned wall foundation, [124], was better preserved; it was 5.00m long by 0.85m wide and was constructed of frogged red bricks


*Fig 11. Phase 5: 18th- to 19th-century features, Trenches 2, 6, Watching Brief area and (inset) details 1 and 2 (scale 1:200)*

*Fig 12. Brick-lined drain [136] and floor [134] (top left), view looking south (2.0m scale)*

dated to between *c.*1750 and *c.*1850. It is interpreted as part of the rear of a terraced property that fronted on to Ironmonger Row (Fig 11, inset detail 1). Adjoining the north side of this wall was a levelling deposit, [130], that was laid prior to the construction of a brick-paved floor, [125], situated at between 19.04m and 19.19m OD. This remnant of a well-constructed internal surface is interpreted as part of the ground storey of one of the (uncellared) terraced houses fronting on to Ironmonger Row.

A substantial part of the back wall of the next property (No. 33 Ironmonger Row) was represented by a north to south aligned brick-built foundation, [126], 4.35m long and 0.40m wide (Fig 11). It was constructed of unfrogged red bricks of a similar date to those used in features [124] and [125]. Another fragment of brick-paved flooring, [127], was recorded to the east of wall [126] at 19.08m OD. A square brick-lined drain, [128], was built over part of the floor; its bricks were dated to *c.*1800 to *c.*1900. A tiny fragment of brick-built wall foundation,

*Fig 13. Brick-lined well [248], view looking east (0.5m scale)*

[129], perpendicular to wall [126], is interpreted as part of the southern wall of this property or possibly an internal feature.

In the south-west corner of Trench 2 was a truncated, circular feature, [146], with a diameter of 1.08m (Fig 11). It may have been a shallow well or a soakaway to drain waste water from roofs and yards. There was no sign of a lining, but any brickwork might have been removed when it was disused. Finds from its backfill included a copper-alloy disc or button (<19>), iron nails and fixtures, and more bone-working waste. Further south in Trench 6, a portion of another truncated, circular, brick-lined well, [248], was discovered (Figs 11 and 13). It was lined with at least 14 courses of frogged red bricks dated to between *c.*1750 and *c.*1850 and was not fully excavated due to health and safety considerations. Its lower fills were composed predominantly of clay. Finds included ivory-working waste (<29>) and building materials dated to between *c.*1664 and *c.*1800. Its uppermost fill was composed of organic-rich material suggesting that it was latterly used as a cesspit. This fill contained pottery dated to between the mid-17th century and the early 19th century as well as building materials dating from *c.*1750 to *c.*1850.

Situated in the backyard of a neighbouring property was a rubbish pit, [238] (Fig 11). Its single fill contained oyster shells, animal bones, as well as pottery broadly dated *c.*1580 to *c.*1900 and building material dated to *c.*1480 to *c.*1800. The impression is that it contained a large amount of residual material.

In evaluation Trench 1, dug into layer [105], there was an east to west aligned brick-lined drain (Fig 11, inset detail 2, and Fig 14). It had two parallel lining walls, [100] and [101], constructed of dark red frogged bricks dated *c.*1750 to *c.*1850. It was largely backfilled with silt that contained pottery dated *c.*1630–1836, animal bones, clay tobacco

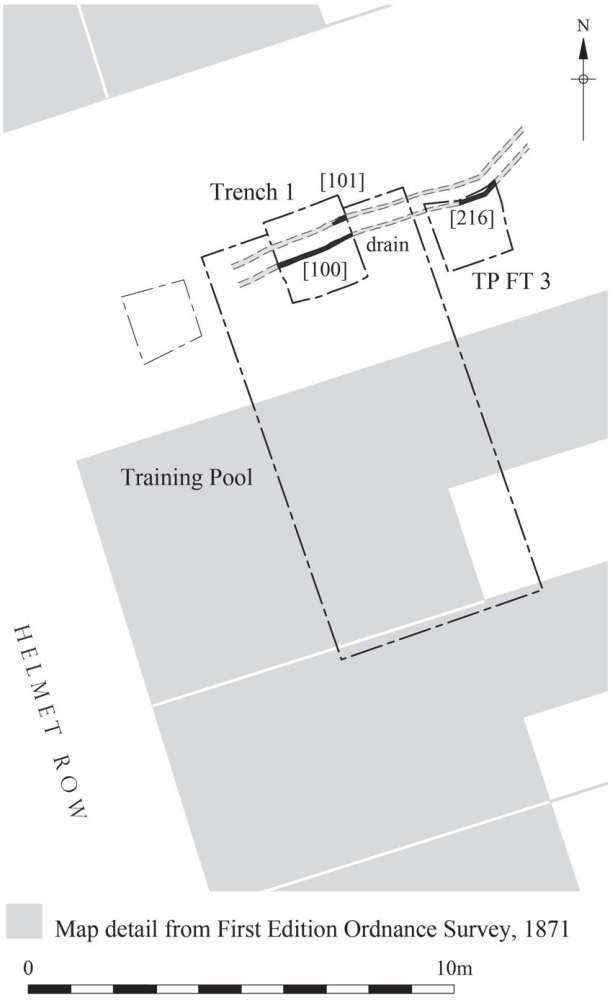


*Fig 14. Phase 5: 18th- to 19th-century features, Trench 1, TP FT3 and Training Pool area (for location see Fig 11, inset detail 2) (scale 1:200)*

pipes dated to *c.*1660–80 and a copper-alloy disc or button. The eastern continuation of this drain was recorded as [216] in TP FT 3. It was built under the backyards of the terraced properties.

### *Late 19th-Century and Subsequent Developments*

As with the previous phase, archaeology from this period was only observed in rooms where truncation caused by basement construction had not removed the deposits and structures. Therefore, it was mainly in the Laundry Room area that material of this date was recorded. Wall [131] (Fig 11) was truncated by cut [133] (not illustrated), which was backfilled with rubble [132] derived from demolition of the terraced houses prior to the construction of the baths. The final infilling of drains [113] and [136] probably also occurred at this time. Finds from the backfill of this drain included numerous tiny glass beads (<160>), perhaps used in dressmaking (see Gaimster below).

In the Training Pool area some chalk masonry, [519] (not illustrated), was initially thought to represent the remains of a medieval wall. In reality, it was blocks of chalk reused to form shuttering for a modern concrete ground beam associated with the baths complex. All other recent deposits and developments are related to the development of the baths from the 1930s onwards (not illustrated).

## SPECIALIST REPORTS

### *The Medieval and Later Pottery*

*Chris Jarrett*

*Introduction*

The pottery sequence includes small quantities of early medieval and 13th- to mid-14th-century wares, although the number of sherds noticeably increases during the late medieval period. From *c.*1480 significant groups of pottery were present, which reflect the material culture of an affluent household with high-quality imports amongst the assemblages. The affluence alluded to by the pottery had declined by the mid-17th and 18th centuries, whilst pottery recovered from 19th-century deposits associated with the terraced houses indicates that their residents belonged to a lower socio-economic grouping. The pottery assemblage was quantified as a total of 972 sherds, representing a minimum number of vessels (MNV) of 779 and weighing 39,437g.

*Medieval (Phase 2)*

A total of 28 sherds/25 MNV/475g of pottery was recovered from medieval deposits. Single sherds of residual Saxo-Norman wares occurred as early medieval flint-tempered ware (EMFL) and early medieval sand- and shell-tempered ware (EMSS). Later London-type ware (LOND) jug and south Hertfordshire-type grey ware (SHER) jar sherds occurred in fill [226] of linear feature [227] (Fig 3) and demolition layers [536] and [537] respectively. The majority of the pottery types within this phase date to the late medieval period, the most frequent ware being coarse Surrey-Hampshire border ware (CBW), dated *c.*1270–1500, which is the main pottery type marketed to London after *c.*1360 (Pearce & Vince 1988, fig 9). This ware was mostly concentrated in demolition layers [536] and [537] and occurred in cauldron and jug forms. Smaller quantities of other wares, usually as one sherd each, were present as Cheam white ware (CHEA: *c.*1350–1500) and late London-type ware (LLON: *c.*1400–1500), while sherds of jugs in late medieval Hertfordshire glazed ware (LMHG: *c.*1340–1450) and 'Tudor Green' ware (TUDG: *c.*1350–1500), as well as a jar in Dutch red earthenware (DUTR: *c.*1300–1650), were also recovered.

*Early Post-Medieval, Late 15th to 17th Centuries (Phase 3)*

This phase produced a total of 397 sherds/340 MNV/11,858g of pottery. Medieval pottery was present in many features of this date. Coarse Surrey-Hampshire border ware (CBW) was prominent (20 sherds/16 MNV/262g) and present in the form of jugs and a bowl or dish. Medieval ceramics of this date were more likely to be recovered from dump layers, while sherds of CBW and late London-type ware (LLON) often occurred with early post-medieval wares indicating deposition in

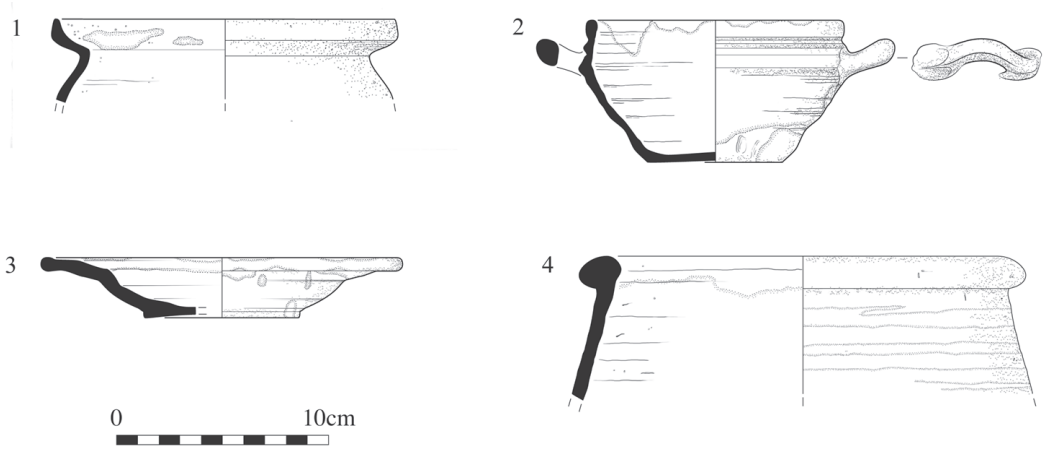


*Fig 15. Post-medieval pottery. Key: 1. London-area early post-medieval calcareous red ware (PMREC) cauldron from fill [153] of pit [154]; 2. Surrey-Hampshire border white ware with green glaze (BORDG) porringer from fill [195] of barrel-lined well [215]; 3. Miscellaneous unsourced post-medieval white ware (MISC WW) dish in a fine white earthenware with red slip decoration on the rim, from fill [514] of pit [515]; 4. Dutch slipped red earthenware (DUTSL) jar from fill [195] of barrel-lined well [215] (scale 1:4)*

the final decades of the 15th century. Such features were ditch [505] and the latest fill of ditch [529] (Fig 5). This period demonstrated a change in the ceramic profile on the site as early post-medieval pottery types and forms first appeared. Features producing notable groups of pottery were pit [509] (Fig 5), containing finds deposited *c.*1480–1550, pit [522] (not illustrated), with pottery dated to the early 16th century, quarry pits [532], backfilled in the late 16th century, and [222] (Fig 6), finally infilled in the late 16th to early 17th century, as well as barrel-lined well [215].

Post-medieval London red ware (Nenk & Hughes 1999) was present as 190 sherds/157 MNV/7,538g, this being the main source of the pottery in this phase. It occurred mostly as London-area early post-medieval red ware (PMRE: *c.*1480–1650) and its slipped with green and clear (yellow) glaze variants (PMSRG/Y: *c.*1480–1650). Forms in these wares were mostly kitchenwares (bowls and dishes, cauldrons, dripping dishes, jars and pipkins), while other forms included the base of a bird pot, a chafing dish, rounded jugs and a watering pot. These wares were found frequently in a range of deposits. A small quantity of the bichrome (PMBR), calcareous (PMREC) (Fig 15.1) and metallic glazed (PMREM) red wares are noted and in the form of cauldrons in the latter two pottery wares. The later, better fired and glazed London-area post-medieval red ware (PMR: *c.*1580–1900) occurred in a small quantity and was found in the same forms as PMRE. The majority of this material was recovered from barrel-lined well [215] and quarry pit [222] (Fig 6). A small quantity of Dutch-Anglo tin-glazed wares dating to the late 16th and possibly early 17th century were also present. These were represented by two vessels each in the form of albarelli and chargers found in well [215] and quarry pit [222].

Surrey-Hampshire border post-medieval wares (Pearce 1992; 1999) accounted for 51 sherds/40 MNV/1,400g, green-glazed early Surrey-Hampshire border white ware (EBORD: *c.*1480–1550) being a notable component of this and found as sherds of drinking jugs, a money box and a double condiment dish. These wares were mostly recovered from pit [177] (Fig 6), ditch [505] and square feature [515] (Fig 5). Two sherds of the yellow glazed variant (EBORDY) were noted in pit [523] (Fig 5). The later *c.*1550–1700 dated white wares from this source were mostly green-glazed or clear-glazed (BORDG, BORDY) and were concentrated in the backfill of well [215] and quarry [222] (Fig 6), where they occurred in the form of bowls and dishes, a porringer (Fig 15.2), tripod pipkins and two candlesticks. Two

sherds of Surrey-Hampshire border red ware (RBOR) were recovered, including part of a rounded bowl from layer [147].

A small quantity of Cistercian ware (CSTN: *c.*1480–1600) from the Midlands was recovered, being more frequent here compared to most London sites. This high-quality, glazed red ware was a northern England counterpart to the southern fine white wares, such as EBORD and 'Tudor Green' ware (TUDG: *c.*1350–1500) and occurs as sherds from drinking forms, which include a flared cup found in quarry pit [222] (Fig 6). Midlands purple ware (MPUR: *c.*1400–1750) was noted as the rim of a jug (quarry pit [222]) and a sherd from a possible cup (ditch [505], Fig 5), while a sherd of a probable butter pot was noted in Midlands orange ware (MORAN: *c.*1400–1820), which also came from quarry pit [222]. Essex fine red wares (Nenk & Hughes 1999) were traded to London between 1580 and 1700 and their occurrence is mostly restricted to the quarry pit [222]. These wares include sherds of Essex-type post-medieval black-glazed (PMBL), fine (PMFR), recorded as a bowl or dish, jar and pipkin, and fine with brown glaze (PMFRB) red wares.

This phase also produced a notable quantity of imported wares (Hurst *et al* 1986) recorded as 62 sherds/59 MNV/1,499g, present in a diverse range of pottery types from several sources. Most frequent were wares from Germany, particularly as stoneware drinking forms (drinking jugs, jugs and mugs) from such sources as Raeren (RAER: *c.*1480–1610), Frechen (FREC: *c.*1550–1700), Cologne (KOLS: *c.*1500–80), or indistinguishable from the latter two centres (KOLFREC), as well as Siegburg (salt-glazed stoneware: SIEGS: *c.*1500–1630). Sherds of RAER were mostly found in 1480–1550 dated deposits, such as layers [156] and [219], as well as features [509] and [513], while SIEGS was only noted in rubbish pit [541] (Fig 5). The KOLS and KOLFREC were mostly found in post-1550 dated deposits such as linear cut [527] and quarry pit [222] (Figs 5 and 6). The latter also produced sherds of FREC, as did quarry pit [532] and well [215]. German earthenwares included a sherd of white ware (GERW), recovered from layer [219] and a dish in Weser slipware (WESE: *c.*1580–1630), found in well [215]. French wares were restricted to pottery from Beauvais, firstly as a white ware with green glaze sherd (BEAG: *c.*1500–1600) and secondly as a dish decorated in Beauvais double sgraffito ware (BEAU2: *c.*1500–1630), both being recovered from pit [515]. Additionally, there was a fragment of a Martincamp-type flask (MART: *c.*1480–1650) noted in pit [509]. Dutch red ware was also conspicuous and occurred in deposits dated from 1480 onwards, although sherds of this ware were mostly found in pit [187] and quarry pit [222] (Fig 6). The Dutch red earthenware (DUTR) was mainly fragmentary, but cauldrons or pipkins and jars (*cf* Fig 15.4) could be identified, as well as a slipware dish (DUTSL) found in [222]. Two albarello fragments occurred, firstly in probable south Netherlands maiolica (SNTG: *c.*1480–1575) (although a central Italian source is not impossible) and decorated in blue and yellow on white (from pit [515]) and secondly as a distinctive fragment of Spanish Paterna blue ware (PATB: *c.*1400–1600). Other Iberian wares consisted of single sherds of Andalucian lustreware (ANDA: *c.*1250–1480), surviving as a loop handle possibly from a costrel, a cylindrical jar in Spanish green-glazed ware (SPGR: *c.*1250–1650) and an unsourced amphora (SPOA). All of the Spanish wares were found in the fills of quarry [222] except for a sherd of Merida-type micaceous ware (SPAM: *c.*1270–1650) found in pit [151]. An expensive item was a fragment of a Chinese porcelain dish with Kraak decoration (CHPO KRAAK: *c.*1580–1650), with sand on its footring and part of a poorly datable internal blue landscape; it was recovered from the top fill, [195], of well [215].

A quantity of miscellaneous red wares of both medieval and post-medieval date (MISC) were noted in this phase, and some of these fall into the tradition of high-fired late medieval earthenwares made in the home counties surrounding London. These wares tended to be concentrated in pit [187] (Fig 6). Forms were noted as either bowl or dish fragments and jar or jug sherds, with rounded and conical (pit [509], Fig 5) examples identified. There is also a small quantity of miscellaneous unsourced post-medieval white wares (MISC WW) that are almost certainly from a German or French source and include fragments of jugs and a slipware dish (Fig 15.3).

*The 17th to 18th Centuries (Phase 4)*

This phase produced 243 sherds/193 MNV/11,858g of pottery. The larger groups were noted in pit [270] dated to the mid-17th–18th century, pits [262] and [246], both dated to the late 17th–early 18th century, as well as pit [140], deposited 1740–60 (Fig 10). Post-medieval pottery from a London source was most frequent as 171 sherds/136 MNV/12,728g and particularly as coarse red earthenwares, with the earlier London-area early post-medieval red wares (PMRE, PMSR, PMSRG/Y) present in small quantities as bowls and dishes, including 16th-century forms, as well as a jug and a chafing dish (PMSRY). The later London-area post-medieval red ware (PMR) was more frequent and occurred in the form of bowls and dishes, a colander, flower pots and jars, including a Deptford/Woolwich-type example with a thumb decorated neck (pit [140]). Additionally, a substantial quantity of sugar refining wares, as mostly sugar cone moulds and less so of syrup collecting jars, were found mostly in pits [246], [262] and [270] (Fig 10). These industrial vessels represented refuse derived from a sugar-house located closer to the Thames (B Mawer, pers comm). Tin-glazed wares (TGW) (Orton 1988) were also notable in this period (33 sherds/24 MNV/786g) and as with other London 17th- and 18th-century assemblages, was one of the three main pottery types with Surrey-Hampshire border wares and coarse red ware being the other types. The earliest tin-glazed decorative styles present were a bowl with a Wanli border (TGW A), dated *c.*1630–50 (from drain [240], Fig 10), and a mid-17th-century charger in TGW D (pit [246]), while a bowl with a plain white glaze (TGW C) and a chamber pot with a plain pale blue glaze (TGW BLUE) were noted in 18th-century dated deposits (pit [140] and ditch [144], Fig 10). The ware with pale blue glaze and dark blue decoration (TGW H), dated *c.*1680–1710, was found as two dishes and three simple shape plates, mostly with chinoiserie designs. These were found in 18th-century dated deposits (pits [140] and [149], ditch [144], Fig 10; and well [502], Fig 9). Amongst the tin-glazed wares that could not be assigned to a style code (TGW) there were bowls, dishes, including a fluted one, and plates which were mostly dated to the late 17th and 18th century. A fragment of a plate decorated in purple on blue had part of a human face and the letter 'W' surviving and was almost certainly a commemorative plate for William III (1688–1703). The vessel may have had a long use life as it was recovered from pit [140]. William III is the most frequent of the British monarchy noted on tin-glazed vessels and his popularity may have been a reflection of his part in the Glorious Revolution (1688) and society's contemporary anti-Catholic sentiments. A small quantity of London stoneware (LONS), dated *c.*1670–1926, was found, and identifiable forms consisted of a large bottle and a tankard with a 'WR' ale mark, the latter post-dating 1700. These items were recovered from pit [140].

Surrey-Hampshire border white wares (Pearce 1992; 1999) were the second largest source of pottery in this phase, accounting for 38 sherds/29 MNV/1,858g, with the white ware and red ware in similar proportions to each other by sherd count and MNV. In the white ware a late 16th-century small dish with green glaze (BORDG) was noted (pit [264], Fig 10), while 17th-century forms were found as bowls with olive glaze (BORDO) and clear (yellow) glaze (BORDY), BORDY chamber pots and a jar, and a BORDG drinking jug. This material was mostly found in pits [246], [262] and [264], and residual sherds were noted in pit [140] and ditch [144] (Fig 10), with the latter producing the socket of a candlestick. A fragment of a brown-glazed (BORDB) mid-17th-century rounded mug with encrusted, crushed flint decoration was noted in drain [240] (Fig 10). Also present was a BORDG chamber pot with a flat rim, dated to *c.*1650–1750, found in pit [262]. The red ware occurred as two late 17th-century bowls (pit [246]), a RBORB late 17th- to 18th-century chamber pot (pit [270]) and mid-18th-century dishes, a jar, lid and pipkin, found in pits [140] and [149] and ditch [144] (Fig 10). Pottery from the Midlands (10 sherds/8 MNV/674g) was present as three examples of butter pots in Midlands orange ware (MORAN) and one purple ware (MPUR) item, which were recovered from pits [262] and [270] (Fig 10). A Staffordshire-type mottled brown-glazed ware (STMO: *c.*1650–1800) chamber

pot and white salt-glazed stoneware (SWSG) in the form of a flanged lid possibly for a teapot and a bowl were also recovered from pit [140], while a saucer in the same fabric was noted in well [502] (Fig 9).

Imported pottery was less frequent in this phase compared to the previous one, occurring as 11 sherds/10 MNV/362g with much of the material appearing to be residual, in keeping with the 16th-century activity in the previous period: drinking forms in Raeren (RAER) and Siegburg salt-glazed (SIEGS) stoneware (pits [246] and [264], Fig 10), a Werra ware dish rim (pit [262]), a buff earthenware Martincamp-type ware flask (MART1) (pit [235]) and a Spanish Paterna blue ware (PATB) dish decorated with a blue line and foliage design (pit [235]). German stonewares in the form of two 17th-century Frechen (FREC) jug fragments and a *c.*1740–60 dated Westerwald flat rimmed chamber pot (WEST CHP2) with applied lion decoration were found in pit [140], whilst a sherd of this vessel was also noted in ditch [144] (Fig 10).

Pottery from a general British source was limited to two Staffordshire-type combed slipware dishes (STSL: *c.*1660–1730), one from a late 17th-century feature (pit [246]) and the other from the *c.*1740–60 dated pit [140] (Fig 10). A dish in black ware (BLACK: *c.*1600–1900) was noted from the latter feature, while a sherd of dipped white salt-glazed stoneware (SWSL: *c.*1710–60) was noted from pit [149] (Fig 10). Small quantities of Essex fine earthenwares occurred as a *c.*1630–1700 dated metropolitan slipware (METS) dish from pit [108] (Fig 9) and a sherd of Essex-type post-medieval fine red ware (PMFR) in pit [262] (Fig 10). From Dorset there was a single sherd of a chafing dish rim in Verwood ware (VERW) noted from pit [262], this form in this ware being a rare find for London. A miscellaneous white ware was also present as a base sherd and found in pit [270].

*The 18th to 19th Centuries (Phase 5)*

The main features producing pottery in this phase were pit [117], backfilled *c.*1720–80, brick drain [136], infilled in the mid to late 18th century, well [248], finally infilled in the late 18th–early 19th century and the brick-lined drain or culvert [113], infilled 1840–1900 (Fig 11). The quantification for pottery recorded in this phase was 248 sherds/170 MNV/8,812g. During this period there was a notable change in the ceramic profile of the site, which mirrors a trend seen across London as local pottery declined in production and ceramics manufactured at several centres across Britain, although mainly from a Midlands source, became increasingly marketed to London during the late 18th and 19th centuries. Pottery from a London source was still important in this period and accounted for 100 sherds/71 MNV/5,475g, although tin-glazed wares were now more frequent than red wares. A small quantity of tin-glazed wares occurred as residual 17th-century material (TGW A, TGW D and a TGW C porringer), while the majority was contemporary with tin-glazed ware with plain pale blue glaze (TGW BLUE) in the form of bowls, chamber pots, plates (mostly from pit cut [115] (not illustrated) and pit [117], Fig 11) and an early 19th-century ointment pot (cut [115]). Pale blue glaze and dark blue decorated wares (TGW H) were also important in this phase and occurred as mostly simple plate shapes, as well as two examples with recessed bases dating to after *c.*1730; both types were found in pit [117]. The designs in TGW H were often floral and/or Chinese inspired, while late 18th-century decorative schemes were present, such as 'Lambeth sgraffito' (pit [117] and well [146], Fig 11). The majority of the tin-glazed ware was deposited in the 18th century. The local London-area post-medieval red ware (PMR) occurred in a wide range of bowl sizes, mostly flared or rounded in shape, while other forms included two flower pots, a small number of jars of different sizes, a collared lid (layer [123]) and a small number of sugar refining wares, representing waste material brought here for dumping as noted in the previous period. London-area post-medieval red ware (PMR), like the tin-glazed wares, was more frequent in 18th-century dated deposits and most was recovered from well [117] and drain [113]. In contrast, the finds of PMR in 19th-century dated deposits were very fragmentary and probably residual. London stoneware (LONS) was minimally represented, mostly by sherds from a mid-18th-century rounded jar found in dump layer [123].

Wares from a general British source accounted for 85 sherds/42 MNV/904g and mostly comprised industrial fine wares/factory made twice-fired earthenwares. The earliest of these pottery types were sparsely represented as a single developed creamware (CREA) chamber pot, dated *c.*1760–1830 and found in well [248], while pearlwares (PEAR), broadly dated *c.*1770–1840, occurred as three vessels, consisting of a burnt plate with a blue shell edge rococo scalloped rim and two saucers, one in blue and white (PEAR BW) and another transfer-printed (PEAR TR). These vessels were found in drain or culvert [113], well [248] and pit [117] respectively. The refined white wares, mostly dated to after *c.*1805, were more frequent, being plain refined white earthenware (REFW), with underglaze polychrome-painted decoration in 'chrome' colours (REFW CHROM), with sponged decoration (REFW SPON) or with transfer-printed decoration (TPW). These wares in the form of bowls, plates, saucers and a small cylindrical jar, were on the whole very fragmentary and almost exclusively recovered from the brick drain or culvert [113]. From this deposit was also recovered a porringer-shaped teacup with a green transfer, augmented with enamelling and depicting a festive scene that featured a holly wreath and a robin holding a ribbon proclaiming 'compliments of the season'. This may very well represent a Christmas present and also a rare archaeological find demonstrating the increased commercialisation of this holiday period in the mid to late 19th century. A small number of bone china (BONE) tea wares occurred as a teacup and saucer, while other pottery types included single sherds of lustre-glazed high-fired red earthenware, Rockingham-type ware and blue and green coloured refined white ware fabrics, all probably from tea wares, the latter dating to the late 19th century. These wares were mostly from drain or culvert [113] and drain [136].

Other earthenwares from a general British source were black ware (BLACK), in the form of a chamber pot (drain or culvert [113]) and a rounded jar (pit [117]), and combed slipware dishes, found mostly in 18th-century dated contexts (pit [117] and well [248]). Yellow ware (YELL) vessels, dated from *c.*1820, were from fragmentary forms and included plain and slip-decorated (YELL SLIP) wares found in drain or culvert [113] and drain [136]. English porcelain (ENPO) included the forms of a saucer, an enamelled doll's foot and a figurine, and these porcellanous items were mostly recovered from drain or culvert [113].

Pottery from the Surrey-Hampshire borders occurred as 21 sherds/18 MNV/996g and a small proportion of this (3 sherds/3 MNV/191g) was residual white wares, the majority being the red ware (RBOR), which included a probable late 17th-century green-glazed (RBORG) carinated bowl found in [117]. Bowls, including a possible example made in Dorking (Orton & Pearce 1984, 48), jars and pipkins were found predominantly in 18th-century features, pit [117] and well [248], and a single sherd in 19th-century drain or culvert [113]. Surprisingly, both RBOR and PMR do not appear to have been in use at the study area during the 19th century, contradicting evidence from other sites, such as Crispin Street, Spitalfields (Jarrett 2014) and 12–18 Albert Embankment, Lambeth (Whittingham 2004, 128), where bowls, dishes and chamber pots were in everyday use.

Imported wares totalled 19 sherds/17 MNV/764g and mostly consisted of Chinese porcelains in blue and white (CHPO BW), as a saucer and tea bowls or decorated in the enamel palettes of famille verte (CHPO VERTE), dated *c.*1690–1730 as a bowl fragment, and famille rose (CHPO ROSE), dated *c.*1720–1800, as dishes and a plate. Two vessels were recovered from layer [123], dated *c.*1740–60, and included the CHPO VERTE bowl, while five items came from the *c.*1770–1800 infill of pit [117], and another three, probably residual fragmentary forms, were noted in the 1840–1900 backfill of drain or culvert [113]. Five sherds of imported Continental pottery were mostly residual German wares and included a fragment of a Frechen stoneware (FREC) jug and family sherds of the Westerwald stoneware chamber pot (WEST CHP2) noted in the previous period. A contemporary import was a sherd of an Italian olive oil jar, possibly made in Montelupo (MLOJ) and decorated with external white slip lines. This vessel appears to date to the mid-18th century and

was recovered from layer [123]. These forms are usually associated with 'oil and colour' shops where they were often mounted on the upper facade of the shop (Ashdown 1974). Therefore, the vessel here may have been derived from an off-site source, unless olive oil was being used in an industrial or manufacturing process in one of the houses or shops along Ironmonger Row. In 1851, No. 34 Ironmonger Row, to the south of the site, was the premises of William Henry Schroeder, oilman (Kelly 1851, 313), although it has not been established how far back this shop dates.

Pottery from a Midlands source was noted as 17 sherds/17 MNV/490g and occurred as mostly different stonewares, of which white salt-glazed stoneware (SWSG) was most numerous. This was in the form of tea or tableware bowls, a jug, moulded plates and a tea bowl, and it was mainly recovered from 18th-century infilled features, pit [117] and well [248] (Fig 11). Similar quantities of Derbyshire (DERBS) and Nottingham stonewares (NOTS) were noted, the latter identified in the form of bowls and present in 18th-century dated contexts (layer [123] and pit [117]), while DERBS was found in late 18th- and 19th-century deposits: in use contemporaneously in pit [117] and drain or culvert [113]. Single sherds from glazed red stoneware (RESTG: *c.*1768–80) and dipped white salt-glazed stoneware (SWSL) bowls along with a sherd of Staffordshire-type coarse ware (STCO: *c.*1650–1800) were all found in pit [117].

A small quantity of pottery came from unknown sources. Firstly, there was a fragment from a post-medieval crucible (PMCR), which lacked any deposits indicating which metallurgical industry it was involved in. It was found in well [248]. There were also two unidentified post-medieval red ware fabrics. One from well [248] was a body sherd in a hard red surfaced fabric with a grey core with abundant fine sand and organics. The second red ware occurred as a rounded jar (220mm in diameter) with a rounded rim and had reduced surfaces, an internal brown metallic glaze with the external decoration consisting of four horizontal white slip bands below a clear glaze. This vessel was recovered from [117] and appears to be late 18th century in date.

*Discussion*

The medieval pottery indicates an increase in activity on the site during the 14th century with sherds present probably representing domestic refuse spread on the fields as manure. Activity intensified during the late medieval period with pottery types and forms represented in the assemblage that are typically found in London during the 15th century. This pottery could have been derived from the large building located in the south-east corner of the site (discussed above, see historical background). The land had been acquired by the Worshipful Company of Ironmongers in 1527, but a building may have been present here from an earlier date. From *c.*1480 the quantity of pottery notably increases on site, particularly for the early post-medieval period, which contained a diverse range of pottery types from a variety of high-quality British and Continental sources, but in a fragmentary state. Such assemblages are not normally encountered in the northern suburbs of London during this period, apart from in the vicinity of medieval religious houses and their affluent, secular, post-Dissolution occupants. Certainly the pottery assemblage demonstrates 'conspicuous consumption' amongst the wealthy and reflects the material culture of the Renaissance in north-west Europe (Gaimster 1999). The ceramic criteria for this is demonstrated on the site by the use of German stonewares, high-quality red wares (*eg* Cistercian ware and Dutch red ware) and slipwares (Beauvais and Dutch slipware and later Werra and Weser types), as well as high-quality white wares, present here as Beauvais green-glazed ware, German white ware, early border ware and 'Tudor green' ware. Tin-glazed wares were also a component of this material culture and are represented here by the presence of Andalusian tin-glazed ware and Paterna blue ware from Spain and Low Countries wares, the latter often being difficult to separate from Italian examples. The Chinese porcelain dish with Kraak decoration also represents an expensive, ostentatious item that the owners used as a display item to demonstrate their wealth. Sherds of Spanish amphora and micaceous wares, besides the tin-glazed albarelli may have acted as

containers for expensive foodstuffs and medicines.

The influence of the Renaissance on late 15th- and 16th-century London household ceramics has been noted in a number of London assemblages. High-status royal sites such as the Tower of London (Blackmore 1996) and Nonsuch Palace, Surrey (Biddle 2004), have produced such assemblages, as have groups of finds from the vicinity of the large aristocratic houses at The Rosary and Fastolf Place in Southwark (Whittingham 2009), which produced high-quality decorative late 15th- and 16th-century Continental, red wares, white wares, stonewares and tin-glazed wares unparalleled elsewhere in north Southwark. Religious houses and their post-Dissolution developments also demonstrate in their material culture an acquisition of high-quality Continental pottery and the effect of the Renaissance on consumerism, such as St Mary Graces, East Smithfield and Bermondsey Abbey (Blackmore 2010; 2011; Pearce 2011; Jarrett and Sudds in prep). Comparable to that from the study site was an assemblage of pottery from a more modest, although affluent, household at 103–106 Shoreditch High Street, Hackney (SDV08), which amongst the exotica was a number of sherds of central Italian tin-glazed ware, including a ring-handled vase and possible jugs (Jarrett 2013a, 220).

The pottery recovered from deposits dated to the 17th and 18th centuries is typical of most London households for that period and is generally unremarkable with little evidence of high-quality wares. The dumping of a notable quantity of sugar refining wares on the site during the late 17th century may represent a change of land use during this period. The 18th- and 19th-century pottery probably belonged to residents of the terraced housing located on Church Row and possibly Norman Street, first shown on Horwood's maps of 1799–1813 (Laxton 1985, pl 5). The 19th-century pottery contains elements that indicate a downturn in the socio-economic status of the occupants of the site, which is demonstrated by the presence of inexpensive pottery such as the sponge-decorated refined white earthenware. This is corroborated by the 1881 census information, which indicates a working class area (see below).

During the late 19th century the study area encompassed, on its eastern side, Nos 31–43 Ironmonger Row, backing on to the rear of properties on Church Row (an alleyway of small houses), aligned north to south and running roughly centrally through the site. The western boundary comprised Nos 43–50 Helmet Road, while the southern boundary consisted of Nos 7–9 Norman Street. The properties were a mixture of single and multiple residences, some given over entirely or partially to manufacturing concerns, while drinking establishments are recorded as the Pitman's Arms, run by Hezekiah Painter in 1882 and located at No. 39 Ironmonger Row, and a bar/beer retailer, Mrs Maria Mortimer, was at No. 7 Norman Street (Kelly 1882, 400, 498). Both of these establishments were located outside the area of the excavation trenches. The 1881 census and 1882 street directory indicate that several residents in the vicinity were employed in watchmaking and the jewellery business. Rouge makers, such as Wallis & Co were in business at No. 43 Ironmonger Row (located in the south-east corner of the study area and at the junction of Norman Road) (*ibid*, 400). Gold refiners were in the immediate vicinity, for example at No. 19 Helmet Row (James Anthony, Son & Co: *ibid*, 378). Such professions may account for the presence of the crucibles found in well [248], Trench 6, as well as an unstratified graphite crucible, marked on the underside with the lettering 'A ?C' and a round ended rectangular stamp containing '4\T': it had no visible residues. Other professions located on the study area include makers of chairs, clocks, coach springs, fancy boxes and whips, while wire drawers, artificial flower makers and a house decorator are also recorded (*ibid*, 378, 400). A wide range of secondary sector type professions are documented amongst the other residents, often involving the manufacture of goods, with people fairly well represented in the clothes industry as tailors, cloth cutters and collar ironers, as well as the typical low skill jobs of labourers and laundresses. Very few servants are recorded, as are tertiary sector workers, which include the occasional nurse, policeman and an actress.[11]

A small number of items, such as the doll's foot and possibly the teacup with a Christmas greeting may relate to children

residing here. These items were recovered from drain [113] located in 1881 to the rear of No. 31 Ironmonger Row. This was a multiple occupancy residence, the main tenant being George G Perkins, 71, a 'saddler (smith)', besides a family headed by Christopher Wingfield, 35, a cork-cutter, his wife, two teenage daughters and two younger sons.[12] However, it is possible that the doll and teacup belonged to previous late 19th-century residents of the property.

The impression given by the industrial finds, such as the sugar refining wares, crucibles, the glass finds and the small finds (see Jarrett and Gaimster below), is that they do not correlate with the documentary evidence for the residents of individual properties. Therefore, to a certain extent, the dumping of refuse into features from off-site sources, some of which could have been local, was probably occurring during the 18th and 19th centuries. This might have happened when properties were vacant.

### *Clay Tobacco Pipes*

*Chris Jarrett*

*Introduction*

The clay tobacco pipe assemblage consisted of a total of 219 fragments comprising 64 bowls, six nibs (mouthparts) and 149 stems. The fragmentation of the bowls was variable, ranging from whole bowls, to datable heels and broadly dated fragments. The bowls were often recovered as one or two examples from individual deposits, although larger groups were present. The date ranges of the bowl types were between *c.*1640 and *c.*1910 and these were classified according to Atkinson and Oswald's (1969) London typology (AO), except for 18th-century examples where Oswald's (1975) general typology was used to separate the different types and are prefixed OS. Decorated and maker marked pipes were given a unique small finds number, while the quality of finish, for example burnishing, and the degree of milling on 17th-century examples was recorded in quarters. The 17th-century bowls were generally residual while the 18th- and 19th-century pipes tended to occur in fairly tightly dated groups. The assemblage is discussed by its distribution.

*Early Post-Medieval, Late 15th to 17th Centuries (Phase 3)*

Only six stems were recovered from this phase as singular examples from layer [219] and the fill of linear feature [527] along with four fragments from the fill of pit [110] (Fig 5). The characteristics of these stems (their thickness and bores) could date these items to the late 16th–early 17th century.

*The 17th to 18th Centuries (Phase 4)*

The earliest bowl recovered from this phase was a damaged example dated to *c.*1680–1710, which together with four stems and a nib was found in fill [256] of pit [262] (Fig 10). Pit [140] produced a small group of mid-18th-century bowls in its fill [139] (Fig 10). There are three OS10 bowls, one of which is initialled on the heel 'SA' (<135>) and possibly made by Samuel Applebie (1), 1724, and another 'IR' (<145>) and was possibly made by John Roome, *c.*1730 (Oswald 1975, 130, 144). Four heeled bowls with thin stems are as the OS12 type: one is initialled '?I' (<136>), two are initialled 'IR' (<134> and <137>), probably for John Roome, and a fourth one is marked 'IS' (<138>). The latter bowl could have been made by a number of 18th-century London master pipe makers, although two are relatively local: John Savell (1), 1722–63, Whitecross Street and John Savell (2), 1763–90, working at Bunhill Fields (1763) and at Moorfields (1780) (see Oswald 1975, 145). Some of the bowls recovered from pit [140] were on the whole poorly moulded and may reflect a lower socio-economic status of their smokers.

*The 18th to 19th Centuries (Phase 5)*

A residual 1660–80 dated spurred AO15 bowl was noted in the backfill of brick-lined drain [100]/[101] (Fig 14). Two of the bowls from layer [123] were initialled. The first had a double set of poorly moulded initials 'I I' and 'PH' on the heel, each set below a moulded crown in relief (<132>). Such initialled bowls are difficult to assign to pipe makers as they may represent two master pipe makers or possibly a husband and wife in business together. The second bowl was initialled 'WW' (<131>), possibly made by William

Wilder (1), 1717–63, Whitecross Street (Oswald 1975, 149). Layer [138] produced five bowls with a wide range of dates, the earliest being a heeled AO10 type dated 1640–60. Its damaged rim was milled and it was burnished to a good quality. A 1640–70 dated AO12 bowl, defined by its heart-shaped heel was fairly poorly finished with full rim milling. A tall version of the 1660–80, heeled, straight-sided AO18 type, which was nicely burnished, had a damaged rim which was milled. A 1680–1710 dated AO22 bowl (a taller development of the AO18 type) had a quarter milling of its rim and a fair finish. The latest bowl present was an OS10 type, initialled 'B?C' (<133>) and appears to have been a second with a firing crack, whilst the family name initial is uncertain. No pipe makers are yet documented with the initials 'B C' in London, although pipes of this date and with these initials are frequently found in the Borough area of Southwark. Two 1700–40 dated OS10 bowls were recovered from brick-lined drain [216] (Fig 14), one initialled on the heel 'IB' (<143>) and could have been made by one of a number of 18th-century London pipe makers (see Oswald 1975, 131).

Layer [118] produced a single, unmarked OS12 bowl and this deposit was superseded by pit [117] (Fig 11), the fill of which produced the largest group of clay tobacco pipes in the assemblage as 34 fragments. The earliest bowl was residual as a very poor quality AO15 type with a firing crack. There were also four OS10 bowls, two of which survived as a heel and all were plain and maker marked. Four OS12 bowls were present, three of these marked 'TR' (<126>–<128>) with each bowl made in a different mould. One of the bowls may have been a transitional type between the OS12 and AO27 type from the evidence of the squared heel. Such transitional bowls are now recognised (AO27T), for example at the Tower of London (Higgins 2004, 241). Pipe makers with the initials 'TR' are rare occurrences in lists for this profession in London and particularly those contemporary with the bowl (none are listed in Oswald 1975). However, one possible local pipe maker is recorded in the parish registers for St Giles Cripplegate Without and that is Thomas Romaine who is recorded in 1757 and 1759 (Woollard 2006, 44), although it is not clear whether the entries concern births, marriages and more importantly deaths. A fourth OS12 bowl had the first name 'T' readable, the family name being illegible, but it is probably not an 'R' (<130>). The latest bowl was the heel of an 18th-century example of an AO27 bowl, initialled 'T W' (<129>) and possibly made by Thomas Wood, 1763–*c.*1800, Whitecross Street. Two other fragments of 18th-century bowls occurred in this deposit, as did a single nib and 21 stems, one of which was noticeably curved, while a probable 17th-century example had an incomplete milled line around its circumference (<125>). The group of pipes suggested a deposition date of *c.*1780. Another pit, [115] (not illustrated), produced only the heel of an OS12 bowl and a stem.

Well [146] (Fig 11) produced a single AO27 bowl (<139>) marked 'SL' on the heel, whilst a poorly impressed circular stamp on the back of the bowl had scrolls and the name 'LAM\BERT' in serif lettering. This bowl was probably made by Samuel Lambert (1), 1805–32, Finsbury Square (Oswald 1975, 141).

Brick-lined well [248] (Fig 11) contained a number of fills which produced clay tobacco pipes. The earliest was fill [247] which produced a single fragmentary OS12 bowl marked 'TR' (<144>). Fill [241] contained a bowl fragment and two OS12 bowls, both of which were initialled on the heel. The first was marked 'FS' in small letters (<141>), its possible maker being Francis Stray (Strace or Straw), 1732 (Oswald 1975, 145), and also recorded in St Giles Cripplegate Without parish registers in 1738, 1743 and 1745 (Woollard 2006, 47). The second bowl was marked 'TR' (<142>). The latest fill of well [248] to produce a clay tobacco pipe bowl was fill [236] and this was as the heel of another 'TR' marked bowl (<140>), although this was of the AO27 type, dated *c.*1770–1845 with its characteristic squared heel.

Drain [136] (Fig 11) contained two AO29 bowls, dated *c.*1840–80 and defined as heeled types with sloping rims. The first had leaf borders on the front and back of the bowl and two vertical lines on the heel, and the mould it was made in was worn. A similar, but plain bowl, with the same heel markings has been noted nearby at Nos 103–

106 Shoreditch High Street (SDV08: Jarrett 2013b, 228). The second bowl was plain except for a segmented floral disc on each side of the heel and it had a pre-firing crack, probably indicating that it was a second.

The latest group of clay tobacco pipes was recovered from brick-lined drain or culvert [113]. However, the material was very fragmentary and recovered from environmental sample no. 2. Two of the four nibs (mouthparts) in this deposit had red wax surviving. The spur of an AO28 bowl was initialled 'WW' (<124>) and this bowl could have been made by at least three relatively local master pipe makers: William Ward, 1832–50, Bedfordbury; William Walker, 1837–60, Spitalfields; and William C Weeks, 1852–4, Brunswick Square (Oswald 1975, 149). Other fragments of post-1840 dated bowls were a heelless AO30 type with moulded ribs, and an Irish type (AO33) with moulded milling and a small incuse stamp with the initials 'R ?' above ' TO....', and 'MA[KER]' below surrounded by a segmented circle. One other late 19th-century bowl rim fragment of note had a plain top above a cordon with moulded leaf decoration below.

*Unstratified*

Unstratified pipes consisted of three OS12 bowls: one was not maker marked and a second was initialled 'HD' with crowns above the letters (<121>). The latter could have been made by Henry Thomas Doubtfire (2), 1702–87, who is recorded in the parishes of St Giles Cripplegate Without in 1705 and 1751 and St Luke, Old Street, Islington, 1780–7 (Oswald 1975, 135; Woollard 2006, 34). The long working dates indicate more than one pipe maker with the same name. A third OS12 bowl was initialled '?W W' (see above for details of the possible pipe maker). A single AO27 bowl was marked on the heel 'TR' (<127>).

*Discussion*

The presence on site of high-quality imported pottery and glass (see Jarrett below) dating to the early post-medieval period, demonstrates conspicuous consumption. Therefore, the rarely found, earliest clay tobacco pipe bowls dated *c.*1580–1610 might have been expected to be recovered from the site, but they were absent. Tobacco smoking was initially an expensive habit during this period, affordable by the affluent or those with easier access to tobacco, such as mariners. A small number of stems were recovered from deposits dated to the late 16th–early 17th century and indicate that smoking tobacco was a habit of the residents. A similar situation was noted at Narrow Street, Limehouse (NHU99) in Tower Hamlets, where the residences of mariners were excavated. There only stems were recovered from late 16th- to early 17th-century dated deposits, although two very early bowls were residual in later deposits (Jarrett 2005, table 1).

The earliest bowls recovered from the site were an AO10 and AO12 bowl dated from 1640 to 1660 and 1670 respectively, the former of a good quality, the latter not so. Clay tobacco pipe bowls dated *c.*1660–80 are a little more numerous as four examples, of which the spurred AO15 bowl was more numerous as three bowls. These bowls were wide ranging in their quality of finish, although a small sample could represent the belongings of both servants and their employers.

An increased number of bowls were recovered from 18th-century deposits. Only two of the 11 OS10 bowls dated *c.*1700–40 were maker marked, and 15 of the 21 *c.*1730–80 dated OS12 bowls were initialled, although all were otherwise plain. However, two of these bowls did have crowns above the initials, which was a tradition more prevalent in the early 18th century. The most numerous initials on the OS12 bowls were those with 'TR' as five examples (some of the bowls being in transition with the later AO27 bowls) and made in at least three different moulds. This maker was likely to have been Thomas Romaine, recorded as working further to the south of the site in the parish of St Giles Cripplegate Without in 1757 and 1759. The occurrence also of the 'TR' initials on two AO27 bowls indicates that this pipe maker was probably working perhaps in the 1770s. Other maker marked pipes can be tallied with known pipe makers working in the locality of the site, particularly Whitecross Street, where a small concentration of tobacco pipe makers were

located in the 18th and 19th centuries, less than half a mile to the south of the study area. The 18th-century bowls were probably the possessions of residents on Norman Street and Church Row, and the high number of marked late 18th-century bowls may indicate they were used by relatively wealthy people, perhaps artisans.

Turning to the 19th century, the bowls from this period are relatively poorly represented and are more frequent as post-1840 types, the AO30 and AO33 examples being particularly fragmentary. The two AO29 bowls both show evidence of being possibly seconds or of a poor quality: one was made in a worn mould, the other has a firing crack. These items might reflect a low socio-economic group now resident on Ironmonger Row. The three Irish-type bowls were all recovered from fill [112] of the brick-lined drain or culvert [113], located to the rear of No. 31 Ironmonger Row, according to the 1882 street directory numbering (Kelly 1882, 400). The 1841–81 censuses were checked to see if Irish immigrants were in residence at this property or in the neighbouring ones. However, it was found that this was not the case and that over the period of the mid–late 19th century there were in fact very few Irish nationals in residence at the study area and the adjoining streets. Most of the residents were in effect born locally or from other areas of London. Therefore, it would appear that Irish-type pipes were as equally preferred for smoking (perhaps because of their larger size) by Londoners and others as they were for the migrants that this locally made bowl shape was supposedly marketed at.

## *The Glass*

*Chris Jarrett*

### *Introduction*

Although the glass assemblage was small (235 fragments) and in a fragmentary state, it did contain some 16th- and 17th-century material, which included fine drinking wares inferring the affluence of its owners. The use of glass appears to be limited during the 17th and 18th centuries, while in the 19th century its quantity notably increased with mass-produced cheap items such as bottles and other containers being present, as well as a small quantity of wine glasses and a tumbler. A small quantity of fine glass rods appears to have been waste from a manufacturing process.

### *Late 15th to 17th Centuries (Phase 3)*

There were ten fragments of glass noted in this phase, nine of these from well [215] (Fig 6). Much of the forms were in such a fragmentary state that they could only be described as vessel glass. This material occurred as natural glass in pale green (very thin walled), olive or grey blue colours. However, a small body sherd of *vetro a fili* (clear glass with white trails) was of note. Another clear glass vessel base was possibly originally splayed and of a *facon de Venice* type, although it could have been from an English, Dutch or Venetian source. This material probably dated to the 16th century, as did the base of a pedestal goblet with a hollow rounded finish and made in very pale olive green glass (<24>; Fig 16.1; Willmott 2002,

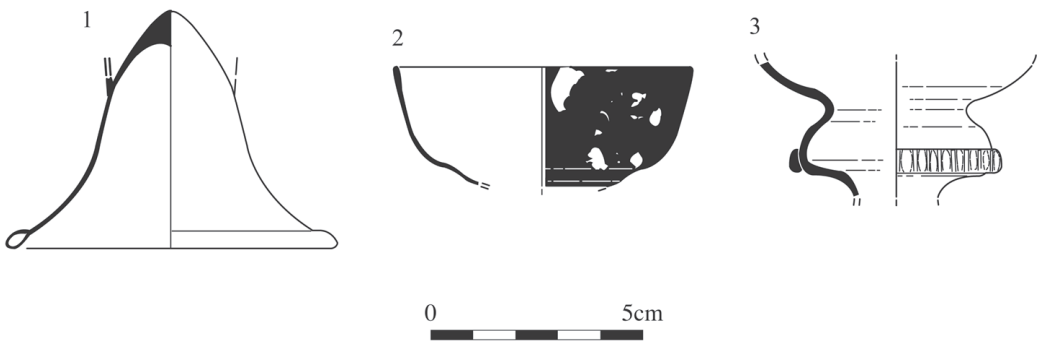


*Fig 16. Post-medieval glassware. Key: 1. Base of pedestal goblet <24> from fill [197] of barrel-lined well [215]; 2. Beaker/ roemer from fill [236] of brick-lined well [248]; 3. Goblet (unstratified) (scale 1:2)*

68, 13.1 fig 75). Additionally a fragment of a clear soda glass vessel with evidence for a cordon was recovered from pit [523] (Fig 5).

*The 17th to 18th Centuries (Phase 4)*

The glass in this phase totalled 13 fragments. A single base sherd of a possible onion-type English wine bottle in natural pale olive green glass, dated to the late 17th to early 18th century, was recovered from pit [246], whilst pit [140] produced four kicked base sherds from some three English wine bottles of a mallet shape dated *c.*1725–60 (Dumbrell 1983, 79) (Fig 10). These vessels were in olive green natural glass. The narrow, slightly everted rim of a short necked cylindrical bottle or phial in natural pale olive green glass occurred as two fragments dated to the 17th or 18th century. Additionally, a fragment of natural pale green tinted crown window glass was also noted in this feature. Two fragments of probable post-medieval wine bottles in natural pale olive green glass were noted in the fill of ditch [144] (Fig 10).

*The 18th to 19th Centuries (Phase 5)*

The largest quantity of glass (210 fragments) was recovered from this phase, much of it in a fragmentary state, often from environmental samples and consisting of window panes or non-diagnostic vessel shards. These items are not discussed in detail unless they are of particular interest.

A beaker or roemer found in well [248] (Fig 11) was probably associated with early post-medieval activity on the site. The vessel's rim was simple with an inturned finish above a rounded carination (Fig 16.2). It was made in cobalt blue coloured glass with white flecks, likely to be an import and dated to the 17th century (Willmott 2002, 117, fig 155.7.2).

Drain or culvert [113] (Fig 11) produced a total of 136 fragments of glass, although much of this (88 fragments) was as small window glass shards in clear soda glass recovered from environmental sample no. 2. Bottles consisted of three fragments of 19th-century moulded examples with vertical panels and included a flat type with a rectangular cross-section in clear soda glass. The wine bottles were present as wall fragments and appeared to be of a cylindrical type in natural dark and pale green glass, broadly dated to the 19th century. There was also a jar with a simple everted rim and a rounded shoulder in clear soda glass present, as well as the rod handle of a jug with a moulded leaf design. The bases of two phials occurred in clear glass. They were free-blown and could date to the 18th or 19th centuries. The vessel glass occurred in pale green or pale blue glass, although one fragment could be of a 16th- or early 17th-century date as it had a 'wrythen' or diagonal ribbed surface. Drinking forms were restricted to the rim of a tumbler and fragment of three fluted wine glasses, all dated to the 19th century and in clear soda glass. A 19th-century bead was also noted in black soda glass with a rounded six-sided cross-section and tapering ends.

Drain [136] (Fig 11) produced a few notable glass items amongst the 61 fragments, mostly recorded in environmental sample no. 3. Another vessel fragment of soda glass had applied strings and could be 17th century in date. The rest of the glass dated to the 19th century and included possible industrial waste as ten black glass, hollow rods, mostly less than 1mm in diameter, and a single small, tear-shaped globule. It is not certain what industrial process these glass rods were used in. Two fragments of cylindrical bottles were present: one survived as a mould-made example in clear glass; the other in pale blue green natural glass occurred as a simple, rounded flaring rim with a deep neck and a narrow squared cordon. It was comparable to French wine bottle rim shapes dated to the late 19th century (Dumbrell 1983, 39). The rest of the glass consisted of mostly vessel glass (18 fragments), mostly clear soda glass, some of which was clearly moulded, while 30 fragments were of window glass. Drain [136] was located to the rear of No. 33 Ironmonger Road, and from the evidence of trade directories and census information this property appears to have never had any association with glassmaking (Kelly 1882).[13] However, a watch glassmaker, George Brown, 37, is recorded as resident on Ironmonger Row in the 1841 census.[14]

*Unstratified*

Part of a 17th-century goblet surviving as a carination with an applied and closely spaced

notch decorated cordon above the stem is recorded in clear soda glass (Fig 16.3).

*Discussion*

The late medieval and early post-medieval glass, apart from a small quantity of residual material recovered from later phases, demonstrates that fine glass drinking ware forms were being used in local households. The glass may have been obtained from a number of sources, including either London or the Continent. Together with the pottery (see Jarrett above) from this period, the glass also adds to an implication of affluence and conspicuous consumption assigned to its owners and users. In the subsequent 17th- and 18th-century period of activity the use of glass appears to be rather limited, and wine bottles, which are frequently the main form excavated from mid-17th-century onwards dated deposits, are comparatively rare from the study area compared to most other London excavations. It is possible that glass was disposed of in other ways during this time, perhaps recycled for cullet, rather than being dumped into rubbish pits or used to backfill redundant wells. The 19th-century dated features showed in their fills an increase in the use of glass, the quantities recovered noticeably swelled by environmental sampling. The more frequent occurrence of glass at the study area for this time reflects the increased production and improvements in the technology of this industry meeting the demands of consumers for foodstuffs sold in glass containers. Additionally, the more frequent use of the technique of moulding glass vessels, such as drinking forms, which are evident here, besides table and display vessels, provided cheap items for the needs of the end users.

## *The Building Materials*

*Kevin Hayward*

*Introduction*

The character and possible origin of quantities of residual Roman and medieval ceramic building materials and stone recovered from the medieval and later quarry pits and external levelling deposits provide the main focus for this section.

*Roman*

Very small quantities (3kg) of abraded and fragmentary Roman tiles and bricks were found in residual contexts in Trenches 5 and 8. The assemblage is unremarkable in terms of any diagnostic forms or rare fabrics with tile and brick in the common early London sandy fabric group *2815* (*c.*AD 50–160) dominating (95%) the assemblage. Given the absence of any Roman occupation in the vicinity, these finds may represent the practice of using urban waste to manure the fields around Londinium.

*Medieval and Post-Medieval*

Of greater significance is the origin of the dumped medieval bricks, ceramic peg tiles, floor tile (62kg) and worked stone (50kg) associated with early post-medieval levelling deposits, quarry pits and the fills of the barrel-lined well from Trenches 4–8. This material probably relates to the demolition of a single structure in the vicinity.

Decorative and Plain Glazed Floor Tiles

Different types of glazed 13th- to 15th-century medieval floor tile turned up in some quantity (30 examples, 5kg). The majority are lime-green, bottle-green or black plain glazed and as such deserve only brief comment on their fabric. This range of colours was used to create polychrome tile pavements.

'Westminster' Floor Tiles

Westminster tile fabrics *2199*; *3081*; 43 examples 844g

Thirteenth-century glazed 'Westminster' floor tiles (*c.*1225–75) are represented in small quantities by broken up plain lime-green glazed and patterned examples from the early post-medieval fills [199] and [204] of quarry pit [222] (Fig 6) and dump [159] respectively. As with tiles from elsewhere in London (Hayward 2010; in prep) the plain lime-green examples from [199] are represented by the very fine *2199* fabric manufactured from the Farringdon Road kiln (Betts 2002b, 11). One patterned design from [204] was comparable with Betts's catalogue of designs (2002b) (see Table 1).

*Table 1. Westminster floor tile fabric Betts (2002b) design identified at Ironmonger Row*

| Design (Betts design) | Context | No. | Design description | Fabric |
|---|---|---|---|---|
| W127 | [204] | 1 | large rosette design | 3081 |

Penn Tile

Penn tile fabrics *1810*; *1811*; *3076*; 18 examples 4.3kg

Fourteenth-century (*c.*1330–90) patterned and plain Penn tiles are six times more common than the locally produced Westminster group and in a better state of preservation. Partially complete examples come in two sizes (114mm x 114mm x 17mm and 129mm x 129mm x 32mm). They come in two distinctive fabric groups: the distinctive very silty fabric *3076* and the coarse to very fine sand group *1810* and *1811*. These were all manufactured in great numbers in the village of Penn, Buckinghamshire, for export to London, especially following the Black Death.

Patterned examples are present with four designs clear enough to be matched with examples from Eames's catalogue (1980). These are summarised below (Table 2) and the most complete is illustrated (Fig 17).

Most examples were recovered from the early post-medieval quarry pit fills of Trench 8 ([199], [204], [218], [225]) and the Training Pool area ([534], [537]) as well as dump layers of the same date in Trench 4 ([143], [147], [156], [160]).

Calcareous Flemish Tiles

Plain glazed *1678*; *2323*; *2497*

Fragmentary groups of imported 14th- to early 16th-century plain yellow and black Flemish glazed tiles (*c.*1300–1550) characterised by a specked white (calcareous) fabric are present in broadly the same early post-medieval quarry pit fills, [204] and [206], and ground-raising layers, [156].

Brick

*3030* earthy brown brick (*c.*1400–1660)

*3031* and *3031 nr 3042* Flemish yellow brick with variegated variant (*c.*1350–1450)

*3042* hard maroon brick local Tudor red (*c.*1400–1900)

Small, thin (40–50mm) 14th- and 15th-century maroon *3042*, earthy brown *3030* and white *3031* bricks (3kg) turned up in some quantity from this site, particularly from the same levelling dumps ([156], [157], [160]) as the late medieval floor tiles – perhaps they are derived from the demolition of the same building. The use of the white brick or Flemish 'flanderstile' (Ryan 1996) is intricately linked with the construction of well houses due to improvements in late medieval drainage in ecclesiastical structures throughout London, for example Bermondsey Abbey (Betts 2011a; Hayward in prep), Merton Priory (Betts 2007, 213), Charterhouse (Betts 2002a, 99), St Mary Spital (Crowley 1997, 200), St John Clerkenwell (Pringle 2004, 237) and Holywell Priory (Betts 2011b, 151).

Peg Tiles

Sandy fabric group *2272* (*c.*1135–1220); *2273* (*c.*1120–1220); *2271* (*c.*1180–1800)

Iron oxide group *2587* (*c.*1240–1450); *2586* (*c.*1180–1800); *3090* (*c.*1200–1800)

The greatest quantity of medieval material was the 53kg of ceramic roofing tiles. Char-

*Table 2. Penn tile fabrics Eames (1980) designs identified at Ironmonger Row*

| Design (Eames no.) | Context | Sf no. | No. | Design description | Fabric |
|---|---|---|---|---|---|
| 2395 | [147] | <20> | 1 | rosette | 1810 |
| 2227 | [199] | - | 2 | large fleur-de-lys | 1810 |
| 1398 | [156] | - | 1 | clover | 1810 |
| 2027–2030 | [265] | - | 1 | triangle | 2324 |


*Fig 17. Penn tile <20> with rosette design (Eames no. 2395) (for context details see Table 2)*

acteristically these rectangular tiles have two peg holes at their top end and splashed glaze over their lower portion. These tiles occurred in fabrics that date to the medieval to early post-medieval period and the majority of examples were recovered from the same quarry pit fills and dump layers that produced the contemporary bricks and floor tiles (see above). Of note are some very early 12th- to 13th-century coarse gritty *2273* or shell tempered *2272* flat peg tile or curved shouldered or bat tile.

Stone

Under discussion are the date and origin of two distinct clusters of stone (by type and by use) from these excavations.

CLUSTER 1

From the same late medieval and early post-medieval fills ([156], [184], [197], [198], [199], [201], [204], [205], [214]) of features from Trenches 4, 5, 7 and 8 as the peg tiles, floor tiles and early bricks come an assortment of broken up rubble stone ashlar and roofing with a distinctive medieval flavour. These include over 6kg of broken up low density green Reigate stone ashlar and rubble stone, the most common ecclesiastical stone type for London, and 40kg of the hard dark grey Kentish ragstone and its associated lithology Hassock stone from the Lower Greensand of Kent. Supplementing this are lumps of chalk, Purbeck marble, Purbeck limestone paving and north Wales roofing slate all adhered with a soft brown sandy mortar typical of medieval to early post-medieval structures. It seems likely that these relate to the demolition of a single medieval structure in the vicinity.

CLUSTER 2

This second group consists of large examples

of fresh window tracery, ashlar, paving and guttering (40kg) from the 17th- to 18th-century fill of a rubbish pit, [139], from Trench 2. Some of the rock types (Portland stone; fine-grained Bath stone) used in the ashlar and tracery were only quarried after the 16th century. Indeed the first large scale use of Portland stone in London was after 1620 with their use at Banqueting House at Whitehall and the Great Portico of the pre-Great Fire St Paul's Cathedral (Campbell 2007). These and the worked paving and guttering made from Kentish ragstone are all freshly carved and need to be viewed as coming from a single group belonging to the demolition of a 17th- to 18th-century ecclesiastical structure in the vicinity.

*Summary*

What characterises the building material assemblage from Ironmonger Row are the large quantity (112kg) and variety of dumped medieval floor tiles, peg tiles, bricks and stone types recovered from the early post-medieval quarry pits. As a group, this assemblage contains elements of high-status flooring including Westminster and Penn tiles, plus 14th- to 15th-century white bricks or flanderstiles and stone types such as Purbeck marble and Reigate stone. The impression is that all this material was probably derived from the demolition of an ecclesiastical building.

However, identifying the medieval building from whence these materials might have been derived is problematic. The nearest priories at St John Clerkenwell (Sloane & Malcolm 2004) and Holywell Priory (Bull *et al* 2011) lie some way off and in the absence of any nearby medieval churches another possibility needs to be sought. Perhaps these materials were derived from the demolition of a prestigious townhouse, possibly the one located to the south-east of the site (discussed above, see historical background). This building might have been the London residence of a provincial abbot, bishop or prior. For example, excavations on the site of the Abbot of Waverley's townhouse in Southwark have revealed parts of a Purbeck marble font and decorated floor tiles (Hayward 2013).

The second group of stone mouldings from the 18th-century fill of rubbish pit [139] relate to demolition of an entirely separate and much later structure. These consist of freshly carved post-medieval limestone material types including Portland stone. The most likely source for this material are the 1734 repairs to St Luke's Church (Boyle *et al* 2005).

## *Metalwork and Small Finds*

*Märit Gaimster*

*Introduction*

Medieval contexts produced only two nails and an iron strap, the rest of the finds were residual. The key aspects of the assemblage are discussed here (for further details see Gaimster 2012).

*Late 15th to 17th Centuries*

A copper-alloy lace-chape (<101>) and a minute twisted loop of fine copper-alloy wire (<179>; Fig 18b) are both characteristic finds of the period (Table 3). The small twisted loop may represent the 'purse' or 'pouch rings', which functioned as a reinforcement of textile purses against cut-purse thieves (Egan 2005, 62). Their frequent appearance in late 15th- and early 16th-century contexts, make these rings a type artefact of the early modern period (*cf* Gaimster 2013; 2014a; 2014b). A late 15th- or 16th-century date fits well with a copper-alloy belt- or sword-belt buckle with a decorative baluster moulded frame (<117>; Fig 18h; *cf* Whitehead 2003, 78 no. 477). There are also fragments of a possible large annular copper-alloy buckle (<106>; *cf ibid*, 44 nos 251–3). Contemporary finds included a few copper-alloy pins (<162>) and numerous pieces of iron and copper-alloy wire (<102>–<105>, <166>, <181>), indicating small scale industrial activities in the locality. A uniface lead token (<114>; Fig 18a) may have functioned as a form of small change in a period that otherwise lacked base-metal coins. Traces of a design, suggesting a triple cross, has similarities with Elizabethan tokens (Mitchiner & Skinner 1985, pl 14 no. 87); however, the crude appearance and the use of one side only suggest a more likely date in the 17th century (*cf* Egan 2005, 167–8).

*Table 3. Small finds catalogue: late 15th to 17th centuries*

| Context | Pottery date | Sf no. | Description | Fig no. |
|---|---|---|---|---|
| [111]; clay dump layer | n/a | <114> | lead token; uniface with ?triple-stranded cross; Diam 17mm | 18a |
| | | <179> | twisted loop of fine copper-alloy wire; Diam 8mm | 18b |
| [186]; fill of pit [197] | 15th–16th centuries | <119> | U-shaped iron staple; incomplete; W 40mm | 18c |
| [195]; fill of well [215] | *c.*1580–1630 | <180> | jet bead; barrel-shaped and split in half lengthwise; Ht 10mm | 18d |
| [205]; fill of quarry pit [222] | *c.*1570–1600 | <25> | iron harness buckle; complete rectangular; W 40mm; L 55mm | 18e |
| | | <145> | iron knife blade; complete with part of scale tang; W 12mm; L 115mm+ | 18f |
| [225]; fill of quarry pit [222] | *c.*1580–1600 | <27> | copper-alloy jeton; shield with arms of France//triple-stranded cross fleurdelisée in quadrilobe, four annulets in centre and crosses between arms; complete; Diam 28mm | 19 |
| [234]; fill of pit [235] | *c.*1480–1550 | <28> | copper-alloy lace-chape; complete; L 28mm | - |
| | | <120> | iron belt buckle; complete rectangular; W 27mm; L 25mm | 18g |
| [504]; fill of linear cut [505] | *c.*1480–1550 | <117> | copper-alloy belt- or sword-belt buckle; near-complete with baluster moulded frames; W 40mm; L 40mm | 18h |
| [522]; fill of pit [561] | *c.*1480–1600 | <101> | copper-alloy lace-chape; incomplete | - |
| | | <102> | copper-alloy wire; eight twisted fragments; gauge 1.3mm | - |
| [531]; fill of quarry pit [532] | *c.*1550–1600 | <103> | copper-alloy wire; two lengths; L 110 and 150mm; gauge 1.37mm | - |
| | | <162> | copper-alloy pins; one complete Caple Type C; L 26mm; two incomplete; gauge 0.8–0.9mm | - |
| | | <166> | iron wire; two lengths; L 50mm and 105mm; gauge 3mm | - |
| [533]; fill of rubbish pit [541] | *c.*1500–1600 | <104> | copper-alloy wire; L 85mm; gauge 1.03mm | - |
| | | <105> | iron wire; L 95mm; gauge 2mm | - |
| [542]; fill of rubbish pit [546] | *c.*1480–1650 | <106> | copper-alloy ?annular buckle; heavily corroded and in three pieces; Diam *c.*40mm | - |
| | | <181> | iron pin/wire; L 65mm; gauge 2.6mm | - |

Key: Diam = diameter; Ht = height; L = length; W = width

Finds from quarry pit [222] (Fig 6) included a copper-alloy jeton (<27>; Fig 19) used for the calculating of sums and accounts. Featuring the arms of France, the jeton could be French but is perhaps more likely to have been made in Nuremberg, a

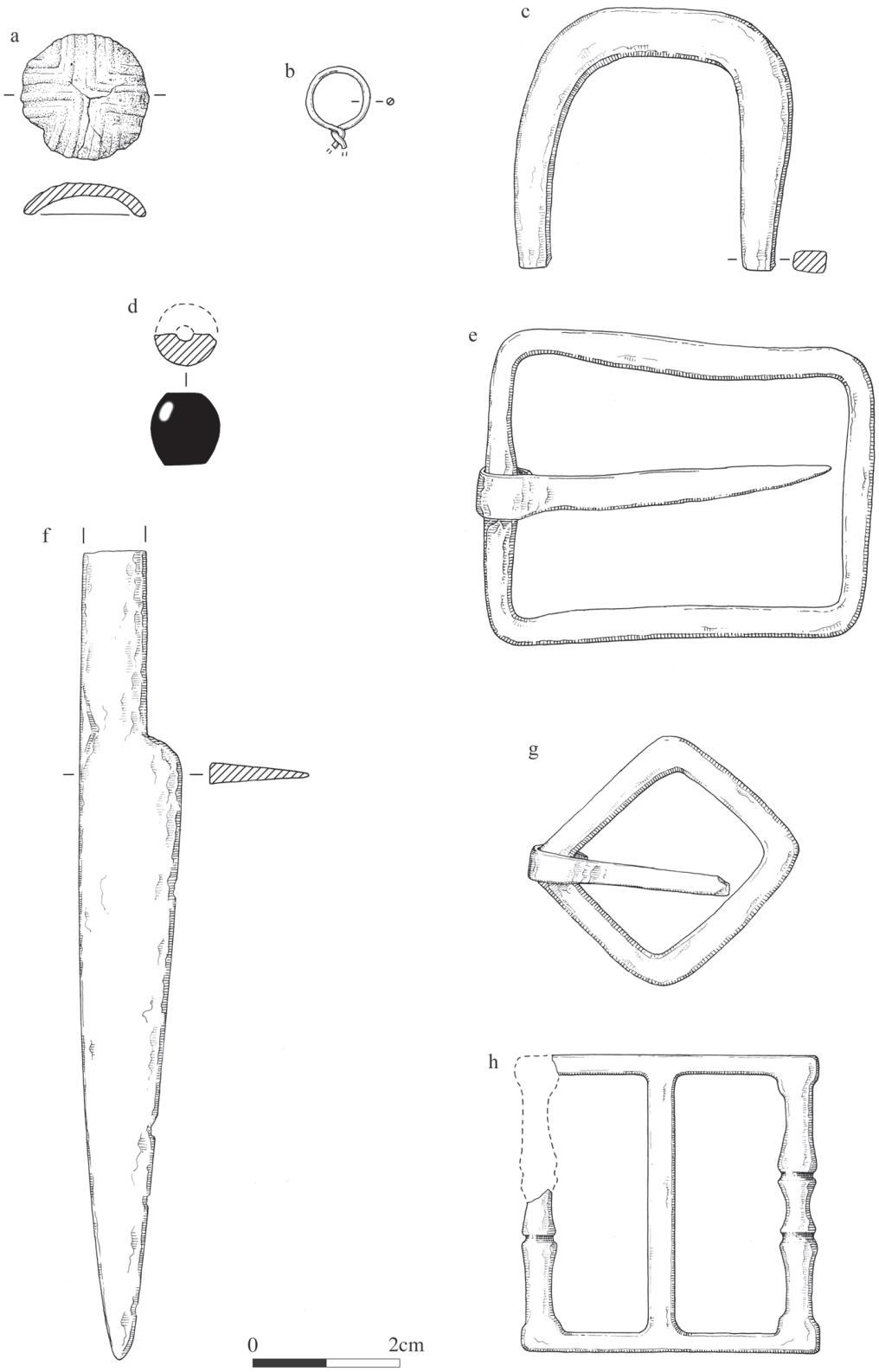


*Fig 18. 15th- to 17th-century small finds: Key: a. Uniface lead token with ?triple-stranded cross <114>; b. Copper-alloy ?purse ring <179>; c. Iron staple <119>; d. Jet bead <180>; e. Iron harness buckle <25>; f. Iron knife blade <145>; g. Iron belt buckle <120>; h. Copper-alloy belt or sword-belt buckle <117> (for details see Table 3) (scale 1:1)*



*Fig 19. Copper-alloy jeton <27>: (above) shield with arms of France and (below) cross motif (for details see Table 3) (scale 2:1)*

city that dominated the production of jetons by the 16th century (*cf* Egan 2005, fig 166 no. 968). The same quarry pit also produced an iron harness buckle (<25>; Fig 18e) and the blade of a slender scale-tanged knife (<145>; Fig 18f). A barrel-shaped jet bead (<180>; Fig 18d), recovered from the lower fills of well [215] (Fig 6), adds to the small number of beads recovered from the early modern period (*cf ibid*, 55, fig 42 no. 245). A

further copper-alloy lace-chape (<28>) and a rectangular iron belt buckle (<120>; Fig 18g) are probably residual finds from pit [235] (Fig 10); both were associated with pottery dating *c.*1480–1550. Apart from iron nails, the only structural fitting was a U-shaped iron staple (<119>; Fig 18c) from pit fill [197].

*The 17th to Mid-18th Centuries*

Small finds from this period predominantly reflect small scale craft production (Table 4). A pit in Trench 4 produced seven cut-off ends of cattle long bones (<146>; Fig 20, six illustrated), along with a further splinter offcut (<147>; Fig 20) and a fragment of copper-alloy wire (<21>). Another pit, [262] (Fig 10), contained another long bone splinter offcut, worked on all four sides (<169>; Fig 20). The products of this small, local bone-working industry are not known. However, numerous further offcuts with some unfinished or discarded pieces were recovered from later 18th-century contexts in the same area. This material is discussed below. A fragment of calf metatarsus has been drilled through each distal condyle (<168>); whether this represents a further piece of bone working or an object with a specific function remains unclear.

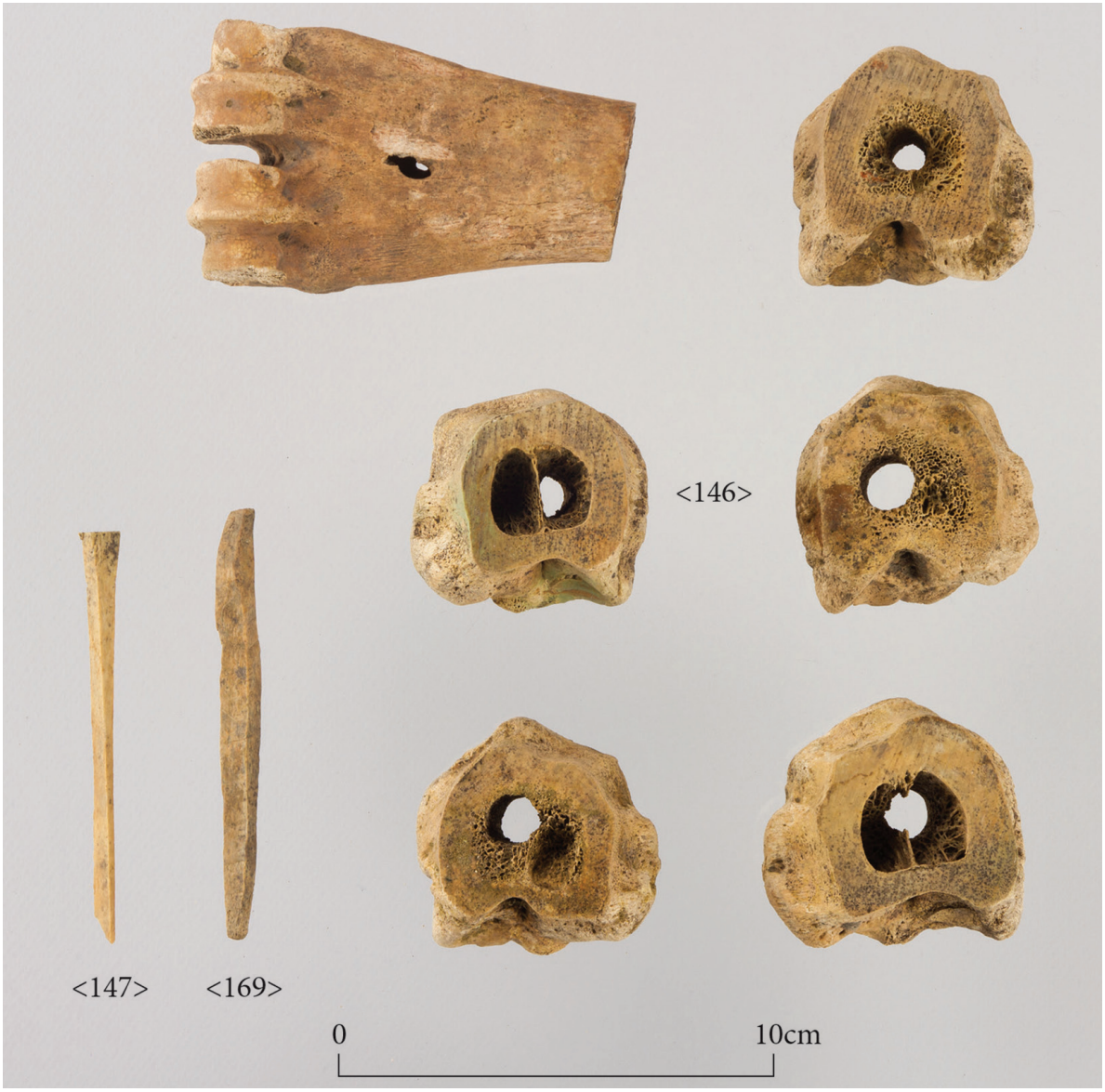


*Fig 20. 17th- to 18th-century bone-working waste <146>, <147> and <169> (for details see Table 4)*

*Table 4. Small finds catalogue: 17th to mid-18th centuries*

| Context | Pottery date | Sf no. | Description | Fig no. |
|---|---|---|---|---|
| [139]; fill of pit [140] | *c.*1740–60 | <21> | copper-alloy wire; curved fragment; gauge 2.4mm | - |
| | | <146> | bone-working waste; six sawn-off cattle metatarsal proximal ends, drilled through centre; one sawn-off cattle metatarsal distal end | 20 |
| | | <147> | bone-working waste; splinter offcut of cattle long bone; L 100mm | 20 |
| [256]; fill of pit [262] | *c.*1650–1750 | <169> | bone-working waste; splinter offcut of cattle long bone; worked on all four sides; L 105mm | 20 |
| [501]; backfill of well [502] | *c.*1720–80 | <168> | ?bone-working waste; cattle metatarsus (calf) drilled through both distal condyles | - |

Key: Diam = diameter; Ht = height; L = length; W = width


*Fig 21. Late 18th-century bone-working waste <148>–<151> (for details see Table 5)*

*The Late 18th-Century Terraces on Church Row*

As with the assemblage above, the late 18th-century contexts in and adjoining Trench 4 produced numerous fragments of bone-working waste, including cut-off ends of cattle long bone (<149>, <150>), splinter offcuts (<151>) and a longitudinal segment, worked on three sides and sawn at both ends (<148>) (Fig 21; Table 5). In addition, there

*Table 5. Small finds catalogue: late 18th century*

| Context | Pottery date | Sf no. | Description | Fig no. |
|---|---|---|---|---|
| [116]; fill of pit [117] | *c.*1770–1800 | <15> | ivory cutlery handle for knock-on whittle tang; incomplete but with pronounced pistol-shaped end; L 90mm+ | 23 |
| | | <150> | bone-working waste; cattle metatarsal distal end, sawn-off mid-shaft; cattle metacarpus with sawn-off distal end, sawn-off mid-shaft and sawn longitudinally | 21 |
| | | <151> | bone-working waste; four splinter offcuts of cattle long bone; L 50–140mm | 21 |
| | | <152> | bone-working waste; two sawn-off rings of cattle long bone; one ?offcut from lathe working; the other with further working on one opening; Diam 30mm | 22 |
| [121]; fill of rubbish pit [122] (Tr 2, seen in section only) | 18th century | <16> | ivory brush plate; rectangular with rounded end and four rows of hand-drilled bristle holes; green-stained from copper-alloy wire fasteners; W 23mm; L 65mm+ | 23 |
| [123]; made-ground layer | *c.*1740–60 | <148> | bone-working waste; longitudinal segment of cattle long bone, worked on three sides and sawn at both ends; L 175mm | 21 |
| [134]; brick floor | n/a | <18> | copper-alloy teaspoon; fragment only of 'waisted' handle with moulded decoration | 26a |
| [145]; fill of well [146] | mid–late 18th century | <19> | copper-alloy disc button; plain with integral loop now missing; Diam 18mm | - |
| | | <149> | bone-working waste; sawn-off cattle metatarsal distal end | 21 |
| [242]; fill of [249], cut for well [248] | *c.*1720–80 | <29> | ivory-working waste; raw piece with one smoothly cut side; L 50mm | 23 |

Key: Diam = diameter; Ht = height; L = length; W = width

are two sawn-off rings of cattle metatarsus with traces of working (<152>; Fig 22). Both rings, which are 5–10mm long, also show evidence of being facetted, either by knife or saw, to provide a more rounded cylinder ahead of lathe-turning (*cf* Riddler 2006, 379). One of the rings represents the offcut end of a lathe-turned object; one side has a shallow ridge from lathe working, suggesting a ring or tubular product of 30mm diameter. This product may have been a ring or a longer tube, for example part of a syringe or a telescope (*cf* Rijkelijkhuizen 2011); at Launceston Castle (Cornwall), 19th-century bone waste included blanks for making bone rings, probably curtain rings (Riddler 2006). On the other ring, one face has been turned and shaped into a conical opening, also of 30mm diameter; in addition, the edge of the opening is marked with a lathe-turned groove along the circumference. It is not possible to determine further whether this represents an unfinished product or perhaps a trial piece.

The bone waste was retrieved from features directly above the earlier pit [140], which may suggest that it is either residual material or represents a continuing production in one of the adjoining terraced houses along Church Row (see stratigraphic sequence, phase 5, discussed above). Other finds associated with the bone-working waste in this area include


*Fig 22. Two late 18th-century sawn-off, lathe-worked bone rings <152> (for details see Table 5)*

an ivory pistol-shaped cutlery handle (<15>; Fig 23), a rectangular ivory brush plate (<16>; Fig 23) and a plain copper-alloy disc button (<19>). The fragmentary handle of a copper-alloy teaspoon (<18>; Fig 26a) was retrieved from brick-paved floor [134] (Fig 11); its waisted shape and delicately moulded shell decoration has parallels with mid-19th-

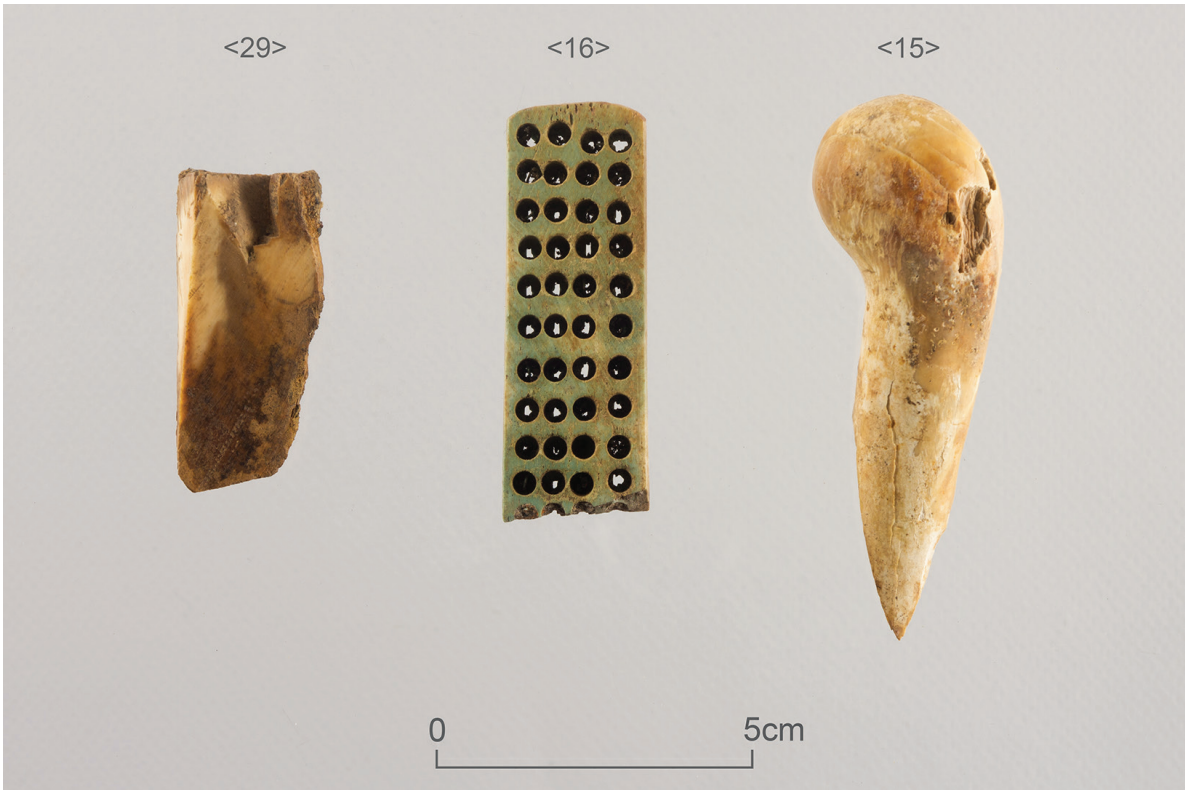


*Fig 23. Late 18th-century ivory finds: (left) ivory-working waste <29>; (centre) brush plate <16>; (right) cutlery handle fragment <15> (for details see Table 5)*

century teaspoons (*cf* Brown 2001, fig 108; Moore 2005, 36). A piece of ivory-working waste (<29>; Fig 23) came from well [248] (Fig 11).

*The 19th-Century Terraced Houses*

Several hundred fragments and small objects were retrieved from the fill of two drains ([113], [136]; Fig 11) (Fig 24; Table 6). Dominated by minute glass beads (<107>, <109>, <160>; Fig 25), copper-alloy pins (<112>, <157>; sample no. 2) and buttons and small wire dress hooks (<111>, <177>, <178>; Fig 24), the assemblage represents household waste and losses from the 19th-century terraces previously located along Ironmonger Row. Among the finds are also pieces of cutlery in the form of a delicate folding knife with shell scales (<110>; Fig 26d; *cf* Brown 2001, fig 99c), a knife handle with ivory scales (<158>; Fig 26c), fragments of a lead spoon (<172>) and three copper-alloy teaspoons (<11>). Two of the spoons have fiddle handles, characteristic of the late 18th and 19th centuries; the stamp on one handle suggests it was silver plated, a technique employing electrolysis that was patented in 1840 (*ibid*, 125). The third spoon has a 'waisted' handle with moulded decoration, comparable to the handle fragment above (*cf* <18>; Fig 26a; *cf ibid*, fig 108; Moore 2005, 36). Other household furnishings are represented in a copper-alloy fitting in the form of a small raised animal foot with four toes and a horizontal plate with two holes for fixing, likely from a small wooden box or casket (<115>; Fig 26b). The presence of


*Fig 24. 19th-century finds from drains [113] and [136]: (left to right) six stone and one glass alleys <12>; nine fragments of slate pencils <13>; five glass buttons of various types and colours <176>; four shell buttons <177>; and bone disc <178> (for details see Table 6).*

*Table 6. Small finds catalogue: 19th century*

| Context | Pottery date | Sf no. | Description | Fig no. |
|---|---|---|---|---|
| [112]; fill of drain [113] | *c.*1840–1900 | <11> | three copper-alloy teaspoons; two complete with fiddle handles; L 140mm and 150mm; shorter one with stamp on the back, suggesting silver-plate; one near-complete with 'waisted' handle with moulded decoration; L 120mm+ | - |
| | | <12> | alleys; six stone and one glass; Diam *c.*15mm | 24 |
| | | <13> | slate pencils; nine pieces | 24 |
| | | <115> | copper-alloy fitting in the form of a small raised animal foot with four toes and a horizontal plate with two holes for fixing; Ht 15mm; W 24mm; probably from small box/ case | 26b |
| | | <157> | copper-alloy pins; a handful incomplete | - |
| | | <158> | iron knife handle with delicate ivory scales, fixed with three copper-alloy rivets; flat iron ferrule; handle L 75mm | 26c |
| | | <159> | facetted bone ring; fragment only | - |
| | | <160> | nearly 350 glass beads and glass ?bead-making waste; 190 black beads; 43 clear glass beads; 34 white beads; 30 coloured beads in blue, green and pink; *c.*50 pieces of glass waste; size of beads 2–7mm | 25 |
| | | <161> | lead ?weight; small domed disc; Diam 13mm | - |
| | | <171> | ivory ?waste; carved piece; L 40mm | - |
| | | <172> | lead spoon; part of bowl and stem only | - |
| | | <174> | copper-alloy coin; Victoria halfpenny 1861 | - |
| | | <175> | copper-alloy thimble; Ht 25mm; Diam 18mm; heavily corroded | - |
| | | <176> | glass buttons; five of different types and sizes; three black; one white; one clear glass | 24 |
| | | <177> | dished shell shirt buttons; four complete; Diam 7–9mm | 24 |
| | | <178> | bone disc with central hole; ?stiffener for covered button; Diam 10mm | 24 |
| | | - | several hundred fragments of copper alloy, including pins, wire dress fasteners and studs/buttons; from sample no. 2; mostly pins | - |
| | | - | lump of ferrous concretion with numerous small copper-alloy objects embedded; mostly pins | - |
| [135]; fill of drain [136] | mid–late 19th century | <107> | glass beads; 42 in a range of sizes from 1.5mm to 6mm; mostly black with some white, one red and one transparent | - |
| | | <108> | shell disc; Diam 9mm | - |
| | | <109> | ?chalk/paste bead; complete; Diam 13mm; Ht 10mm | - |
| | | <110> | delicate folding knife with shell scales and copper-alloy finial; L 75mm | 26d |
| | | <111> | copper-alloy objects; small wire dress hook, L 9mm; two small buttons; Diam 10mm | - |
| | | <112> | copper-alloy pins; numerous fragments of very fine wire, some with simple flattened heads | - |

Key: Diam = diameter; Ht = height; L = length; W = width

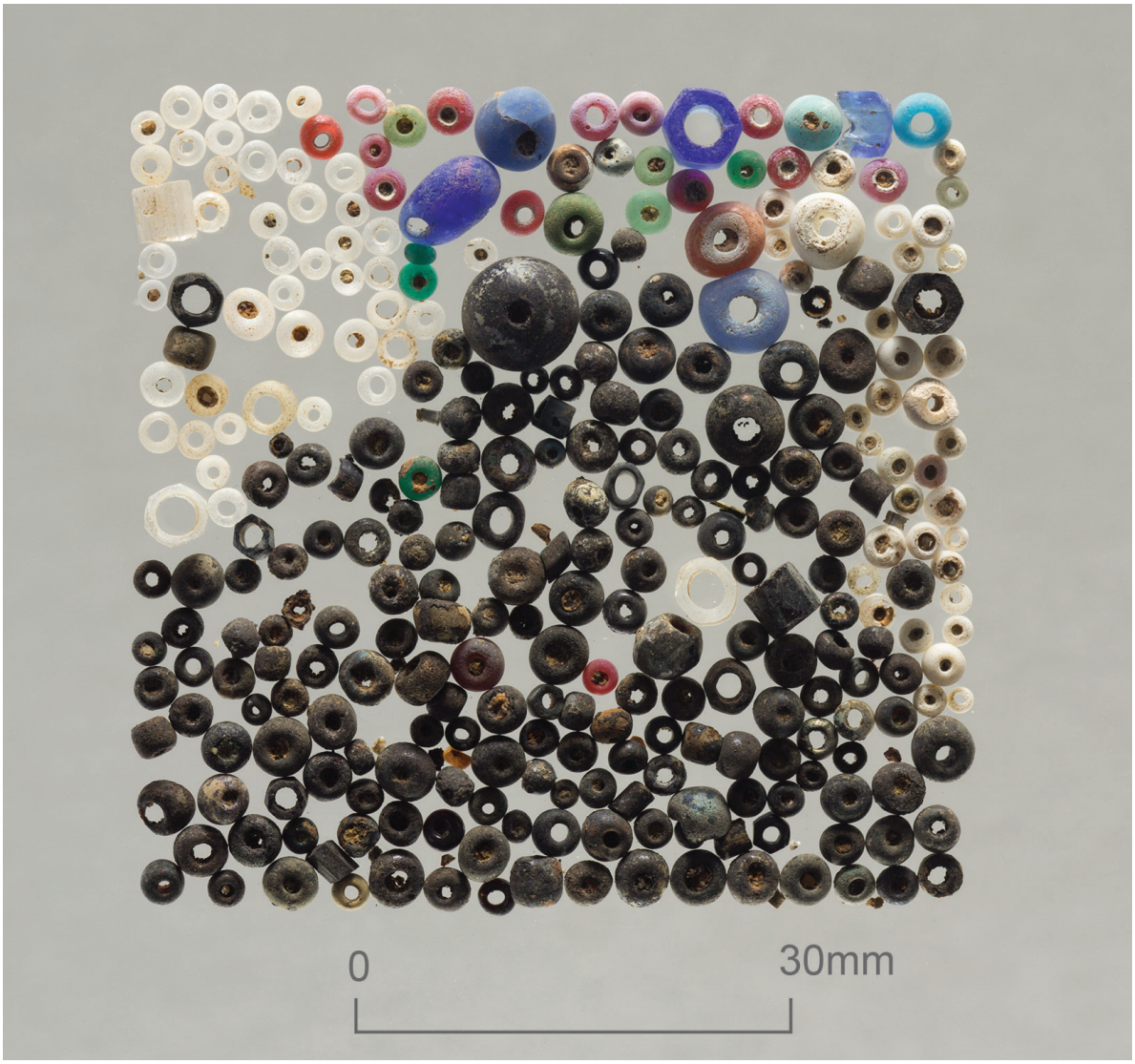


*Fig 25. Nearly 350, 19th-century glass beads and manufacturing waste <160> recovered from drain [113], including 90 black, 43 clear, 34 white, 30 blue, green and pink examples, and about 50 pieces of glass waste (for details see Table 6)*

children is reflected in a handful of stone and glass alleys (<12>; Fig 24) and broken slate pencils (<13>; Fig 24).

This group of finds is directly comparable with the assemblages from other 19th-century terraced houses, such as Temple Mills in East London (Gaimster 2009). At Ironmonger Row, however, a further interesting element is presented by numerous fragments of glass waste, in the form of small tubes and droplets, which indicate that the glass beads were also produced here (<160>; Jarrett 2012, 132). Like bone working, the manufacture of small glass beads, employed in particular in dressmaking, represents one of the common cottage industries during the period (*cf* Jackson 1993, 25). Certainly cottage industries involved in bone and ivory working are documented in the 1881 census. An ivory button maker, Thomas Guest, was resident at 43 Helmet Road (located in the north-east corner of the site) in 1881,[15] while in 1851, at 10 Norman Street, on the southern boundary of the study area, an ivory and bone brush maker, Joshua Redman (Kelly 1851, 405),[16] is recorded. A bead finisher, David Goff, was located nearby at 1 Orchard Street in 1881 and indicates that their manufacture was taking place locally.[17]

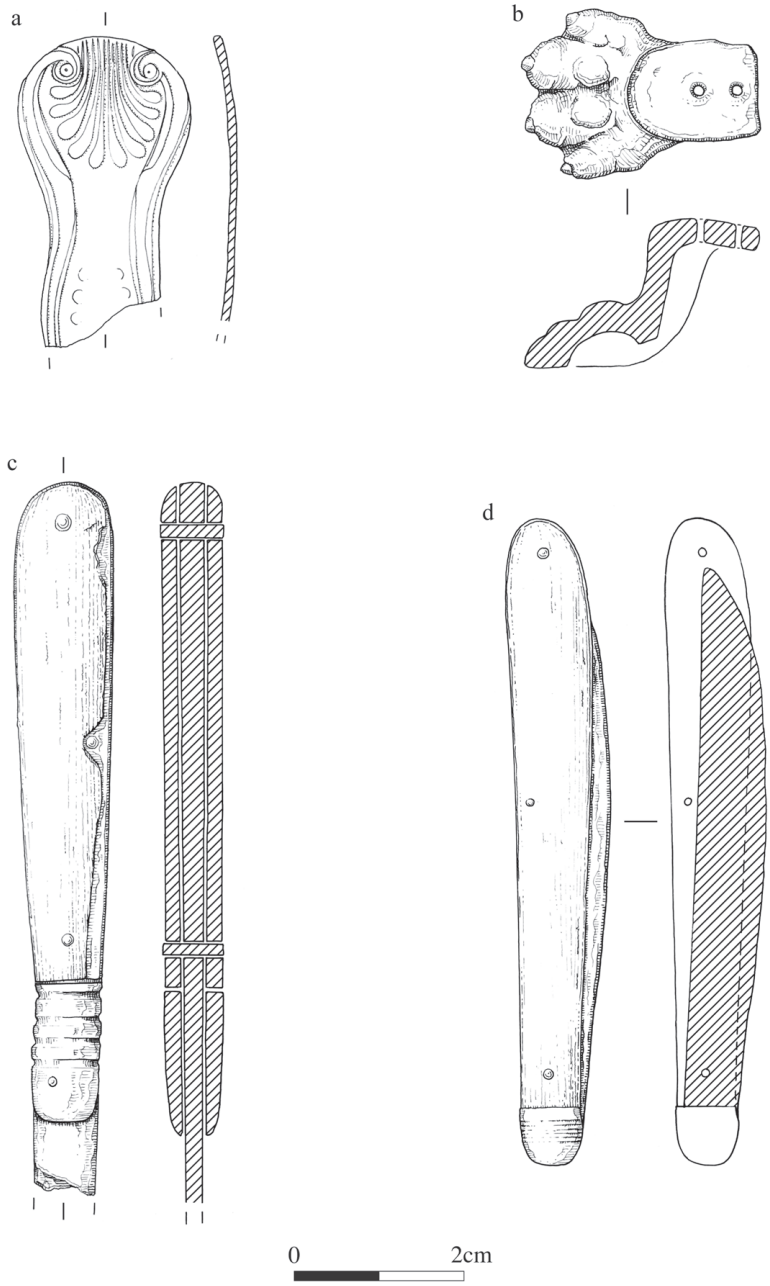


*Fig 26. Late 18th- and 19th-century small finds. Key: a. Fragment of copper-alloy teaspoon with 'waisted' handle <18>; b. Copper-alloy 'animal foot' box fitting <115>; c. Iron knife handle with delicate ivory scales and iron ferrule <158>; d. Folding knife with shell scales and copper-alloy finial <110> (for details see Tables 5 and 6) (scale 1:1)*

## *Animal Bones*

*Kevin Rielly*

### *Introduction and Methodology*

Animal bones were found throughout the medieval and post-medieval sequence, with the exception of the most recent phase of activity. These were mainly retrieved by hand, although a substantial collection was also derived from a small number of processed soil samples. This collection featured a large number of fish bones, all of which were identified by Philip Armitage. The fish bones are described in a separate report (see Armitage below). All of the bones

recovered from the site were well-preserved and minimally fragmented.

The material was recorded to species/taxonomic category where possible and to size class in the case of unidentifiable bones such as ribs, fragments of long bone shaft and the majority of vertebra fragments. Recording follows the established techniques whereby details of the element, species, bone portion, state of fusion, wear of the dentition, anatomical measurements and taphonomic including natural and anthropogenic modifications to the bone were registered. Age determination is based on the dental eruption and epiphyses fusion sequences described in Schmid (1972, 75 and 77) with expansion of the tooth age sequence to include wear in Grant (1982). The calculation of shoulder heights was based on multiplication factors given in von den Driesch and Boessneck (1974).

Certain age categories are employed to facilitate the interpretation of this data. The time of fusion of the limb bone articular ends allows the formation of three broad groups, as follows: Early – proximal (P) scapula, distal (D) humerus, P radius, pelvis acetabulum and P phalanges; Intermediate – D metapodials and tibia; Late – P ulna, D radius, P and D femur, P tibia and P calcaneus. These groups approximately coincide with the first, second and third (and later) years respectively. Broader age categories are also employed, as follows: infant, based on bone size and porosity (see Amorosi 1989); juvenile, as infant plus unfused early epiphyses and unworn first adult molar; subadult, unfused intermediate epiphyses and unworn third adult molar; and adult, fused intermediate and late epiphyses, plus worn third adult molar. It should be noted that there will be an overlap between the juvenile and subadult age groups.

The site provided a grand total of 2,036 hand collected animal bones with an additional 1,182 taken from the samples, including 754 fish bones. These bones have been assigned to their respective phases (Table 7) and will be described below according to general occupation periods.

*Medieval (Phase 2)*

A small collection of bones was recovered from these deposits (Table 7). There were relatively few identifiable fragments, the species included the usual major domesticates accompanied by some chicken, rabbit and equid bones. The latter was represented by a possible partial articulation, from [520], a redeposited clay horizon, comprising a complete metacarpus and first phalange. This animal stood about 142.5cm at the shoulder (extrapolating from the lateral length of the metacarpal based on the factors described in von den Driesch & Boessneck 1974) and can thus be described as a large pony.

*Early Post-Medieval (Phase 3)*

This phase provided a major proportion of the site assemblage. Much of it was recovered from features, although a sizeable proportion was also recovered from the various external dumps. Amongst a general spread of bones throughout the site, there are notable concentrations to the north-west (Training Pool area with 583 fragments) and south-east (Trenches 7/8 with 834 fragments). These were principally recovered from quarry pit [222], well [215] and dump layer [219] (see Table 8). In addition, a further 265 bones were derived from ditch [505] and pits [509] and [541]. Well [215] produced a large part of the sieved bone collection, while the remainder was recovered from quarry pit [532] (Figs 5 and 6).

Amongst the principal components of this assemblage, there is a similar representation of cattle and sheep/goat bones with only a minor proportion of pig. However, looking at the individual collections (described above), it can be seen that cattle is far more abundant than sheep/goat in the cut features while the reverse is the case with the dump deposit in combination with a relative abundance of pig (Tables 8 and 9). It should be mentioned that the quantities of bones are not large, which does tend to promote variable results, yet there is also the possibility that the waste deposited in the features and the dump layer may have been derived from different sources. For example, the pits and the well may have been infilled with locally produced food waste, while debris may have been brought from further afield as part of the external dumping. It should be stated also that there are no obvious concentrations of

*Table 7. Hand collected (HC) and sieved (S) animal bone species abundance by phase*

| **Phase** | **2** | **3** | **3** | **4** | **5** | **5** |
|---|---|---|---|---|---|---|
| **Recovery** | **HC** | **HC** | **S** | **HC** | **HC** | **S** |
| **Species** | | | | | | |
| Cattle | 3 | 261 | 13 | 78 | 16 | 1 |
| Equid | 4 | 7 | | 1 | 1 | |
| Cattle-size | 11 | 481 | 93 | 92 | 20 | |
| Sheep/goat | 4 | 291 | 11 | 80 | 27 | 1 |
| Pig | 2 | 56 | 7 | 24 | 6 | 5 |
| Sheep-size | 16 | 259 | 183 | 56 | 41 | 45 |
| Roe deer | | | | 1 | | |
| Fallow deer | | 4 | | 1 | | |
| Dog | | 55 | 16 | 7 | 2 | |
| Cat | | 4 | | 5 | 1 | |
| Rabbit | 1 | 19 | 27 | 3 | 3 | |
| Rat | | | | 1 | | |
| Small mammal | | 1 | 7 | 4 | 8 | 2 |
| Chicken | 1 | 38 | 3 | 9 | 7 | |
| Chicken-size | | | 3 | | 5 | 1 |
| Goose | | 8 | | 2 | 1 | |
| Mallard | | | | 1 | 2 | |
| Teal | | | 7 | | | |
| Turkey | | 1 | | | 1 | |
| Cormorant | | 1 | | | | |
| Heron | | | 1 | | | |
| Woodcock | | | 1 | | | |
| Thrush | | | 2 | | | |
| Crow | | | | 1 | | |
| Total | 42 | 1486 | 374 | 366 | 141 | 55 |

either butcher's or industrial waste in these collections, either of which could have biased the assemblages towards a particular species.

In general, however, the approximate cattle and sheep/goat parity coincides with a trend observed at numerous London sites, which occurs across late medieval into early post-medieval domesticate usage. At these sites a greater proportion of cattle in the earlier period gives way to a substantial numerical rise in sheep/goat fragments by the 16th/17th centuries shown either by parity, as here, or a predominance of the smaller species (*eg* Rielly in prep). This general similarity also extends to a notable abundance of calf bones, demonstrating the popularity of veal by the late medieval/early post-medieval era (*ibid*; Rixson 2000, 170–2). Table 10 shows the age distribution of the cattle bones dated to this period where it can be seen that juveniles (probable veal aged calves) provide a major part of the collection. Most of the bones, however, represent animals at the other extreme of the age spectrum, the adults, with the greater proportion clearly in excess of three and a half to four years. There was insufficient sexing data to indicate the sex ratio of these adults. However, the plethora of veal calves, representing a major by-product of the dairy industry, would suggest

*Table 8. Animal bone species abundance within a selection of Phase 3 features and deposits (hand collected bones)*

| Feature/layer | Pit [222] | Well [215] | Layer [219] |
|---|---|---|---|
| **Species** | | | |
| Cattle | 80 | 29 | 64 |
| Cattle-size | 140 | 99 | 83 |
| Sheep/goat | 125 | 35 | 39 |
| Pig | 15 | 1 | 21 |
| Sheep-size | 117 | 14 | 24 |
| Fallow deer | 1 | | 2 |
| Dog | | 54 | |
| Rabbit | 4 | 1 | 3 |
| Chicken | 12 | 1 | 5 |
| Goose | 3 | | 1 |
| Turkey | | 1 | |
| Cormorant | 1 | | |
| Total | 498 | 235 | 242 |

that most if not all the adults were surplus milch cows (see Conclusions, this section).

The age structure of the sheep collection shows a predominance of adults with a notable proportion of young adults (about 40%) aged between about two and four years (Table 10). This evidence corresponds to the known fondness for mutton during this period (Wilson 1973, 80), using sheep which can provide two or three clips of wool prior to being sent off to the London meat markets. The older sheep probably represent surplus animals from flocks specifically used for wool production. Lamb was clearly of some importance regarding the 16th-/17th-century urban meat diet, although not to the same extent as calves. This is shown here by the small though significant proportion of juveniles within the Phase 3 sheep age structure. Of interest was the recovery of a relatively large and slender sheep, represented by a humerus (from ditch [505]; Fig 5) with a length of 163.2mm which can be extrapolated to a shoulder height of 698.5mm. This compares with a series of large sheep bones found in late 17th-/early 18th-century deposits at Aldgate, which have been interpreted as the remains of Lincolnshire or Leicestershire longwools (Armitage 1984, 139–40). This 'type' of sheep appears to have been used both for the quality of its wool and its mutton, and in consequence was habitually brought to market between three to four years of age. The other sheep, and likewise the cattle, tend to conform to the rather small medieval 'types'. There was a paucity of juvenile pigs in contrast with a predominance of subadults, thus showing

*Table 9. Percentage abundance of major domesticates in Phases 3, 4 and 5 (total fragment counts), where N is the sum of cattle, sheep/goat and pig bones from that phase and % equals sum of individual species/N x 100 (hand collected bones)*

| Phase | Feature | Cattle (%) | Sheep/goat (%) | Pig (%) | N |
|---|---|---|---|---|---|
| 3 | pit [222] | 36.3 | 56.8 | 6.9 | 220 |
| | well [215] | 44.6 | 53.8 | 1.6 | 65 |
| | layer [219] | 51.6 | 31.4 | 17.0 | 124 |
| | all | 42.9 | 47.9 | 9.2 | 608 |
| 4 | pit [262] | 43.6 | 47.2 | 9.2 | 55 |
| | all | 42.8 | 43.9 | 13.3 | 182 |
| 5 | all | 32.6 | 55.1 | 12.3 | 49 |

*Table 10. Age distribution of major domesticates in Phases 3 and 4 (see methodology for description of age groups)*

| Phase | Age group | Cattle | Sheep/goat | Pig |
|---|---|---|---|---|
| 3 | infant | 3 | | 1 |
| | juvenile | 54 | 14 | 1 |
| | subadult | 7 | 4 | 20 |
| | adult | 92 | 100 | 4 |
| 4 | foetal/neonate | 1 | | 2 |
| | infant | 2 | | 2 |
| | juvenile | 15 | 4 | 4 |
| | subadult | 3 | | 3 |
| | adult | 29 | 21 | 1 |

that most of the pigs represented at this site were culled during their second year. Possibly this resulted from the importation of youngsters which would then be fattened up for the table. The question concerning local production can be broached with reference to a small quantity of infant cattle and pig bones, all of which may represent infant mortalities and therefore waste from sties or byres. However, there is also the possibility that they may represent choice food items, in particular the remains of suckling pig.

The major domesticates were complemented by a variety of other food species, including poultry (mainly chicken but also with goose and turkey) and some game, comprising deer, rabbit, teal, heron, woodcock and thrush. Most of the chicken bones were from adult birds, although there were also some youngsters, here signifying the use of surplus hens from egg production, with the occasional bird bred or chosen for the table. Turkeys were introduced to this country, already domesticated, sometime between 1525 and 1532 (Yalden & Albarella 2009, 107). While initially very expensive, they soon settled to a more manageable price by the later 16th century; whence it became one of the most popular celebratory birds, replacing the swan and peacock in affluent households (Wilson 1973, 129). The deer bones and potentially the relatively wide range of game species could also be indicative of high status. Deer remained exclusively the property of the wealthy (Fletcher 2011, 42), essentially brought to the city via the various private estates. The same estates may have also supplied a major part of the smaller game, although a portion of this market was also provided by fowlers (Wilson 1973, 126). A particular status may be applied to the heron from the later medieval period, which was a rather expensive food item and was apparently 'consumed only by the upper echelons of society' (Sykes 2004, 95). Rabbit, however, while clearly a high-status comestible following its 12th-century introduction, was much reduced economically by the 16th/17th centuries. This was related to the excessive establishment of warrens through the medieval period and the inevitable production of a considerable feral population (Sykes & Curl 2010, 125).

A large proportion of the rabbit bones were found in quarry pit [532] (Fig 5). These largely consisted of foot bones, perhaps representing preparation waste. The same pit also produced all seven teal bones, perhaps the remains of a single adult bird, as well as the heron, woodcock and thrush fragments. These bones might have been derived from a single high-status event.

The Phase 3 assemblage also contains a variety of non-food items, including equid, dog and cormorant. The first comprises a selection of post-cranial parts, all from ditch [529] (Fig 5), possibly belonging to one adult individual. This was clearly a female (from the pelves) and stood about 143.5cm at the shoulder. A radius from a particularly large dog was found in the fill of ditch [505] (Fig 5), which with a length of 222mm translates to a shoulder height of 725.5mm. This is approximately the size of a modern-day mastiff or even a female great dane. Both of these features were in the north-western part of the site. The major part of a subadult dog of somewhat smaller stature was recovered from well [215] (Fig 6). This stood about 432.4mm at the shoulder and, judging by the shape of the skull, it is likely to have been similar to a modern-day cocker spaniel (breed comparisons after Foulsham 2001, 45). The cormorant, represented by an ulna from pit [222] (Fig 6, Trench 8), is rather unusual. Its extreme rarity from archaeological sites in general clearly shows it was not regarded as edible or indeed useful for other purposes.

### *The 17th to 18th Centuries (Phase 4)*

Most of the bones dated to this phase were recovered from pits located in the eastern part of the site with notable concentrations within pit [140], with 44 bones, and then pits [235], [260] and [262], with 102, 41 and 97 fragments respectively (Fig 10). The collection demonstrates a number of similarities with the previous phase, including the abundance pattern of major domesticates (Table 9) and the range of food species (Table 7), although with a somewhat reduced representation of game in terms of their overall proportion and species count. The cattle and sheep age profiles continue to show a wealth of veal and adults in the former and a predominance of adults in the latter.

Though slight, the age data would suggest a further mix of young and old amongst the adult individuals represented. There is also some evidence for local production, shown by the presence of very young calves and piglets.

The similarities with the previous phase continue with a general mix of skeletal parts amongst the major domesticates. However, there is a slight concentration of cattle metapodials from fill [139] of pit [140] (Fig 10), a total of seven metatarsals. They include five proximal and two distal ends, and with the exception of one of the distal ends, each had been sawn through the shaft close to the articular end. This modification clearly suggests they represent working waste – the saw being absent from the butcher's list of instruments until at least the late 18th century (Albarella 2003, 74). In addition, a hole had been bored through the central part of each of the proximal ends, with a diameter varying between 12.4mm and 13.2mm. There are numerous examples of similarly bored and sawn metapodials from contemporary London sites. The great majority of these were found in Bermondsey, suggesting a possible link with the tanning industry, although recently a concentration of such metapodials was found at the British Museum in Bermondsey (Rielly 2011a; 2011b). Sawing will obviously offer a clean cut and maximise the amount of shaft then available for bone-working purposes. The perforation through the proximal end could conceivably offer a purchase point to aid sawing. However, this seems rather laborious and cannot fully explain the purpose of these drilled holes. In addition, it is far more common to find similarly sawn bones without this perforation, for example the large concentration of sawn metapodials, none drilled, from an early 16th-century deposit at Baynard's Castle (Armitage 1982, 104). An oddity was found in the brick-lined well [502] (Fig 9), consisting of a veal aged metatarsus with a narrow hole bored through each distal condyle. In this case the perforations are perhaps unlikely to be related to the further use of the bone, at least for bone-working purposes. This item was not sawn and was probably too young to be used for this purpose.

Finally, among the non-food species, there was the remains of a juvenile dog found in pit [140] (Fig 10). Its age was demonstrated by the eruption of an adult first molar, which would have occurred at about four to five months. Though still a juvenile, this animal was clearly quite large. A femur diaphyseal length of 112.5mm can be extrapolated (using a reference dog skeleton) to a greatest length of 134mm which would suggest a shoulder height of about 405mm.

*The 18th to 19th centuries (Phase 5)*

Most of the bones were recovered from the eastern part of the site with notable concentrations from pit [117] and brick-lined well [248] (Fig 11), with 81 and 36 bones respectively. Most of the sample collection was recovered from the fill of brick drain or culvert [113] (Fig 11). The bones from this phase show no indication of either larger-sized domesticates or the use of the saw for butchery purposes (the latter innovation was mentioned above). A late 18th-/early 19th-century size increase of livestock has been noted at several contemporary sites; this undoubtedly related to the presence of 'improved' breeds (Rixson 2000, 215). This phase showed a marked increase in the abundance of sheep, at the expense of cattle (see Table 9), as well as a probable abundance of adult cattle and sheep. However, the quantity of bones is too small to warrant a definitive statement concerning the age structure of these species. There was a lack of game amongst the food items with the probable exception of rabbit, perhaps indicative of a change in status, although there was a single bone from the noted celebratory or feast bird, the turkey (also from [117]). The non-food items included a single equid tibia. This had been sawn through the shaft close to the proximal end and clearly represents a continuation (although redeposition cannot be ruled out) of bone-working activities in the general neighbourhood.

*Conclusions*

This assemblage has provided evidence relating to the early post-medieval occupation/use of this area. The substantial Phase 3 collections clearly represent domestic faunal

waste, while the Phase 4 material includes detritus from bone working. It seems likely that this waste material was derived from some local sources, perhaps several nearby households. While it is possible that waste was brought to this area from the city, this seems unlikely especially as there was already in existence a designated 'municipal' tip site in the Moorgate area. This was used from the 16th through to the late 18th centuries (Malcolm 1997, 52). The assumed local source undoubtedly included occupants of some affluence, as suggested by the eating of venison and heron amongst a wide range of other game species as well as the relatively early incidence of turkey. There was a continuation of venison consumption into the 17th/18th century which may also suggest a continuation of local affluence.

In other respects, the meat diet appears to follow the general pattern for this period with a notable abundance of sheep relative to cattle, the former including a major proportion of mutton and the latter with substantial proportions of veal and prime beef. The older sheep and cattle were undoubtedly taken from wool flocks and dairy herds respectively. It has been shown that the urban centres developed a particular fondness for veal (Thirsk 1967 in Albarella 1997, 22), which is illustrated by the general abundance of calf bones at several early post-medieval sites in London (*eg* Rielly in prep). However, it was not until the post-medieval period that this food source became readily available due largely to an increase in dairy production. This coincided with the substitution of oxen by horses with regard to the various heavy agricultural activities, a change whereby most cattle herds had switched to milk and meat production by the early post-medieval period (Albarella 1997, 22). There was apparently a similar though perhaps more gradual change in sheep management occurring during this period. With a greater emphasis on mutton rather than wool production, some farmers were culling their sheep at an earlier age, generally between three to four years old. This would ensure a profitable return both for their wool and their meat (Trow-Smith 1957, 247–8), a concern which clearly led to the development of particular types, such as the Leicestershire longwools (Armitage 1984, 139–40). No such change in the age profile is apparent in the Phase 3 and 4 material at this site, although both show a high proportion of 'mutton aged' individuals. In addition, a notably large sheep from the 16th-century fill of ditch [505] may represent one of these longwools.

The Phase 5 material showed a notable increase in sheep bones relative to cattle. This change may relate more to the small quantity of bones dated to this phase than any major shift in eating habits. However, it could be assumed that any differences may relate to the development of this area which took place from the latter part of the 18th century. Of some interest is the lack of the aforementioned 19th-century traits, as food bones with saw marks and the presence of somewhat larger livestock. Again this may relate more to quantity than actuality.

### *Sieved Fish Bones*

*Philip L Armitage*

#### *Introduction*

Examination of 821 fish bones from sieved samples from 1–11 Ironmonger Row has resulted in the identification of 263 (32%/total) bone elements representing the remains of 13 species (11 marine/estuarine and two freshwater) (Table 11). Identifications were made using the author's modern comparative osteological collections. Reference was also made to Wheeler and Jones (1976), Libois and Hallet-Libois (1988), Radu (2005) and Wouters *et al* (2007). Tables 12 and 13 show the complete data sets of recorded anatomies for each species represented in the sieved samples from each context.

#### *Descriptions of the Fish Bone Assemblages*

Phase 3, Fill of Late 16th- or 17th-Century Barrel-Lined Well [215] (Fig 6)

Sample no. 4 from fill [195], yielded 190 specimens, but of these 136 (71.6%) comprise indeterminate/unidentified fragmented spines/rays/ribs/vertebrae centra. Of the identified material, herring bones, including those from the head region (as well as body and tail), predominate, followed by (in descending order of abundance/frequency) whiting

*Table 11. Summary counts of fish bones by context and species*

| **Context no.** | [111] | [112] | [135] | [195] | [196] | [531] |
|---|---|---|---|---|---|---|
| **Sample no.** | 1 | 2 | 3 | 4 | 5 | 101 |
| **Deposit type** | external dump | fill of drain | fill of drain | fill of well | fill of well | fill of quarry pit |
| **Feature no.** | - | [113] | [136] | [215] | [215] | [532] |
| **Date** | 15th–18th centuries | 1840–1900 | 19th century | 1480–1630 | 1550–1700 | 1550–1600 |
| **Taxa** | | | | | | |
| Herring | 8 | 17 | | 33 | 3 | 44 |
| Haddock | | 1 | | | | 3 |
| Cod | 1 | | | | 1 | 4 |
| Small gadid | 2 | 1 | | | | 3 |
| Whiting | 3 | 1 | | 17 | | 20 |
| Plaice | | 1 | 1 | 2 | | 5 |
| Flounder | | | | | | 2 |
| Plaice/flounder | 2 | | | 2 | | 1 |
| Sole | | 2 | 1 | | | |
| Flatfish (unident) | 1 | 1 | | | | |
| Small flatfish (indet) | | 2 | | | | 2 |
| Tub gurnard | | | | | | 3 |
| Grey gurnard | | | | | | 1 |
| Gurnard (indet) | | | | | | 13 |
| Mackerel | | | | | | 1 |
| Thornback ray | | 1 | | | | |
| Freshwater eel | 1 | 4 | | | 1 | 43 |
| Roach | | | | | | 1 |
| Cyprinid (indet) | | | | | | 7 |
| Unidentified | 2 | 16 | 76 | 136 | 25 | 303 |
| Total | 20 | 47 | 78 | 190 | 30 | 456 |

and plaice (Table 12). Sample no. 5 from [196], another fill of [215], produced a much smaller assemblage, comprising three herring precaudal vertebrae, a single large cod cleithrum and the only freshwater specimen among the submitted samples, a vertebra of freshwater eel (Table 12).

Phase 3, Fill of Late 16th-Century Quarry Pit [532] (Fig 5)

Sample no. 101 from the primary fill, [531], yielded by far the largest and varied assemblage of fish bones from the site (Table 13). However, out of the 456 specimens present 303 (66.4%) comprise indeterminate/unidentified highly fragmented spines, rays, ribs and vertebrae centra. Of the identified material, the bones of herring and freshwater eel predominate, with those of whiting also well represented. From measurement of the ramus depth taken on the cod dentary, the total length (TL) of the fish represented is estimated at 53.8cm (calculated using the regression formula of Wheeler & Jones 1976). Similarly, measurements taken on the roach pharyngeal bone were used to calculate TL (method of Libois & Hallet-Libois 1988). The value (22.4cm) falls within the average length of adult roach (Newdick 1979, 70).

*Table 12. Skeletal distributions of the identified fish bones from selected contexts*

| Context | Sample no. | Deposit type | Date | Species | prv | bso | ar | mx | hyo | op | prvt | cdvt | vt | cl | scl | dent | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [111] | 1 | external dump | 15th–18th centuries | herring | | | | | | | 5 | 3 | | | | | 8 |
| | | | | cod | | | | | | | | | 1 | | | | 1 |
| | | | | whiting | | | | | | | 1 | 2 | | | | | 3 |
| | | | | small gadid | | | | | | | 2 | | | | | | 2 |
| | | | | small plaice/ flounder | | | | | | | | 2 | | | | | 2 |
| | | | | flatfish | | | | | | | | 1 | | | | | 1 |
| | | | | freshwater eel | | | | | | | | | 1 | | | | 1 |
| [112] | 2 | fill of drain [113] | 1840–1900 | herring | | | | | | | 17 | | | | | | 17 |
| | | | | whiting | | | | | | | | 1 | | | | | 1 |
| | | | | haddock | | | | | | | | 1 | | | | | 1 |
| | | | | small gadid | | | | | | | 1 | | | | | | 1 |
| | | | | plaice | | | | | | | | 1 | | | | | 1 |
| | | | | sole | | | | | | | | 2 | | | | | 2 |
| | | | | flatfish | | | | | | | 1 | | | | | | 1 |
| | | | | small flatfish (indet) | | | | | | | | 2 | | | | | 2 |
| | | | | thornback ray | | | | | | | | | | | | 1 | 1 |
| | | | | freshwater eel | | | | | | | | | 4 | | | | 4 |
| [135] | 3 | fill of drain [136] | 19th century | plaice | | | | | | | | 1 | | | | | 1 |
| | | | | sole | | | | | | | | 1 | | | | | 1 |
| [195] | 4 | fill of well [215] | 1480–1630 | herring | | | 1 | 2 | 1 | 2 | 18 | 9 | | | | | 33 |

*Table 12 (cont.). Skeletal distributions of the identified fish bones from selected contexts*

| Context | Sample no. | Deposit type | Date | Species | prv | bso | ar | mx | hyo | op | prvt | cdvt | vt | cl | scl | dent | Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| [195] | 4 | fill of well [215] | 1480–1630 | whiting | | 1 | 1 | 1 | 1 | | 12 | | | | 1 | | 17 |
| | | | | plaice | | | | 1 | | | | 1 | | | | | 2 |
| | | | | plaice/flounder | 1 | | | | | | | | | | 1 | | 2 |
| [196] | 5 | fill of well [215] | 1550–1700 | herring | | | | | | | 3 | | | | | | 3 |
| | | | | cod | | | | | | | | | | 1 | | | 1 |
| | | | | freshwater eel | | | | | | | | | 1 | | | | 1 |
| Total | | | | | 1 | 1 | 2 | 4 | 2 | 2 | 60 | 27 | 7 | 1 | 2 | 1 | 110 |

Key to bone element abbreviations (after Wheeler & Jones 1989): prv = prevomer; bso = basioccipital; ar = articular; mx = maxilla; hyo = hyomandibular; op = opercular; prvt = precaudal vertebra; cdvt = caudal vertebra; vt = vertebra (indet); cl = cleithrum; scl = supracleithrum; dent = dermal denticle

*Table 13. Skeletal distributions of the identified fish bones from fill [531] of quarry pit [532], sample no. 101*

| Taxa | Skeletal element | NISP | Description |
|---|---|---|---|
| Herring | opercular bone | 1 | |
| | dentary | 1 | fragment |
| | precaudal vertebra | 26 | |
| | caudal vertebra | 16 | |
| Haddock | prevomer | 1 | |
| | caudal vertebra | 2 | |
| Cod | dentary | 1 | right; very small; D1 5.44mm |
| | cleithrum | 1 | from a larger fish; fragment |
| | vertebra | 2 | |
| Small gadid (indet) | basioccipital | 1 | |
| | maxilla | 1 | left |
| | ceratohyal | 1 | |
| Whiting | precaudal vertebra | 1 | small/immature fish |
| | caudal vertebra | 19 | includes five tail vertebrae; all specimens small/immature fish |
| Plaice | precaudal vertebra | 1 | large fish |
| | caudal vertebra | 4 | one from a large fish, other three from very small/immature fish |
| Flounder | urohyal | 1 | |
| | caudal vertebra | 1 | very small/immature fish |
| Plaice/flounder | vertebra | 1 | very small/immature fish |
| Small flatfish (indet) | anterior abdominal vertebra | 2 | very small/immature fish |
| Tub gurnard | premaxilla | 1 | left; measurements (mm): [2] 11.9; P1 5.8 |
| | articular | 1 | right |
| | quadrate | 1 | left |
| Grey gurnard | premaxilla | 1 | left; measurements (mm): [2] 5.6; P1 2.98 |
| Gurnard (indet) | opercular bones | 6 | fragments |
| | caudal vertebra | 1 | |
| | supracleithrum | 1 | |
| | epibranchial | 1 | |
| | dorsal spines | 4 | |
| Mackerel | articular | 1 | right |
| Freshwater eel | vertebra | 43 | includes four masticated specimens |
| Roach | pharyngeal bone/teeth | 1 | measurements (mm): ds 3.4; da 1.8 |
| Cyprinid (indet) | precaudal vertebra | 5 | includes one first and one second vertebrae |
| | caudal vertebra | 2 | |
| Unidentified | vertebra | 17 | fragments |
| | spines/rays/ribs | 240 | over 240 highly fragmented specimens |
| | other fragments | 46 | highly fragmented specimens |
| Total | | 456 | |

Key to measurements: pharyngeal bone/teeth – ds = depth of processus dorsalis (system of Libois & Hallet-Libois 1988); da = depth of processus anterior (*ibid*); premaxilla – [2] greatest height (system of Morales & Rosenlund 1979); P1 = constricting width of neck of ascending processes (Wheeler & Jones 1976); D1 = dentary depth at mental formen (*ibid*)

Phase 4, External Dump Layer [111]

Context [111] sample no. 1 produced 20 specimens, representing (in descending order of frequency) herring, whiting, flatfish (plaice/flounder), cod and freshwater eel (Table 12).

Phase 5, Victorian (1840–1900) Fill of Drain [113] (Fig 11)

Context [112] sample no. 2 yielded an assemblage of 47 specimens of which 31 (65.9%) are identified to species/anatomy. Herring vertebrae (17) predominate the assemblage, but there is also a range of other marine fish present comprising plaice, sole, haddock and thornback ray. Freshwater eel is represented by four vertebrae from a very small fish.

Phase 5, Victorian (1840–1900) Fill of Drain [136] (Fig 11)

Context [135] sample no. 3, the fill of drain [136] produced two caudal vertebrae: one identified as a large plaice, the other a small sole (Table 12). The remaining 76 specimens comprise indeterminate fragmented spines, rays, ribs and vertebrae centra.

*Discussion*

All of the fish bones represent discarded domestic (kitchen/table) food waste. Five of the freshwater eel vertebrae from [531] exhibit the effects of mastication in the form of crushed centra, indicating these possibly derived from cess material (human faeces) in the quarry pit.

The small sizes of the whiting bones from [111], [112], [195] and [531] and the flatfish (flounder and plaice) from [112] and [531] indicate all these were immature fish caught in the Thames estuary. Of the two gurnard species recognised in the assemblage from [531], the tub gurnard could have been caught in the Thames estuary where it is common, but the grey gurnard, a fish of deeper water, was probably supplied from a fishery operating in the southern North Sea (Wheeler 1979, 187–8).

The relative abundance of herrings in contexts [112] (54.8%/identified) and [195] (61%/identified) seems anomalous as other post-medieval London sites have generally revealed clear evidence for a decline at that period in the importance of this fish in the diet and a corresponding increase in the consumption of gadids (cod and whiting in particular). This is illustrated with reference to the post-medieval deposits at Shoreditch High Street, where clupeids comprised 14.3% of the sieved fish bone assemblage, compared to 51.7% for gadids, with the balance contributed by flatfish (plaice, flounder and sole) (28.6%) and freshwater eel (5.4%) (Armitage 2013). However, it may be that the herring bones in both [112] and [195] derive from only two or three fish in each deposit. An equally relatively large quantity of herring bone (no. of identified specimens (NISP) = 44) came from [531] (Table 13), but this assemblage did produce evidence of a diet comprising a very much extended variety of marine/estuarine fish, including gadids (again mostly whiting but also cod and haddock). On the available evidence, freshwater eel apparently continued to feature prominently in the local diet, whilst the presence of roach, a relatively expensive freshwater fish at that period, perhaps indicates the inhabitants were reasonably affluent. This status might also explain the evident wide variety of marine/estuarine fish in their diet.

## DISCUSSION AND CONCLUSIONS

### *Medieval Rural Affluence?*

The investigations have shown that there was continuous activity on the site from the Middle Ages until the 1930s. Features of medieval date were mostly concentrated towards the south-eastern corner of the site. These initial features probably date from the 13th to 15th century and are indicative of agrarian activities such as land division, small scale quarrying plus domestic activity such as waste disposal, which implies that there was occupation either on the site or close by during this period. While there is widespread evidence of medieval quarrying in the locality, the presence of other features such as rubbish pits and ditches, which are indicative of occupation, are less commonly found in this particular area of Islington. Interestingly, the ceramics and faunal assemblages from the late 15th until

the 17th century indicate a certain level of affluence, rather than debris from a farmstead (see Jarrett and Armitage above). This artefactual evidence indirectly suggests that the substantial building situated in the south-eastern corner of the site, which is shown on Rocque's map of 1746 (Fig 9, inset), was possibly in existence by the late 15th or early 16th century (Hyde 1982, pl 5). It was only a short distance south of where the majority of medieval and post-medieval features were located (Figs 3, 6, 10). The quality and quantity of the *ex situ* building materials, including floor tiles and ashlar tracery, found on site are all indicative of a high-status building (see Hayward above). The impression is that this unidentified and apparently undocumented building was probably a suburban dwelling or possibly a banqueting house belonging to a relatively high-status family (see below). Unfortunately the area where this building once stood was extensively truncated during the development of the baths complex so it is unlikely that its date and status will ever be established. Plans of land in the environs of the site belonging to the Worshipful Company of Ironmongers produced in 1633[18] and 1592[19] appear to show several large, isolated buildings in this area north of Old Street, implying that there were other suburban houses in this locality. Stow, writing in *c.*1600 about Moorfields, stated that most of this former area of marshy wasteland was now enclosed as gardens 'wherein are built many fair summer-houses … with towers, turrets and chimney tops' (Stow 1956, 381). These buildings were also described by Stow as 'Banqueting Houses', implying that they were mainly used for the purposes of entertainment and were not intended as permanent residences.

Other archaeological sites in the south Islington area have also yielded finds assemblages indicative of affluent populations, but these have generally been in areas where late medieval high-status buildings were known, such as alongside Clerkenwell Road some 400m south-west of Ironmonger Row Baths, where high-status pottery was recovered from dumped deposits of 14th- and 15th-century date, most likely derived from the adjacent medieval Charterhouse building complex (Thompson 1999; Fig 1, no. 8). The building that formerly occupied the south-eastern corner of the site was clearly not on the scale of Charterhouse, which had originally been founded as a Carthusian monastery in 1371, but it must have been of some importance. A medieval manor house south of the site in the area now occupied by St Luke's Church is indicated on the Greater London Historic Environment Record (GLHER). However, this is probably incorrect as there are no other records of such a building. Furthermore there is no record of such a building prior to the sale of the land by the Worshipful Company of Ironmongers for the building of St Luke's Church in the early 18th century (Boyle *et al* 2005, 26).

### *Post-Medieval Development and the Establishment of St Luke's Church*

A large area of land including the site was acquired by the Worshipful Company of Ironmongers in 1527, though it is unclear whether this was connected with a change of occupancy of the large building in the south-east corner of the site. Whilst both the 1592 and 1633 plans of the company's land show some buildings alongside Old Street (Coath *et al* 2000, 15), few developments are apparent to the north of the street except for the apparent laying out of formal gardens and possibly more intensive agricultural activity on the 1633 plan. It is possible that by the 17th century the building in the south-eastern corner of the site possessed a formal garden. Contemporary features included rubbish pits, linear ditches, quarries and the construction of a barrel-lined well (Figs 5 and 6). Associated finds of both pottery and glassware up to the mid-17th century are indicative of an affluent household (see Jarrett above). The spatial relationship between this building and the eastern boundary of its possible gardens are shown on Rocque's map of 1746 (Figs 9 and 10). A small fragment of wall foundation [137] and several other features appear to mark the eastern boundary of this garden (Fig 10).

Clerkenwell during the 17th century 'was a place of residence for many distinguished people', but these 'aristocratic residents … were vexed by the inclusion of undesirable folk' (Brett-James 1935, 218). In 1629 there were complaints about the establishment of a

brewery and a blacksmith's forge here (*ibid*). From about the middle of the 17th century the finds and faunal assemblages suggest a decline in the level of the prosperity of the people who were presumably residing nearby and producing this waste. The impression is that a small high-status sub-urban population was replaced by a less affluent urban community, as it was in Clerkenwell. This replacement process was demonstrated on site by establishment of the late 18th-century development of terraced houses (see below) and evidence of craft activities including bone working (see Gaimster above). In 1711 it was decided that the Worshipful Company of Ironmongers would sell part of their land along Old Street for the construction of St Luke's Church as part of the 50 New Churches Act, although it was not consecrated until 1733. The land for the development extended northwards from Old Street almost to the southern boundary of the site, with access from Old Street provided by the new thoroughfares which included Ironmonger Row. The construction of St Luke's Church proved to be a catalyst for the urbanisation of the area.

By 1746 it is clear from Rocque's map that although the building on the site still stood alone within its own plot of land, the remainder of the baths site was now occupied by horticultural plots; Ironmonger Row had been established with building development all along its eastern side, St Luke's cemetery extended to within a short distance south of the site and there was further extensive urban development to the west and particularly to the south along Old Street.

### *Later Post-Medieval Decline*

By the end of the 18th century, due to the rapid expansion of London, the area around the site was transformed into a network of streets lined with rows of small terraced houses (Laxton 1985, pl 5). By 1838 there was also a row of houses along the Ironmonger Row frontage of the site, with a large building at the south-east corner, presumably the pre-existing one. A large building is shown occupying this corner into the 20th century and it may have remained here until it was demolished to make way for the baths in the 1930s.

Elements of the 18th- and 19th-century brick-built terraced houses fronting on to Church Row and Ironmonger Row were revealed (Fig 11). Two wells appear to have been situated to the rear of the Church Row properties. The artefactual evidence associated with these properties has permitted an assessment of the likely social status of the residents of these properties during this period. The contrast with earlier occupation of the site could not be greater with the artefacts indicating a low social status of the inhabitants. It is documented that the properties were a mixture of single and multiple family occupancy, with a number of small manufacturers employed in the watchmaking and jewellery business, together with gold refiners and makers of chairs, coach springs, fancy boxes, whips, wire drawers, artificial flower makers, ivory button makers, ivory and bone brush makers and a bead finisher (see Jarrett above, discussion of the pottery). The discovery of some 350 tiny glass beads including waste material indicates their manufacture locally. Possibly these beads were sewn on to garments by home based workers (see Gaimster above).

A good indication of the social standing of the local inhabitants is Charles Booth's Poverty Map compiled in 1889. This shows that the households on the west side of Ironmonger Row were classified as mixed, some were 'comfortable' and others 'poor', whereas those along Church Row were all classed as 'poor' (Booth 1984). This high density, low quality terraced housing remained until cleared by slum clearance and redevelopment, which happened here when the swimming baths were constructed in the 1930s.

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pboyer@pre-construct.com

## NOTES

1 For further information on these sites see the Museum of London Archaeological Archive online catalogue, http://archive.museumoflondon.org.uk/laarc/catalogue/ (accessed 22 January 2016).
2 MOLA Resource Library, www.mola.org.uk/resource-library (accessed 19 January 2016).
3 London Metropolitan Archives (LMA), CLC/L/IB.
4 LMA, cat no. p5442487.
5 LMA, cat no. p5442725.
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8 LMA, cat no. p5444405.
9 LMA, cat no. p5444641.
10 LMA, cat nos p5444888 and p544476x.
11 The National Archives (TNA), RG 11/364/31: 47–54.
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13 *Ibid.*
14 TNA, HO 107/666/6/14/9: 11.
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