EXCAVATIONS AT CREEDY'S YARD, HIGHBRIDGE WHARF, GREENWICH, 1997: MEDIEVAL AND POST-MEDIEVAL THAMES-SIDE SITES

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SUMMARY

Excavations by Wessex Archaeology in advance of redevelopment of land at Creedy's Yard, Highbridge Wharf, Greenwich (site code HBR 97) revealed evidence for small-scale settlement on or close to the site in the 11th and 12th centuries, and a continuation of similar activity into the 14th century. Two relatively substantial 16th-century buildings were recorded beyond the road known as East Lane (now Eastney Street) — one within the bounds of the excavation and a second extending beyond — along with a third, smaller structure. The limited excavated evidence for the main building suggests a relatively high status house, whilst documentary evidence indicates a succession of owners, including Sir Thomas Cawarden, Henry VIII's master of revels.

Excavation of yard surfaces to the rear of the main building identified evidence for pin making in this area, in the form of both sharpened and unsharpened pins and pinners' bones. Although no evidence for metalworking was recovered, the pin blanks are likely to have been made locally. The dating evidence indicates that this activity was contemporaneous with the occupation of the main building to the north and may have continued after its demolition and the subsequent construction of a new central building on the site. Documentary evidence points to the yard behind these buildings — Bear Yard — forming a separate property. Pin making appears to have ceased within Bear Yard in the 17th century and to have been replaced by further industrial activity involving the use of brick-built tanks.

Documentary evidence points to the decline in status of this area of the river front with the fading significance of Greenwich Palace. Late 17th- and 18th-century documents show a vast increase in the number of tenements in the area. The later post-medieval period saw the demolition of the second central building, followed by the construction of two cellared houses on the site in the 19th century. These were demolished early in the 20th century to create Creedy's Yard, behind Highbridge Wharf.

INTRODUCTION

Wessex Archaeology was commissioned by Berkeley Homes (Kent) Limited to carry out an archaeological excavation of land due for redevelopment at Creedy's Yard, Highbridge Wharf, London Borough of Greenwich (centred on Ordnance Survey Grid reference TQ 387 781; site code HBR 97). The development area lay to the west of the Trinity Hospital and to the north of the Aylmer House Estate and was bounded to the west by Eastney Street (Fig 1). Highbridge Wharf itself fronted directly onto the River Thames. The two

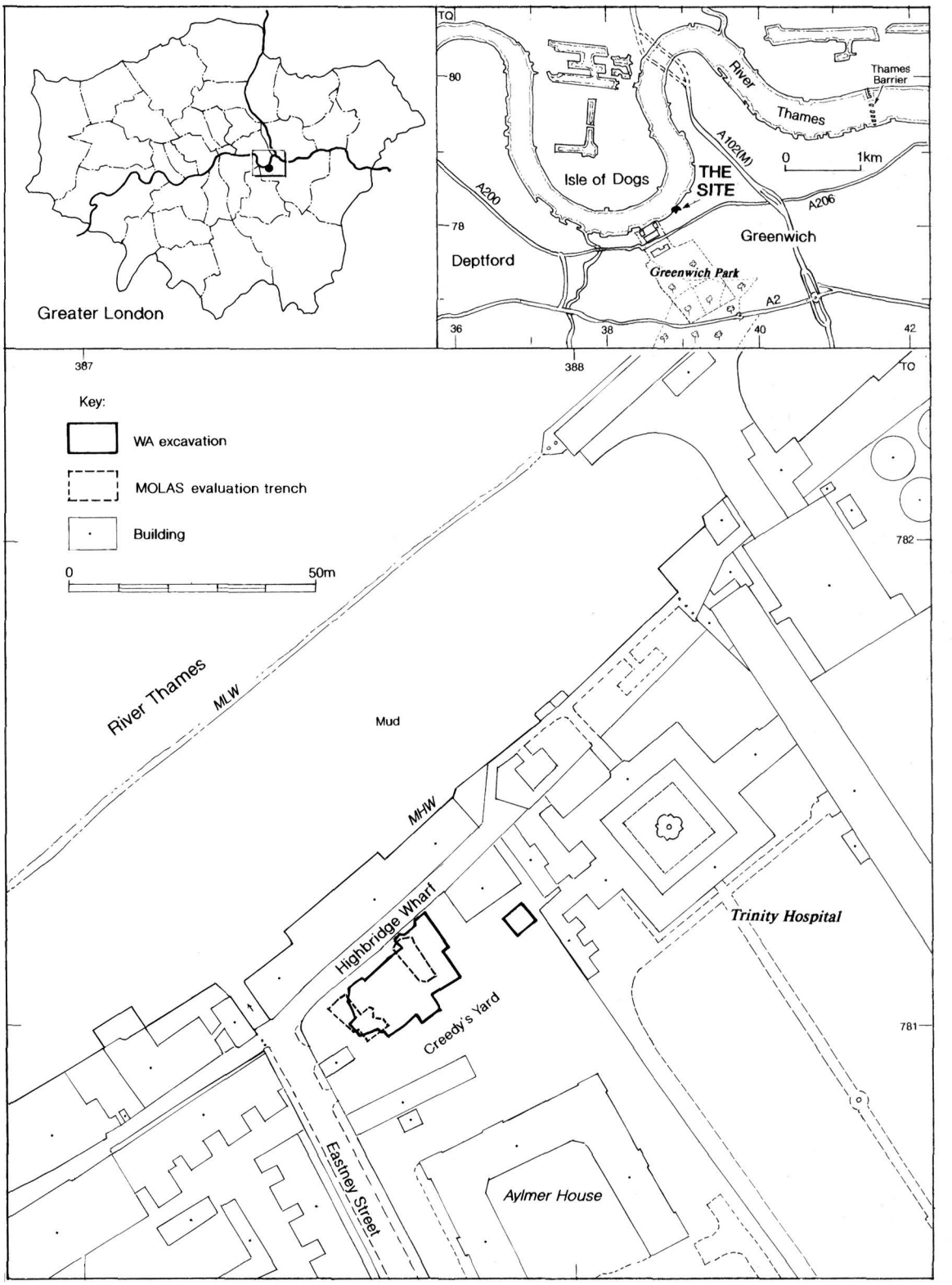

Fig 1. Site location

excavation trenches were located to the south of the wharf itself, in an area known as Creedy's Yard.

Geological background

The Site lies at a height of 4.0m–5.0m above Ordnance Datum (aOD). The 1:50,000 Geological Survey Map (1981 Solid and Drift Edition Sheet 270) shows the site Drift geology to comprise gravels of the Woolwich and Reading Beds. These underlying deposits were not revealed during the course of the excavation, but were overlain by naturally deposited sands. These sands were therefore regarded as 'natural' during the course of the excavation. Excavation revealed a gradual slope of the upper surface of these sands, with the western half of the site (at *c.*2.27m) slightly higher than the eastern half (at *c.*1.83m).

Archaeological background

An evaluation, comprising two trenches in Creedy's Yard, was undertaken in January 1997 by the Museum of London Archaeology Service. This identified significant archaeological remains dating from the 12th century (Bowsher 1997).

Medieval activity, dating to the 12th to 13th centuries, comprised pits and stakeholes that cut the surface of the natural sands and gravels at a depth of 2m below the modern ground surface. These features were sealed by an ashy lens, in turn sealed by 0.5m of reworked subsoils, which also contained lenses of charcoal.

The remains of substantial late medieval or Tudor buildings were found in both evaluation trenches. The western trench contained a ragstone wall aligned north–south. This appeared to represent the western extent of a building, as abutting the eastern face of the wall were mortar surfaces indicative of bedding for internal floors. In the eastern trench two walls of similar construction were identified running east–west and north–south, although a later cellar wall obscured the junction between them. Sealing the floor surfaces in the western trench was a substantial deposit of demolition debris, which contained decorated window glass, glazed floor tiles and building materials.

Post-medieval and modern activity consisted of the construction of brick-built cellars, cisterns, and drains. This had caused severe truncation of earlier deposits, particularly along the northern edge of the site. An 18th-century cobbled surface was recorded in the western trench.

THE EXCAVATION

The excavation took place in February and March 1997, and comprised the excavation of two trenches — one of *c.*450m^2, the other of 25m^2 (Fig 1).

The eastern, smaller, trench was excavated to a depth of 3.2m using a mechanical excavator. The layers excavated contained substantial quantities of modern demolition rubble. There was no evidence for the survival of any archaeological deposits. In view of this and the limited available area, it was decided that no further work would be undertaken in this trench.

The larger, western trench, which incorporated the areas examined in the evaluation, revealed evidence for activity from the medieval to modern periods.

Two sherds of late prehistoric pottery, one unstratified and the other recovered from the fill of post-medieval pit [506], represent the only evidence for pre-medieval activity on the site. Both are likely to date to the Late Bronze Age or Early Iron Age.

Phase 1. Medieval: 11th to 14th centuries (Figs 2–3)

The earliest archaeological features were cut into the natural sands. These mainly comprised pits, stakeholes and small gullies, some of which are dated to the medieval period (11th–12th centuries). Although a number of the features assigned to this period did not contain closely dated material, they have been phased by their stratigraphic relationships. It is possible that some of the features described here may represent earlier phases of activity.

The most significant medieval feature was pit [510]. Associated with it were features [479], [488], [490], [499], [501], and [503]. This large, steep sided pit measured *c.*4m by *c.*3.5m, and was sub-rectangular in plan. Substantial quantities of medieval pottery were recovered from the fills, notably from layer [509], a dark organic peaty silt (Fig 3), which contained 49 sherds from at least three vessels (Fig 12, 1–3). This pottery largely dates to the 11th and 12th centuries. The association between the pottery and layer [509], which was clearly a water lain deposit, suggests that the pit may have functioned as a waterhole or a primitive soakaway.

It appears that this pit was allowed to silt up gradually once it fell into disuse. The later construction, in Phase 4, of the north–south wall of a building across the centre of this pit led to compaction and slumping of the upper fills, and the 'dishing' of

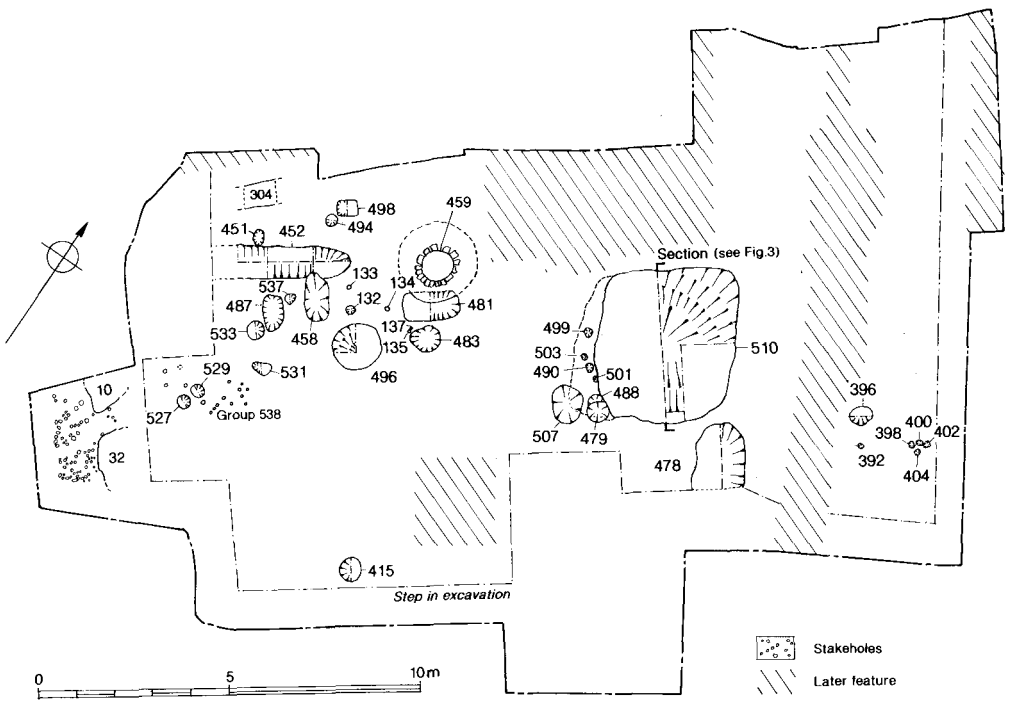

Fig 2. Phase 1 (11th–14th centuries)

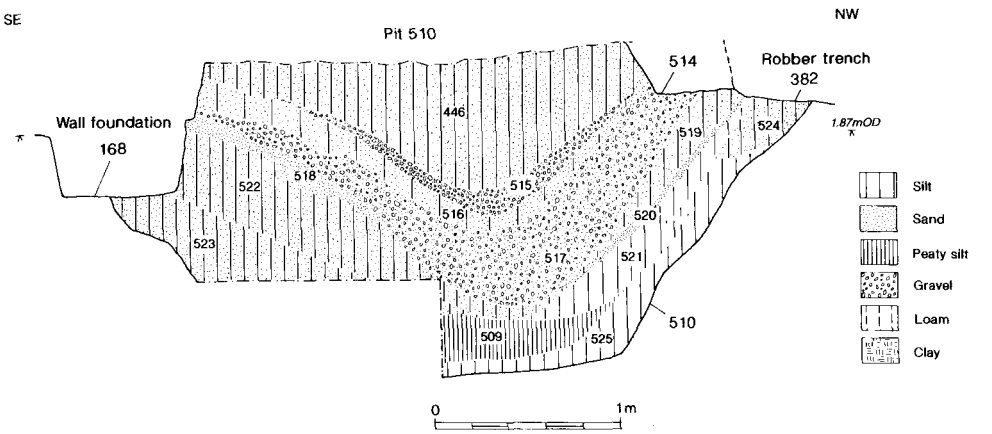

Fig 3. Medieval pit [510]

the Phase 4 mortar floor bedding within the building — layer [161]. This may have a bearing on the presence of later pottery in the upper fill of pit [510] (layer [446]), which contained a single sherd of, presumably intrusive, 16th-century Raeren Stoneware, along with sherds of medieval pottery.

Of the pits and postholes excavated along the western edge of pit [510], [490], [499], [501], and [503] were all relatively small, whilst [479] and [488] were more substantial. These may indicate some form of fence line or structure around [510]; similar features to the north, east, and south may have been truncated by the construction of later walls. The largest posthole, [488], adjacent to the south-west corner of pit [510], was replaced by a second posthole, [479]. This may indicate the

continued use of that structure or may have been no more than a 'running repair'.

Two small pits ([507] and [478]) were also excavated adjacent to [510]. The latter contained a single sherd of shell-tempered pottery dated to the 11th or 12th century. A small group of features lay to the east of pit [510]. This consisted of a small pit [396] and five small stakeholes. None of these contained artefactual material and they are phased on stratigraphic grounds.

The western edge of the site showed a greater density of small pits, postholes or stakeholes. These features contained few or no finds, and their dating is generally based on their stratigraphic relationship to other dated features or layers. Ditch [452] was aligned north-east to south-west, running parallel to the modern course of the river. The north-eastern terminus of this feature was excavated and it continued beyond the extent of the excavation to the south-west. A ditch on a similar alignment ([304]) was recorded just to the north of this ditch. Both may represent successive property boundaries parallel to the river. The majority of the pits lay beneath the floor of a modern cellar and are likely to have been truncated by its construction. Pit [453] cut the fill of ditch [452]. The greatest concentration of stakeholes (Group [538]) lay in the south-western area of the site, in close proximity to those uncovered during the MoLAS evaluation (Bowsher 1997).

Sufficient evidence for 11th- and 12th-century activity was recovered to suggest that these features represent the remains of a small riverside settlement. The dominant feature is pit [510], along with its associated pits and postholes. Other features, notably the group of pits and postholes in the west, and the large numbers of stakeholes to the south-west, point to the presence of wooden structures. Unfortunately, no clearly defined structures can be identified. Although relatively little evidence for domestic activity was recovered in context (with the exception of [510]), enough medieval pottery was present as residual material to suggest a significant truncation of medieval deposits and a greater degree of activity than apparent *in situ*; this includes medieval pottery and coins recovered in the fills of Phase 4 pit [324], near the western edge of the site. The excavations have clearly shown evidence for 11th- and 12th-century occupation close to the southern bank of the River Thames, which extends beyond the limits of the excavated site.

There was very little evidence for use of the site in the 13th and 14th centuries. Pottery sherds were recovered from the upper fill of pit [510] (layer [446]) and also occurred as residual material in later contexts. A chalk lined well, [459], in the central area is likely to date to this period. This well was neatly constructed with the inner lining, mostly of faced chalk blocks, set in mortar. The upper two rows of the facing were made up of shaped limestone and sandstone blocks. Although no datable finds were recovered, its stratigraphic relationships were secure. The well cut [481], one of the medieval pits, and was itself cut by the line of the southern wall of a Phase 2 building (represented by robber trench [126]). The construction of this well and the recovery of pottery of this period as residual finds indicate continued activity on the site into the late medieval period, almost certainly associated with nearby settlement remains.

Phase 2. Post-medieval: 16th century to early 17th century (Fig 4)

The second major phase of activity on the site recorded archaeologically involved the construction of three buildings. Two were heavily truncated by later activity and only survived as foundations or robber trenches, while the third was too close to the eastern limits of the site to be fully excavated.

Building A

The largest of these three buildings (A) ran roughly parallel to the north-eastern edge of the excavation, and therefore the river (Fig 4). The majority of the walls of this building survived only as robber trenches [126] and [382]. Small areas of the footings survived where they were incorporated into those of later buildings; [383] and [384] consisted of well-laid sandstone and limestone facing blocks with a mortared rubble core. Wall [384] was faced along its south-eastern edge, while [383], which clearly formed a corner of the building, was faced along its south-eastern and north-eastern edges (Figs 4 and 7). It is likely that wall [218] represented a continuation of this building as it was of a similar build. The MoLAS evaluation recorded the junction of walls [218] and [383] (Bowsher 1997, 12 and fig 5).

The north-eastern extent of this building was unclear — there was considerable later disturbance in this area. A small fragment of wall, [357], heavily damaged by a later pit, represents a continuation of the line of [218], probably the eastern corner of the building.

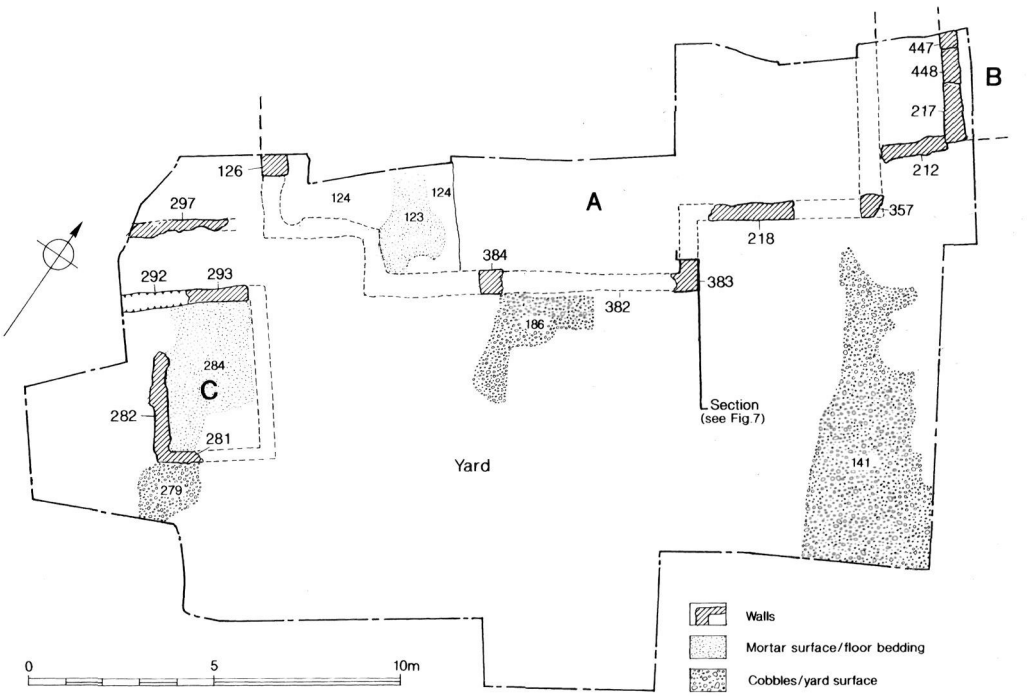

Fig 4. Phase 2 (16th century–early 17th century)

A single mortar surface associated with Building A survived *in situ* (layer [123]). It may represent bedding for a secondary tiled floor. Two clay pipe bowls recovered from this context date to the early 17th century. This layer sealed a thin layer of charcoal rich occupation debris (layer [124]). No other traces of the internal features or divisions of Building A were recovered.

The precise chronology of the construction of this building is unclear. Pottery and glass recovered from the fills of Phase 4 robber trench ([126]) date to the 15th–16th centuries, whilst material from the associated yard surfaces dates from the 16th–17th centuries. It is likely that the building was initially constructed in the 16th century, and continued in use into the 17th century.

Building B

Walls [217] and [447] formed the south-western extent of Building B and represent the only remains of this structure on the site (Fig 4). Both of these walls are faced on their western side, and originally framed an entrance in this wall — presumably a doorway. This entrance was later filled in with a blocking wall (wall [448]). Walls [217] and [447] were both built of large, roughly shaped greensand blocks and occasional chalk and flint blocks lain in a bed of mortar, with large, rectangular shaped blocks defining either side of the doorway. The blocking wall ([448]) was less well coursed than the other two walls, and contained a number of re-used stones. The doorway is likely to have been in use for the duration of the period in which wall [212] was extant. This wall was very insubstantial, consisting of a single row of stones lain in a mortar bedding. It is unlikely to have formed an original part of either Building A or B. It may have acted as part of a later boundary wall.

Building C

The third structure (Building C) lay in the south-western corner of the site, and was bounded by walls [281], [282], and [292/3]. This was the building identified in the western evaluation trench (Bowsher 1997, 8–9). The eastern limits of this structure were not defined by a wall but were evident from the limits of a number of internal layers associated with the building. Given the relatively shallow foundations of the surviving walls, the absence of foundations along this side of the building may not be significant.

A number of internal layers were excavated. None of these appeared to represent *in situ* floor surfaces, although some contained quantities of charcoal and mortar and clearly represented some level of activity. It is possible that these represent layers associated with the construction of the building, with successive layers being used as working surfaces during this time. This is supported by the presence within these layers of discrete dumps of tile (layer [422]), mortar (layer [420]), and possible limestone chippings from shaping or dressing stones (layer [418]). These layers were all sealed by a mortar surface (layer [284]). This may have acted as bedding for a floor of tiles, in conjunction with layer [283], a very clean layer of yellow sand, which overlay it. No finds were recovered from these layers, although Phase 4 pit [385] would have cut the projected line of the eastern wall. Demolition material sealing this building and removed during the evaluation contained 17th–18th-century pottery, 14th–16th-century ceramic building material, and 14th–15th-century glass (Bowsher 1997, 19, layer [11]).

A short distance to the north of [292/3] ran a parallel short stretch of wall footing — [297]. This was a relatively insubstantial footing, and may have been associated with either Building A or Building C, both of which contain walls on similar alignments. However, it contained no evidence of internal features and may have acted as a boundary wall in similar fashion to wall [212].

Yard surfaces

A number of areas of cobbling and other surfacing were associated with these structures. Spreads of compacted gravel were recorded to the east of the site (layer [141]) and to the south of Building A (layer [186]). These seem likely to have formed yard surfaces behind the buildings and are phased both by the finds within them and by their stratigraphic relationship to other dated contexts. A small area of well laid cobbling was recorded butting the southern face of wall [281] (layer [279]). Much of the area outside the buildings is likely to have been covered in such a gravel surface. Indeed, 17th-century records indicate that the area was called Bear Yard.

Summary

All the walls of the three buildings were built of shaped sandstone blocks with a rubble core. Most appear to have been well faced only along one side — presumably the external face. Whether these represent the remains of footings to support timber framed structures or even brick buildings is unclear. The foundations of Buildings A and B are noticeably more substantial than those of Building C. Buildings A and B are probably the remains of largish houses fronting onto the river. Building C is likely to have been a small outbuilding or workshop, either associated with Bear Yard or possibly with the construction of one of the two other buildings on the site. Whilst there is no strong evidence for the date of construction of any of these buildings, stratigraphic evidence and associated material suggests that they may have been built in the 16th century (or possibly in the late 15th century).

There is a dearth of non-structural features closely dated to this period, with most of the 16th-century finds surviving as residual material in later features or layers. The lack of finds from the yard surfaces at the back of Buildings A and B probably indicates that this area was well maintained as a yard.

Phase 3. Post-medieval: late 16th to mid-17th century (Fig 5)

This phase overlaps chronologically with both Phase 2 and Phase 4, beginning when the Phase 2 buildings were still extant, and continuing after the demolition of Buildings A and C, and has been created to describe a distinct phase of activity, probably unrelated to the buildings themselves. This concerns the use of the large yard to the south of Buildings A and B for light industrial activities, specifically the use of the area for pin-making. The evidence for this practice appears to be focused on the yard area to the south of the main building. The pottery assemblage, however, shows no indication of a shift away from domestic forms, and it seems likely that the industrial activities were divorced from the continued domestic use of the buildings. Much of the pottery dating for this phase overlaps with that in Phase 4, and to a lesser extent, Phase 2. Much of the phasing therefore relies on stratigraphic or, in this case, functional relationships.

The Phase 2 yard surface covering the eastern portion of the site (layer [141]; Fig 4) was sealed by two layers of sandy silts, [121] and [138]. The former contained two worked pinners' bones and part of a leather shoe. Pinners' bones are animal bones (Fig 16) which have been modified to hold copper alloy pins (mainly used as clothes-fasteners) while the points were filed during manufacture (see Laidlaw and Hamilton-Dyer, below). Pottery from these two layers dates from the 16th–17th centuries.

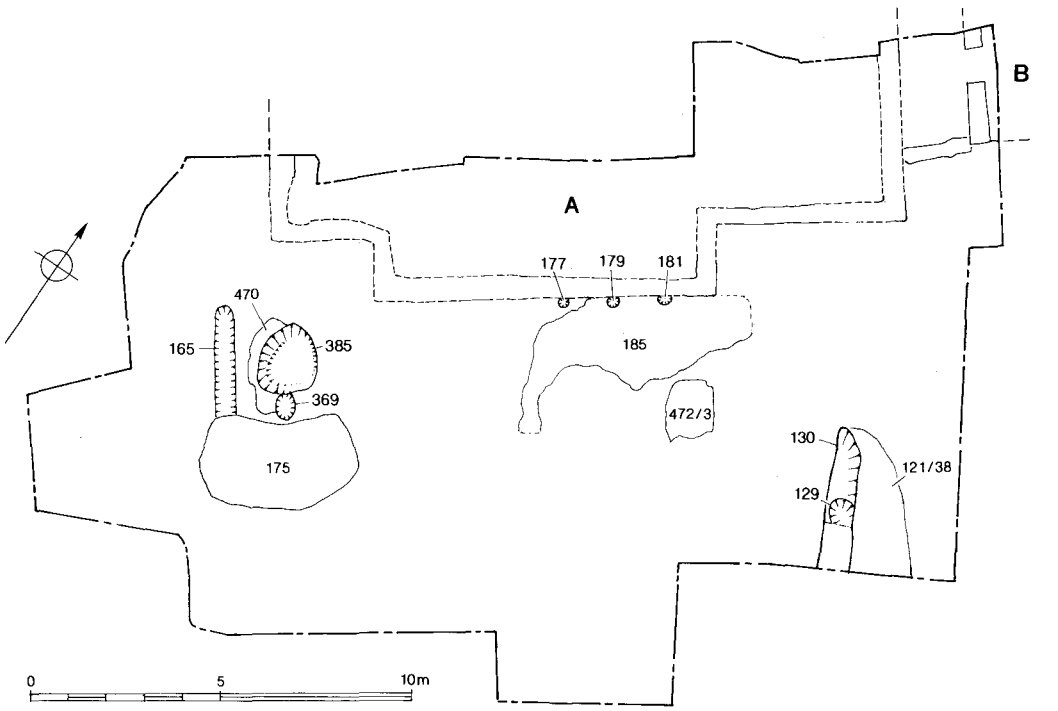

Fig 5. Phase 3 (late 16th century- mid-17th century)

Two small features cut these layers (pit [129] and gully [130]). The finds from the latter included five pinners' bones from the primary fill [127], and 48 pins from the upper fill [111] along with a number of fragments of a leather shoe (Fig 17, 1). The associated pottery all dates to the 16th–17th century, and seems to indicate that the pin making started whilst the Phase 2 houses were still standing.

Immediately adjacent to the south-eastern wall of Building A, a line of three postholes ([177], [179], and [181]) was dug through Phase 2 yard surface [186]. These postholes may have been associated with the demolition of, or repairs to, Building A. Two were later sealed by a clay layer apparently representing the first internal layer of the Phase 4 building (layer [185]). Further pinners' bones and pottery were recovered from layers [472] and [473], which partially covered layer [185], indicating continued pin making activity during this period. All of the pottery from these postholes and layers dates to the 16th or 16th/17th centuries. Other Phase 4 contexts containing pinners' bones include yard surface [201] and layer [161], whilst layer [273] contained bronze pins (Fig 5).

In the western half of the site, pit [385] was dug through layer [470], a localised deposit containing significant quantities of mortar and wall plaster, which appears to relate to the final disuse of Building C. Finds from this pit included both residual medieval and 16th–17th-century pottery, ceramic building material, and a single pinners' bone. A small posthole ([369]) was associated with this pit.

Summary

The yards behind the two main buildings on the site appear to have been used for pin making during the later 16th and early 17th centuries. The excavations uncovered no evidence for bronze smithing on the site itself, but the number of pinners' bones recovered seems to indicate that the sharpening of pins took place either within the yard to the south of Buildings A and B or possibly within buildings nearby with waste being dumped in the yard. In total, some 61 copper alloy pins were recovered, the majority of which came from the Phase 3 yard areas — within the area known as Bear's Yard on contemporary maps.

The pin making activity appears to have continued after the likely demolition of two of the three Phase 2 buildings. Building C was unlikely to have been in use when pit [385] was dug through the eastern extents of its internal layers. The recovery

of pinners' bones from layer [185], which was the first of a number of similar layers of make-up material for the internal floors of the Phase 4 building, indicates continuity of this activity after the demolition of Building A. Pins and pinners' bones recovered from Phase 4 contexts clearly indicate continuing pin making activity during the 17th century.

Phase 4. Post-medieval: 17th century
(Figs 6–7)

Building A appears to have been demolished early in the 17th century. The only internal surface to survive — layer [123] (see Fig 4) — contained a clay pipe bowl dating to the early 17th century, whilst the pottery recovered from robber trench [382] dated to the 16th–17th century. The dating evidence for pit [324], which cut wall [357], and which contained material dating from the medieval period through to the 16th–17th centuries, supports this phasing. As with the features in Phases 2 and 3, much of the pottery could not be very closely dated, and phasing is based on stratigraphic grounds supported, where possible, by evidence provided by the dated clay pipes.

Building C was probably demolished in the late 16th or early 17th century, with wall [281] cut by pit [175] and the floor surfaces cut by the associated gully [165] (both shown on Fig 5). These both contained pottery dating to the 15th and 16th/17th centuries, and are likely to be the earliest Phase 4 features. Layer [285] sealed both these, either partially or wholly. The precise chronology of Building B could not be established, as it lay largely beyond the limits of the site, although it may have been at this time that blocking wall [448] was built (Fig 3).

The demolition of Building A was followed relatively shortly afterwards by the construction of a new building (D, Fig 6). The excavated remains had a roughly north-west to south-east axis. John Rocque's map of 1741–6 indicates that this structure formed a wing of a larger building which extended to the north-west and west. Walls [149], [224], [236], [238], [253], and [259] formed the extent of this structure within the site. The bowl of a clay pipe, recovered from the footing trench for wall [149] ([159]), dates to 1610–1640.

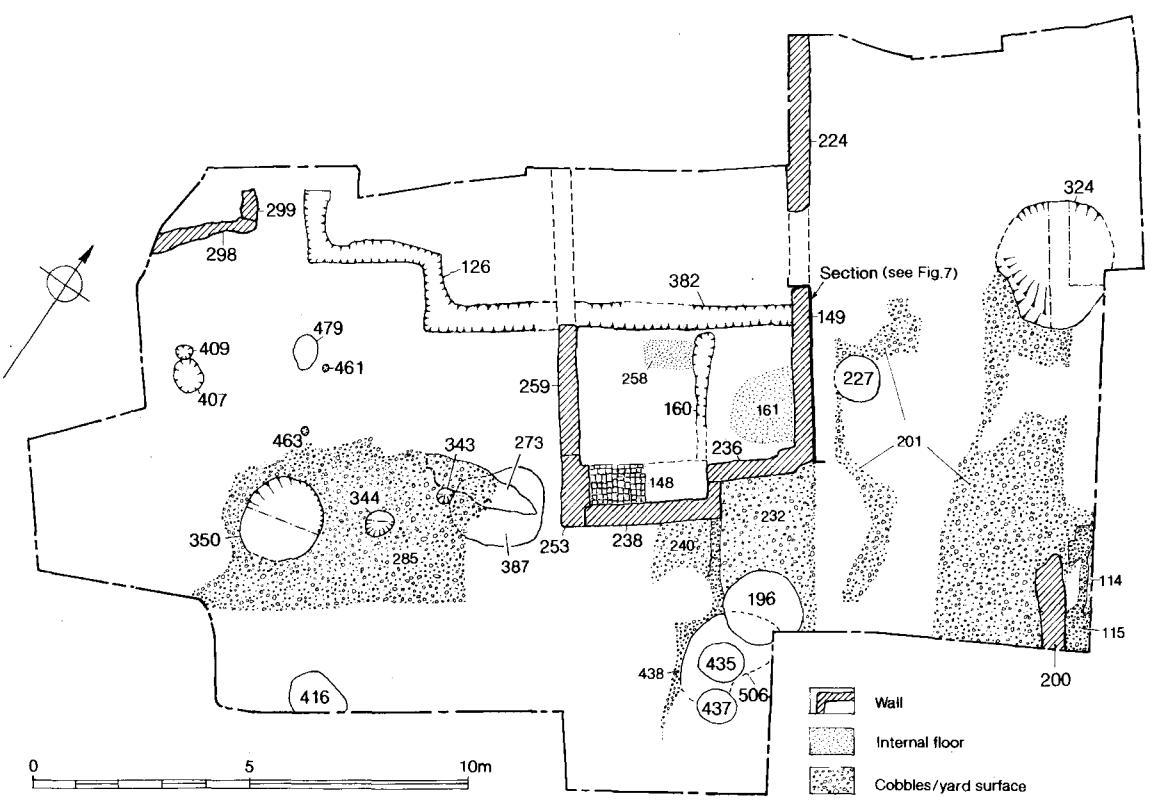

Fig 6. Phase 4 (17th century)

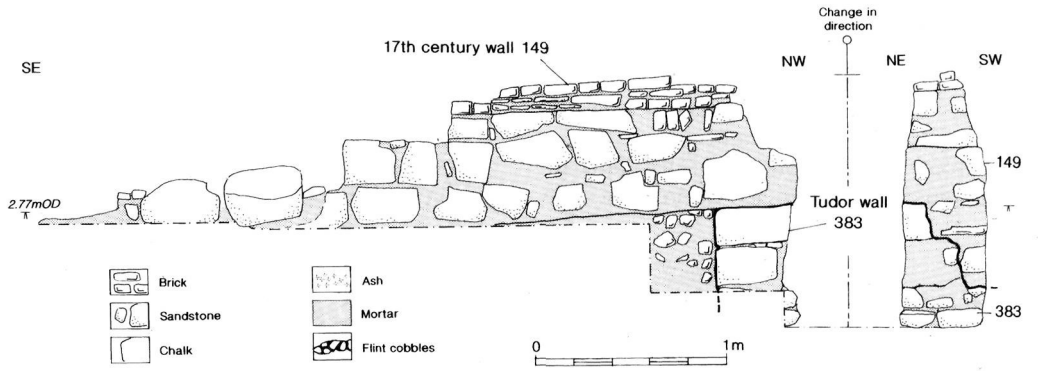

Fig 7. 17th-century wall [149]

The main load bearing walls of Building D were of brick lain on sandstone footings. Much of the stone used in these footings may well have come from the earlier building. Walls [149] and [259] incorporated portions of Phase 2 walls [383] and [384] (Fig 7). This suggests that construction of Building D took place prior to, or contemporary with, the robbing of the foundations of Building A. The southern corner of Building D projected outwards, and contained a single fireplace, with an *in situ* brick flooring ([148]).

The internal area of Building D appears to have been built up using layers of building and occupational debris (including layers [185], [473], and [472], described in Phase 3 above). The latest of these were two mortar surfaces (layers [161] and [258]). Both of these may represent remnants of flooring deposits, although they are more likely to represent bedding for brick or tile floors. A shallow gully ([160]) defined the north-eastern limits of mortar layer [258], and may indicate the position of an internal timber division. The survival of layer [161], and its uneven form, was the result of slumping of the fills above medieval pit [510]. Following this slumping, the internal area was re-levelled with further dumping of material (layer [256], which covered the entire internal area) containing quantities of residual material, including medieval and 16th-century pottery.

Further structural remains of this date were recorded both to the east and west of Building D. To the east, a brick wall [200], laid on chalk and limestone footings, cut into the top of surface [201]. It was not associated with any other structural remains, but did contain evidence for internal make-up layers, the latest of which was a cobbled surface ([115]) partially sealed by a mortar surface ([114]). Walls [298/9] (in the western corner of the site) were of similar construction. These may have formed the corner of a structure, although the absence of obvious internal deposits and the rough nature of their construction make this seem unlikely.

Yard surfaces

Much of the area outside these structures continued in use as yard surfaces. New gravel layers sealed the earlier surfaces and activities. Layer [201] covered much of the eastern third of the site, whilst gravel surfaces were also excavated butting the building (layers [232], [240], and [438]) and to the west of the building (layer [286]). All of these comprised relatively thick layers of compacted gravels, and their distribution suggests that the building was surrounded by yards. Layer [286] showed some evidence of slumping into the soft fills of feature [175]. These yard surfaces were all subsequently cut by pits containing domestic debris, possibly associated with the occupation of the building. The single pinners' bone recovered from layer [201] may represent evidence for the continuation of the manufacture of pins somewhere on the site in this period. Of these surfaces, only layer [201] contained significant amounts of residual material, suggesting that the gravel used was brought in to the site from elsewhere.

Pits

The earliest pit of this phase in the western half of the site was pit [387], which was cut through gravel yard surface [285]. It contained similar amounts of domestic debris to the other pits excavated in this

area. After the pit had been backfilled a layer of domestic debris built up over the western half of the site. This layer ([273]) was up to 0.3m deep and contained large amounts of domestic refuse and building debris, including 16th–17th-century pottery and glass vessels, a 17th-century token, clay pipe fragments (including a bowl dated to 1640–1660), and window glass.

The largest pit, [324], was relatively well dated by pottery of the 16th–17th centuries, although a few sherds were 17th-century in date. Residual material was recovered from this pit, notably medieval pottery and coins, as were large amounts of building debris (including architectural fragments and window glass), 17th-century vessel glass, pottery, and animal bone.

Four intercutting pits were dug through the yard surfaces butting the main building. Of these, pits [196], [435], and [437] were cut through the fill of [506]. Pottery from pit [196] dated to the 17th century, as did the pottery from the upper fills of [435] and [437]. Other finds recovered from these pits included a bone knife handle, animal bone, clay pipe fragments (including one bowl dated to 1610–1640), and building material.

Pits [344] and [350] were dug through this build up of debris, and contained very similar levels of domestic and demolition debris. The large proportion of residual material in these features and layer [273] suggests that they represent the material from the demolition of the Phase 2 building, possibly initially used to level up areas where yard surface [285] had slumped into pit [175]. Much of this material (notably the glass vessels and pottery) points to fairly high status 16th-century occupation (see 'Finds' below). This residual material included glazed and decorated floor tiles, vessel glass, a glass urinal, and window glass in addition to quantities of earlier pottery. The range and variety of the residual pottery is representative of higher status activity than is evident in other phases. It is likely that this material is related to one or all of the Phase 2 buildings excavated on the site. The substantial amounts of occupational debris in these pits contrast sharply with the scarcity of such remains during Phases 2 and 3. This implies that the disposal of waste associated with the use of the buildings involved removal of household waste from the site and that the residual material recovered from these Phase 4 contexts represents demolition and clearance debris.

Of the other small pits in this area, only pit [407] contained dated material (16th–17th-century pottery). Pits [227], [409], [416], and [479] are phased on stratigraphic grounds alone, as are a number of small postholes in this area ([343], [461], and [463]).

Summary

This phase saw the demolition of Building A, probably in the first half of the 17th century, with large quantities of residual material associated with this structure appearing as levelling spreads or in pit fills. Shortly after its demolition, a new building, D, was built, on a different axis, incorporating some of the foundations of the earlier building. During the construction of Building D, earlier foundations were robbed for stone, presumably to be incorporated into the new building. (Much of the worked stone recovered was re-used as foundation material in Building D). Although none of the floor surfaces of Building D survived intact, the make-up layers for the floors did, along with a brick floored fireplace, indicating the level at which the floors were probably lain.

The yard surfaces appear to have been lain early in Phase 4, and were subsequently cut by a number of large pits, possibly dug to contain demolition and domestic material, and never re-lain. It is possible that this marked the end of pin making in this phase. Although pins and pinners' bones were recovered from a number of Phase 4 contexts, there was no evidence for the continuation of this activity into Phase 5, where there appeared to be a different form of light industrial activity on the site.

Phase 5. Post-medieval: late 17th and early 18th century (Fig 8)

Later in the 17th century or early in the 18th century a number of modifications were made to Building D. The fireplace in the southern corner of the building was altered, with a dividing wall inserted, and a second deeper fireplace constructed in the eastern half. The western half appears to have been deliberately filled in with gravel at the ground floor level, perhaps to support the angled flue constructed as part of wall [250]. This altered fireplace (fireplace [360] consisting of walls [250], [255], [169], and [267]) was subsequently filled with large quantities of wall plaster, perhaps associated with the final demolition of this building.

The construction of a series of brick built structures in the yard behind Building D may indicate a new phase of industrial activity. The function of these structures is uncertain. The first of the three connected structures — [305] — butted the south-eastern end of Building D (wall [238]). Some attempt had been made to partially key the brickwork into that of [238], but with little success. This structure may initially have been built as a

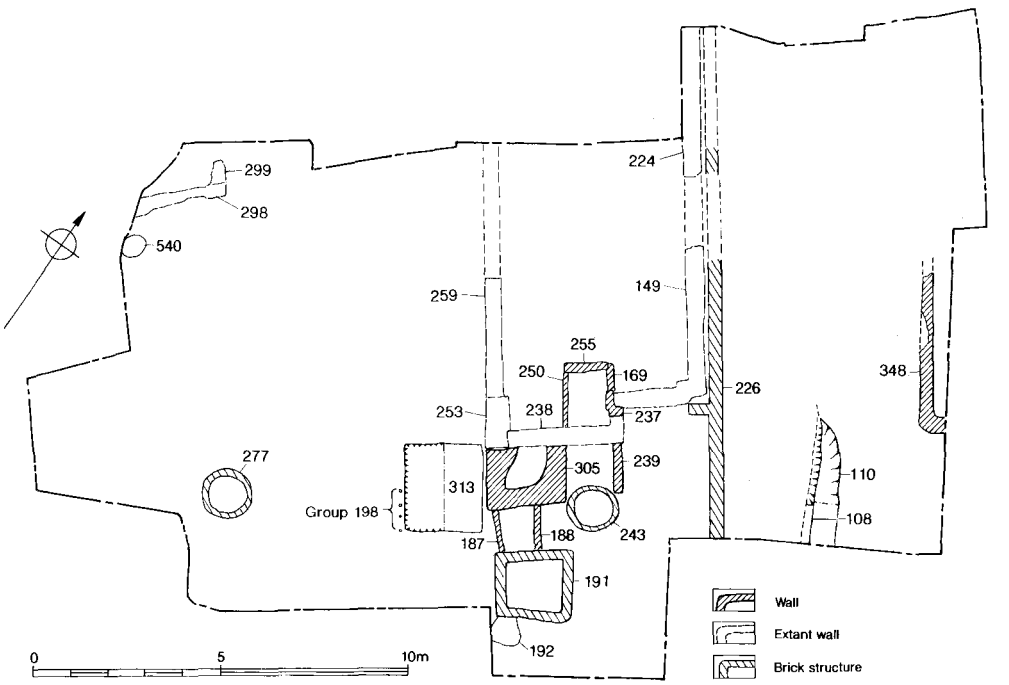

Fig 8. Phase 5 (late 17th century and early 18th century)

rectangular tank, but the internal dimensions were evidently altered by the insertion of additional brickwork. This had the effect of creating a curving channel running south, which may have led into the channel formed by walls [187] and [188]. The purpose of these channels may have been to remove waste material or excess water from the building — traces of a plaster surface were recovered from within [305], which may have acted as bedding for a floor, or acted as a floor surface itself. There was no evidence for a channel leading from these into the rectangular brick built tank to the south ([191]), although only the lower courses of brickwork of all these features survive. The final change to these structures was the construction of a blocking wall across the mouth of [305], which had the effect of creating three separate tanks. Of these, only the deposits within [191] appeared have been water lain.

Immediately to the south-west of [305] was pit [313]. The purpose of this feature is unclear. In form it was a large rectangular pit, 1.2m deep with vertical sides. The sides were almost certainly lined — the presence of four small stakeholes along the south-eastern edge appears to confirm this — but unfortunately the lining has not survived. The pit itself was deliberately backfilled with layers of mortar, rubble, and earth, possibly associated with the demolition of Building D. This demolition cannot be closely dated, although there is no 19th- or 20th-century material associated with these features, suggesting that it may have occurred at some time in the 18th century.

Other features dated to this period include a brick built drain, [226], which ran along the eastern side of Building D, and continued beyond the south-eastern limit of the site. The alignment of this drain clearly associates it with the building, but its continuation suggests that it may also have served other properties. Two brick built wells or soak-aways of this period were also excavated — [243] (along with its associated wall [239]) and [277]. A brick built wall ([348]) was excavated to the north-east of Building D. The purpose of this wall is unclear, but it appears to have been relatively substantial. The weight of the wall led to massive slumping into pit [324], and the subsequent collapse of the wall. A portion of the brickwork of this wall, some six courses deep, survived in the layers of slumping.

Few other features are associated with these changes, although a shallow gully [110] and its recut [108] may date to this period. The lack of domestic refuse of this date may indicate that such waste was being removed from the site, or that the activity from the yards was not associated with the domestic buildings.

Summary

The later post-medieval period is characterised by additions to, and modifications of, extant buildings, which may indicate a change away from purely domestic activities on the site. The construction of lined tanks and pits may indicate a shift to a more industrial emphasis, although the precise nature of this industry is hard to gauge. A number of the features of this phase appeared to have been later filled with demolition debris, notably the modified fireplace, structure [305], and pit [313]. This is likely to have been the result of demolition of Building D and an attempt to level the surrounding area.

Phase 6. Modern: 19th and 20th centuries (Fig 9)

Much of the site was heavily truncated by construction work in relatively modern times. During the 19th century these disturbances included a large brick built drain or sewer ([203]) aligned NW–SE, a cellared building built against the north-eastern edge of the site (wall [210]), and a brick soakaway ([219]). These three features were responsible for a considerable degree of truncation in the eastern third of the site.

Much of the stratigraphy in the central portion of the site was damaged by the construction of two cellared buildings in the late 19th or early 20th century (walls [156], [262], and [266] form part of the eastern cellar and [272] the western).

The buildings related to these cellars were demolished in the mid-1930s prior to the levelling and surfacing of the area for use as a yard.

FINDS

Introduction

Lorraine Mepham

The overall quantity and range of artefactual material recovered from Highbridge Wharf is relatively small. It is perhaps worth pointing out that recent excavation of a single late 17th/early 18h-century pit in Guildford, Surrey, produced a larger assemblage than the whole of this site (Fryer & Selley 1997). Dating evidence derives largely from the pottery assemblage, which indicates a potential date range of 11th century to the modern period, although the bulk of the material dates from the 16th and 17th centuries (stratigraphic phases 2–4). The pottery, however, does not lend itself to close dating within the post-medieval range, since the

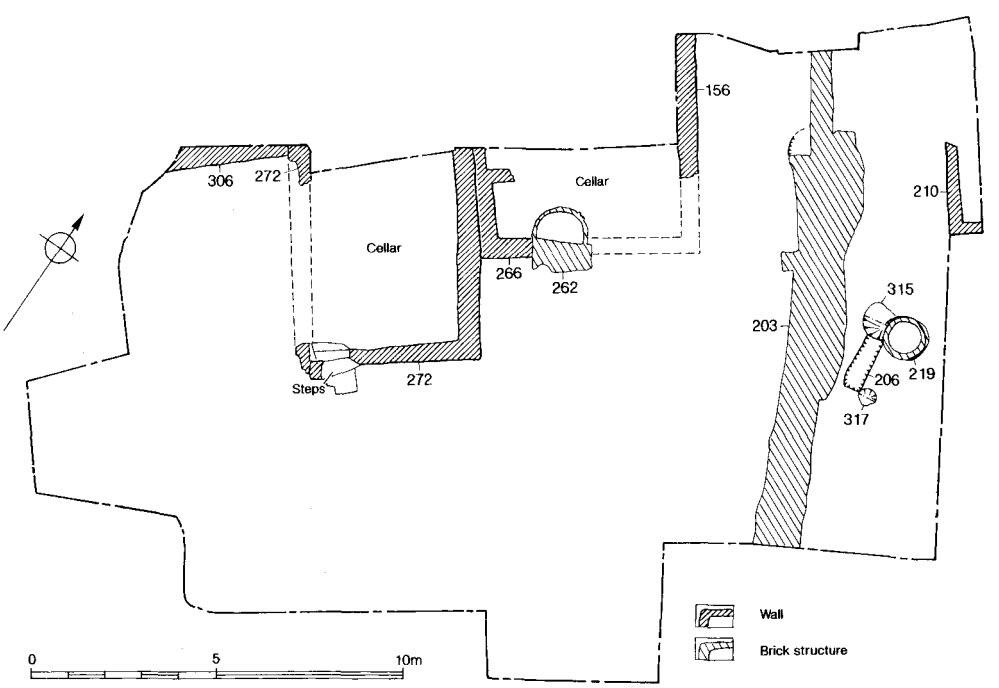

Fig 9. Phase 6 (19th and 20th centuries)

majority of the assemblage consists of coarsewares; closer dating is provided by the small quantity of clay pipe bowls, vessel glass, and coins. Moreover, it is apparent that residual material forms a significant component of the assemblage from Phase 4 onwards, where large dumps of domestic refuse were encountered (in particular from spread [273], pit [350], and pit [324]), which appear to derive from demolition and clearance of an earlier structure.

The artefacts fall into three broad categories: domestic refuse; structural material; industrial refuse. The majority of the artefacts fall into the first category, and the largest quantities derived from pits and layers in Phase 4. Of particular interest within the third category, however, is a group of pinners' bones, relating to the manufacture of brass pins in the Phase 3 yards behind the major buildings.

There is also some indication of the status of the main Phase 2 building (Building A). Material recovered from Phase 4 contexts, probably representing clearance of debris from this building, includes a small quantity of 'exotica' in the form of a small group of 16th/early 17th-century glass vessels, including probable imports, and imported Italian maiolica and German stonewares. Architectural fragments from this phase also indicate a structure of some status.

Table 1 presents a summary of the datable artefacts and selected other finds categories by phase. Artefacts from Phase 6 (modern) and clearance levels will not be discussed in this section unless of intrinsic interest.

Coins and tokens

Nicholas Cooke

Eight coins or tokens were recovered: two silver, five copper alloy and one lead.

Three of the copper alloy coins are heavily corroded and completely illegible. The remaining two are tokens. The first is a small circular token struck for 'John Homes at the Ball in Deptford', recovered during the initial site clearance. The second is a decagonal token (spread [273], Phase 4). Both are likely to date to the 17th century.

Of the two silver coins one, a clipped, hammered coin (context [273], Phase 4), is heavily corroded and cannot be closely dated. The second is a hammered silver halfpenny with a 'Long Cross' reverse, which is too worn and corroded to enable the identification of the king for whom it was minted. This was recovered from one of the upper fills of pit [324] (Phase 4). Full details of all coins and tokens have been archived.

The lead token was found unstratified (Fig 10, 8). One side bears a lion rampant within a circle formed by the royal motto '*Honi soit qui mal y pense*'. On the reverse the French arms are flanked by two fluted columns, both supporting small stylised crowns, whilst a third, larger, crown is depicted above the arms. A simple knot pattern is depicted in a shallow exergue, whilst traces of further designs can be seen between the edges of the token and the columns. A similar, although slightly smaller, token is known from London; the type is thought to date from the 1570s (Hawkins 1885).

Metalwork

M Laidlaw and Lorraine Mepham, with a contribution by Nicholas Cooke

The stratified metalwork (Phases 1–5) consists of 65 iron and 76 copper alloy objects; in addition one unstratified lead object is described here. All iron and copper alloy objects have been X-radiographed, and all are listed and briefly

Table 1. Presence of selected finds types by phase

Phase	Pottery used for dating	Other finds datable	Other selected finds
1	EMSS, EMSH	clay pipe bowls	
2	RAER, CBW, SAIN, KING, CHEA, LLON, BORD		
3	TGW, RAER, MART, KOL FREC, MART	clay pipe bowls	leather shoe, pinners' bones, cu alloy pins
4	?METS, TGW, KOL FREC, MART, RAER, SAIN [post-med]	coins (4-6), vessel glass, clay pipe bowls	cu alloy lock and vessel, stone moulding and voussoir, pinners' bones, cu alloy pins, ceramic floor tile (inc. dec.)
5	FREC, TGW, SGSW	clay pipe bowls	ceramic floor tile, stone voussoir

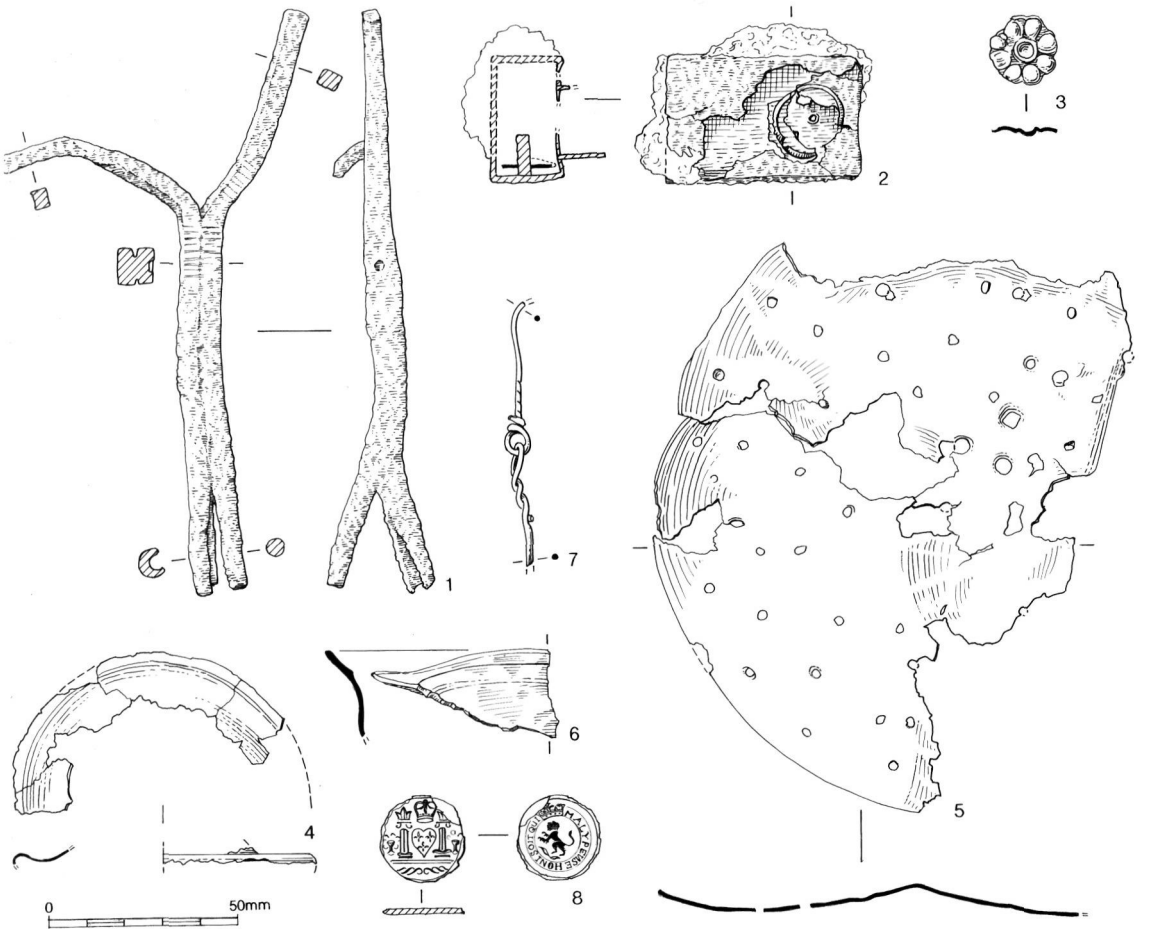

Fig 10. Metalwork

described in archive catalogues. One iron and four copper alloy objects were selected for investigative conservation, carried out by the Salisbury Conservation Laboratory.

Table 2 presents the metalwork by stratigraphic unit; no metalwork was recovered from Phases 1 and 2.

Objects of iron

The bulk of the ironwork consists of nails (54), which are quantified separately in Table 2. The majority derived from Phase 4 contexts, with just over half coming from spread [273]. Other structural objects include four large clench bolts (pits [385], Phase 3 and [324], Phase 4), such as were used in ship-building or other double-thickness timber construction *eg* doors (Goodall 1987, fig 113, 105–7), and sheet and strip fragments, possibly also structural in origin.

Non-structural objects include a pair of tongs (Fig 10, 1), a horseshoe fragment, a blade fragment (spread [273], Phase 4), and a possible knife (spread [472/473], Phase 3). Other objects are unidentifiable.

Objects of copper alloy

Pins

Amongst the copper alloy objects are a group of 61 pins. Pinners' bones from the site (see Laidlaw and Hamilton-Dyer, below) indicate the presence of a small-scale industry manufacturing these objects in Phase 3. 46 pins came from gully [130], with further examples from the large dumps of domestic refuse

Table 2. Metalwork by stratigraphic unit

Object numbers are given in brackets; sample numbers are given in < >

Phase	Unit	Copper alloy	Iron objects	Iron nails (no.)
3	Layers 121/138		unidentified (2028)	1
	Gully 130	46 pins (2024), wire (2024), needle (2024)		
	Spread 472/473		knife (2068)	
	Layer 185	vessel (2059)		
	Pit 385	twisted wires (2052)		2
4	Pit 175/gully 165	vessel (2056)		
	Layer 195	tack (2097)		
	Pit 324	cu alloy/iron lock (2018)	unidentified (2017)	4
	Pits 196 & 350	fitting (2012), 8 pins (2095, <3001>, <3002>)	unidentified (2021), blade (2079), horseshoe (2103)	4
	Spread 273	vessel (2037), pins/twisted wire (2041), 7 pins (2011, <3004>), 3 lace tags (<3004>)	unidentified (2090), tongs (2091)	29
	Pit 506		2 unidentified (2096, 2070)	1
5	Pit 313			2
	Layer 155	chain (2048)		
	Layer 208			2
	Fireplace 360		unidentified (2032)	8
	Layer 377			1
6	Pit 206	hinge (2014)		
	TOTAL	**76**	**11**	**54**

in Phase 4 (pit [350], spread [273]). Small pins, used mainly as clothes-fasteners, were made from the medieval period onwards.

Two forms are present, which may reflect the distinction between pins made on site, and subsequent incidental losses. The pins from gully [130] have simple wire-wrapped heads and are relatively consistent in length (30–32mm). This group includes a significant number of what appear to be unsharpened 'blanks', and also two additional items: a short length of wire (46mm) and a probable needle (length 64mm).

As far as can be ascertained, all the other pins from the site have heads formed by wire wrapped around the shaft and then shaped to a globular form. Lengths vary from 24mm to 32mm, and there are no apparent 'blanks'.

Other objects

A composite copper alloy and iron plate-lock came from pit [324] (Fig 10, 2). This survives relatively complete, with the lock mechanism attached to the rear of the lock-plate. Other items comprise a small decorative octofoil mount (Fig 10, 3; Egan & Pritchard 1991, fig 122), and a tack (layer [195], Phase 4). A third fragment probably derives from a decorative roundel (Fig 10, 4). Such items could have been used to decorate harness or belts, or possibly the bases of vessels (*eg* Margeson 1993, 93–4).

Fragments of two vessels were found. These comprise a roughly circular perforated sheet, presumably a strainer or skimmer (Fig 10, 5; Egan 1998, figs 125, 127), and a small, everted rim from an unknown open form (Fig 10, 6).

Other identifiable objects include a short length (12 links) of fine chain (layer [155], Phase 5), two fragments of twisted and looped wire (Fig 10, 7; pit [385], Phase 3; spread [273], Phase 4), and three lace tags (spread [273]).

List of illustrated objects (Fig 10)

1. Iron tongs. Obj No. 2091, spread [273], Phase 4.
2. Iron/copper alloy plate-lock. Obj No. 2018, context [332], pit [324], Phase 4.
3. Decorative copper alloy rosette fitting. Obj No. 2012, context [276], pit [350], Phase 4.
4. Decorative copper alloy roundel. Obj No. 2059, layer [185], Phase 3.
5. Perforated copper alloy sheet (?strainer). Obj No. 2056, context [174], pit [175], Phase 4.
6. Copper alloy vessel rim. Obj No. 2037, spread [273], Phase 4.
7. Twisted copper alloy wire. Obj No. 2052, context [288], pit [385], Phase 3.
8. Lead seal, context 100, clearance.

Glass

M Laidlaw and Lorraine Mepham

The glass assemblage from Highbridge Wharf consists of both vessel and window glass fragments and dates from the 16th century onwards.

Vessel glass

Drinking vessels

The earliest vessels are represented by fragments of a minimum of six vessels, four of them Venetian or *façon de Venise*. Fragments of five vessels came from spread [273] and pit [350], and joining fragments between the two contexts suggest that these vessels form a single group, although they must be residual in these Phase 4 contexts. A mould-blown lion-mask wine glass stem from clearance levels may originally have formed part of the same group. All six vessels are of types which are relatively common on early post-medieval sites in this country, and find parallels in form if not in exact details of decoration within 16th- or early 17th-century assemblages from, for example, Exeter, Basing House (Hants), Southampton, and London (Charleston 1975; 1984; Moorhouse 1971; Oswald & Phillips 1949).

Three of the stratified vessels comprise a small beaker, probably a pedestal form in translucent pale green glass, with optic-blown ribbed decoration (Fig 11, 1; Willmott 2002, type 4.2, 47); a cylindrical beaker in a clear glass with applied thin cut trailing (Fig 11, 2; *ibid*, type 1.10, 41); and the foot from a pedestal flask (Fig 11, 3), also in clear glass, decorated with marvered *lattimo* (opaque white) bands alternating with composite bands each comprising four thin stripes (*vetro a filigrana*). The latter vessel can be compared with a neck fragment from Exeter dated to the 16th century (Charleston 1984, fig 148, no. 49). A fourth vessel is represented by a small base fragment from a beaker with an applied, milled footring (not illus; *cf* Charleston & Vince 1984, fig 45, 11).

Two additional small body fragments from pit [350] (not illus) derive from a further one or possibly two flasks or beakers with optic-blown decoration.

Mould-blown lion-mask stems comparable to the example from clearance (Fig 11, 4) were made at virtually every large glass-producing centre in Europe, and were current from the mid-16th into the 17th century. They are relatively common finds in this country, recorded for example at Basing House, Exeter, and from the Gracechurch Street 'hoard' in London (Moorhouse 1971, fig 27, nos 1–3; Charleston 1984, fig 151, no. 118; Oswald & Phillips 1949).

Urinal

Also from pit [350] came two small rim fragments from a urinal (not illus), as well as a small body fragment which may derive from the same vessel. These fragments are all in a very decayed, almost opaque glass. These vessels, used primarily for uroscopy, are very thin-walled and generally only survive as rim or base fragments. This rim is identifiable by its characteristic form, horizontal and turned up slightly at the edge (Willmott 2002, type 34.1, 103). Urinals were certainly made from the medieval period, but continued in use in very similar forms into the early post-medieval period; they were particularly common in Tudor and Stuart households.

Wine bottles

Fragments of green wine bottles were recovered from six contexts from Phases 4 and 5. The only

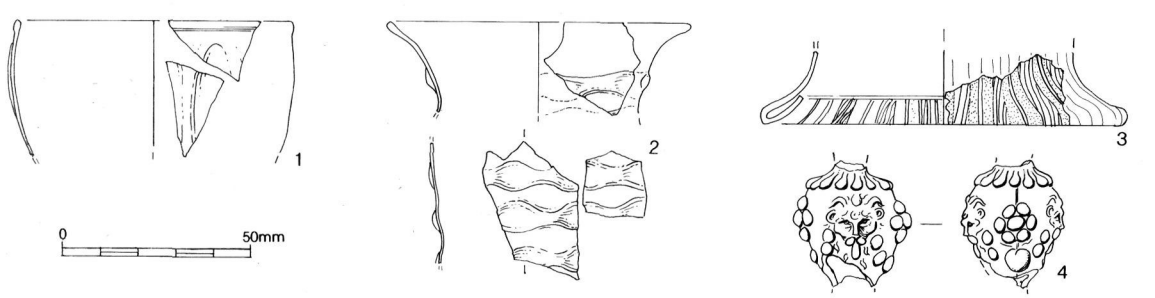

Fig 11. Glass vessels

closely datable vessel is the almost complete example from brick-lined tank [191] (Phase 5), which is of early 18th-century type (Hume 1961, type 12); other fragments may only be dated broadly to the mid-17th century or later.

Window glass

A total of 29 fragments of window glass was recovered from stratified post-medieval contexts, mostly from the large dumps of material in Phase 4 (spread [273] and pit [350]). The fragments are all small and range in colour from very pale green to dark green; several are in a poor condition with iridescent and flaking surfaces. In only one instance can the original shape of the quarry be determined — a diamond-shaped quarry (125mm by 95mm) from fireplace [360] (Phase 5). It may be noted that no lead fragments were recovered from the site.

List of illustrated vessels (Fig 11)

1. Rim and body sherd from beaker or bowl, pale green, mould-blown ribbed decoration. Obj Nos 2026/2035, spread [273]/pit [350], Phase 4.
2. One rim with impressed ribbing and two similar body sherds, all in clear glass. Obj No. 2035, spread [273], Phase 4.
3. Foot from a flask with *lattimo* decoration. Obj No. 2039, spread [273], Phase 4.
4. Mould-blown lion-mask stem. Obj No. 2006, context [100], clearance.

Pottery

Lorraine Mepham

A small quantity of pottery was recovered (897 sherds; 40,391g), including both medieval and post-medieval material, as well as two sherds of probable prehistoric date.

All sherds have been assigned to fabric types, following the Museum of London type series. Terminology for vessel forms and component parts follows nationally recommended guidelines (MPRG 1998). Quantification of pottery by fabric type, recording also details of vessel form, decoration, surface treatment and manufacture, has been carried out; details are held in archive (paper records and Access database).

Prehistoric pottery

Two possible prehistoric sherds were recovered, one in a coarse flint-tempered fabric, residual in the fill of pit [506] (Phase 4); and the second, in a coarse calcareous fabric, in the topsoil. Both are plain, undiagnostic body sherds which, on the grounds of fabric, are likely to be of later prehistoric date, probable Late Bronze Age or Early Iron Age.

Range of medieval and post-medieval wares

The quantities of medieval pottery recovered are relatively small (182 sherds; 4324g), and much of this material occurred as redeposited sherds in later contexts. Nineteen fabric types were identified (see Table 3), which fall into five groups:

- early medieval coarsewares
- Surrey whitewares
- London type wares
- later medieval coarsewares, various sources
- imports

The bulk of the assemblage consists of post-medieval material, most of which falls within a date range of late 15th/early 16th century to very early 18th century. The types identified fall into five groups:

- coarse earthenwares
- stonewares (English and German)
- tinglazed earthenware (English and imported)
- other imported wares
- industrial wares

The accepted dating for these various fabrics (Pearce *et al* 1985; Vince 1985; Hurst *et al* 1986; Orton 1988; Pearce & Vince 1988; Vince & Jenner 1991; Pearce 1992) has been used, in conjunction with other datable artefactual material, to phase the stratigraphic sequence and, subsequently, to refine that broad dating wherever possible.

Pottery by phase

Phase 1 (medieval)

The earliest stratified material (Phase 1) came from the lower fills of a large pit [510]. This pit produced just under half of the total medieval assemblage from the site by weight — 59 sherds (2292g) from three separate fills [509], [523], [515]. These sherds derived from a minimum of four vessels, all hand-made necked jars of similar size and probably of shouldered profile (Fig 12, 1–4), two in EMSH and two in EMSS. All four vessels show signs of sooting residues from use as cooking vessels.

This small group has a potential date range of early 11th to late 12th century; both EMSS and

Table 3. Pottery fabric totals

Date/group	Fabric	No. sherds	Weight
PREHISTORIC	fabric unspec.	2	23
MEDIEVAL			
Coarsewares	calcareous	1	33
	SHER	2	25
	sandy	2	36
	shelly/organic	1	23
Surrey whitewares	CBW	19	495
	CHEA	11	270
	KING	2	8
	TUDG	1	8
Early med. Coarsewares	EMSH	42	1909
	EMSS	21	477
	ESUR	9	151
	SHER	5	137
	SSW	1	3
London wares	LCOAR	34	302
	LLON	3	69
	LLSL	2	25
	LOND	6	106
Imports	SAIN	19	237
	NFM	1	10
Total medieval		**182**	**4324**
POST-MEDIEVAL			
Coarsewares	BORD	57	1008
	PMSR	73	4047
	METS	12	672
	PMBL	19	383
	PMR	389	23,079
	SUND	1	88
	micaceous	1	6
Stonewares	KOL FREC	36	1001
	FREC	29	741
	LONS	6	533
	RAER	10	580
	ENGS/SBLB	10	1221
Tinglaze	TGW	22	91
Imports	MART	6	144
	SAIN	1	18
Industrial	SGSW	4	25
	CREA	3	20
	PEAR	6	1038
	REFR	1	8
	REFW	22	1185
	NBW	2	77
	whiteware (?import)	3	79
Total post-medieval		**713**	**36,044**
TOTAL		**897**	**40,391**

EMSH cover a similar date range, but both are more commonly found in late 11th- to mid-12th-century contexts (Vince & Jenner 1991).

The only other Phase 1 feature to contain pottery was pit [478], which produced a single body sherd of EMSH.

Phase 2 (16th century to early 17th century)

Very little pottery derived from Phase 2 contexts (79 sherds), and this came largely from areas of cobbling and others surfaces associated with the three buildings of this phase, *eg* mortar layer [123], gravel layer [186], as well as wall trenches [126] and [282]. Sherds are relatively small and abraded (mean sherd size 14.2g). A variety of later medieval fabric types are represented, including London-type wares, Surrey whitewares, and Saintonge monochrome, as well as a very small amount of early post-medieval coarse redwares and one Raeren vessel.

Phase 3 (late 16th to mid-17th century)

Pottery from Phase 3 originated from layers sealing the earlier yard surface (layers [121], [138], [472], [473]), and from features cutting these layers (pit [129], gully [130], and pit [385]). Overall quantities again are not great (222 sherds), although more than from Phase 2, and condition is better (mean sherd size 37.0g). The majority of this small phase group is made up of coarse redwares; interestingly only one sherd of Border Ware (whiteware) is present. There are small quantities of Cologne/Frechen and Raeren stonewares, and two sherds of Martincamp flasks (Hurst's type I: Hurst 1966).

More diagnostic forms are identifiable in this phase, and a selection of these are illustrated by feature/context group (Fig 13, 5–10); these are primarily coarsewares in a range of food preparation and food serving forms. There is nothing amongst the pottery assemblage which might reflect the industrial activities in the area.

Phase 4 (17th century)

Just under half of the total pottery assemblage was recovered from contexts and features of this phase. This includes several relatively large groups from pits [324] and [350] as well as from layers of occupation or demolition [273]. These contexts are probably associated with the demolition of an

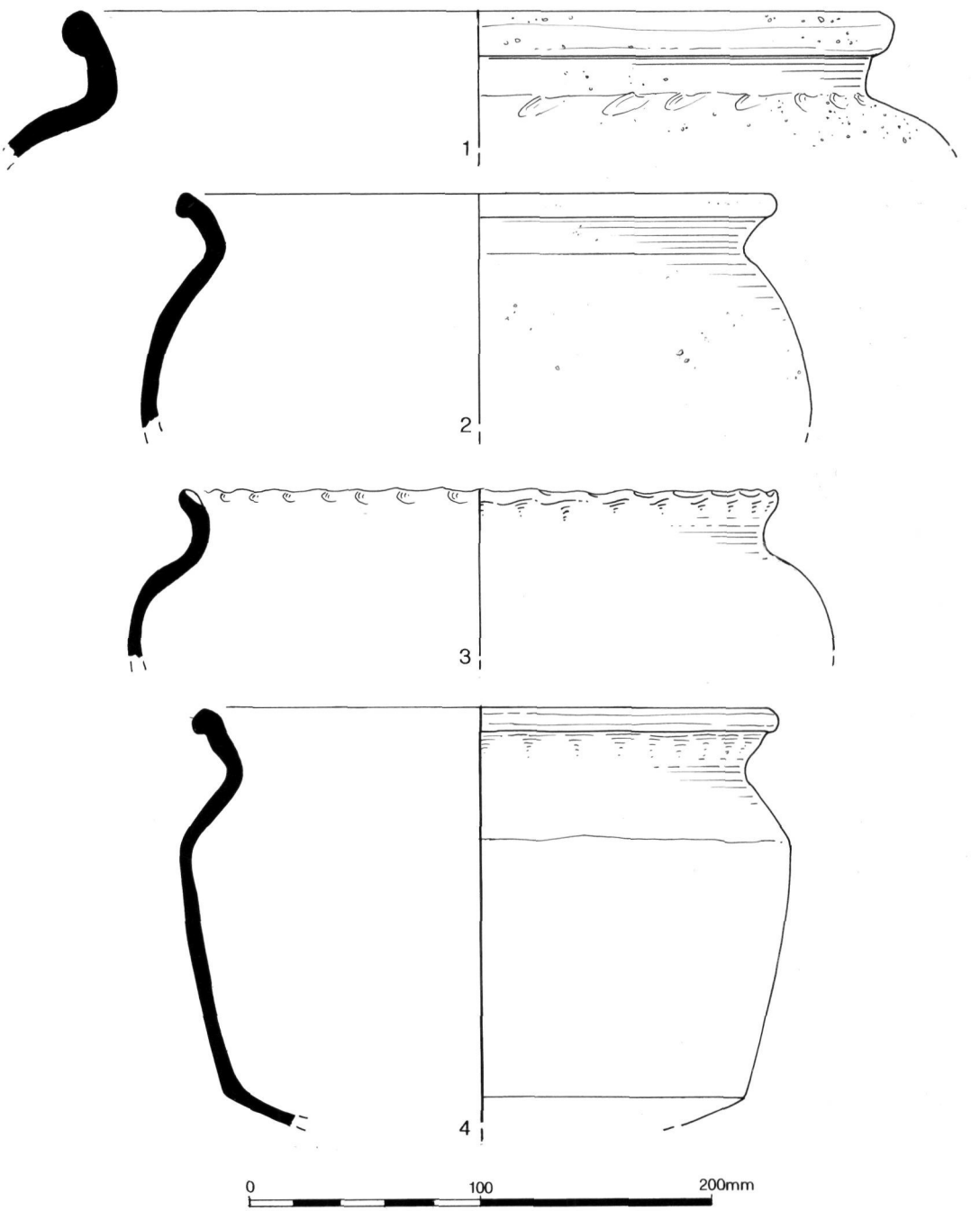

Fig 12. Medieval pottery

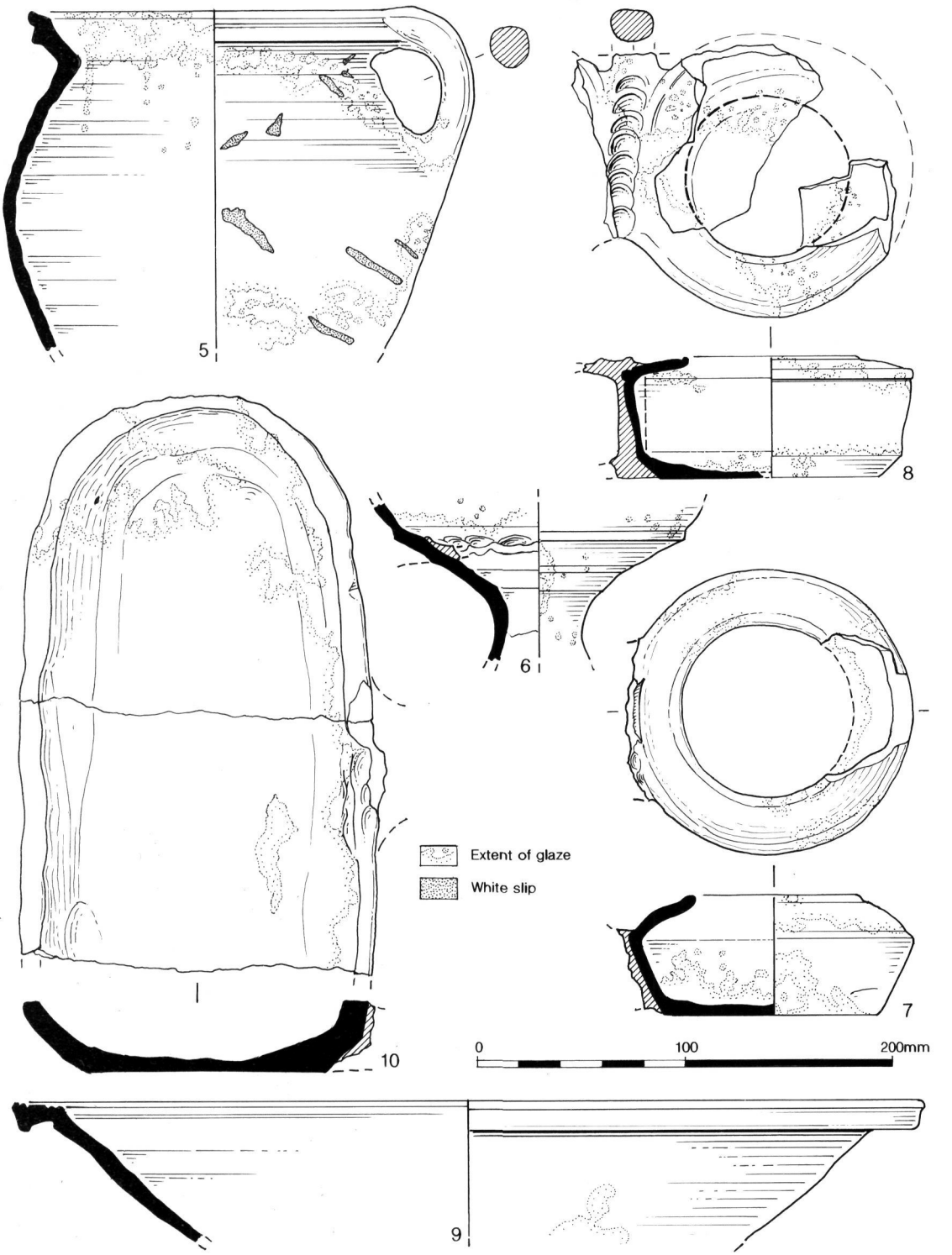

Fig 13. Late 16th- to mid-17th-century pottery

earlier building and construction of a new building and much of this may be residual material from activity in Phases 2/3. Both chronological and functional aspects should be considered here.

The proportion of coarse redwares is down (just over half the total for this phase), and Border wares are more apparent. Small quantities of Raeren and Cologne/Frechen stonewares are again present, and tinglazed earthenwares appear, including one sherd of Montelupo polychrome. Pit [350] and, in particular, layer [273] appear to contain a significant proportion of residual material; this includes slipped wares (PMSR), and German stonewares (RAER, KOL FREC, FREC), as well as other material types such as vessel glass (see above, Laidlaw and Mepham), all of which could be dated within the second half of the 16th century or, at the very latest, to the early 17th century.

Selected groups from layer [273] and pit [350] are illustrated (Fig 14, 11–20). Once again, the majority of the vessel forms represented relate to food preparation and serving, but a greater variety of forms are present than for Phase 3; the presence of imported vessels such as a Montelupo polychrome dish, a Saintonge chafing dish, and a small group of decorated Frechen or Cologne/Frechen jugs/bottles, coupled with the vessel glass, indicates an assemblage which reflects slightly higher status activity than that observed in previous phases.

Phase 5 (late 17th/early 18th century)

Only a very small quantity of pottery came from contexts of this phase. The only new fabric type represented is white salt-glazed stoneware, which is the latest closely datable type present — this was widely available from the 1720s. Indeed, the dearth of any wares which can be dated later than the early 18th century is noticeable. Industrial wares of the 18th century are represented only by the four sherds of white salt-glaze from Phase 5, plus three of creamware and six of pearlware from Phase 6 and clearance contexts, and later industrial wares are similarly scarce.

List of illustrated sherds (Figs 12–14)

Phase 1: Vessels from Pit [510]

1. Jar, EMSH. Context [509] [rim 6], pit [510].
2. Jar, EMSH; heavily sooted exterior. Context [509] [rim 7], pit [510].
3. Jar, EMSS; finger impressed rim. Context [509] [rim 8], pit [510].
4. Jar, EMSS. Context [523] [rim 9], pit [510].

Phase 3: Vessels from spread [472/473] and pit [385]

5. Handled jar, PMR, partially glazed. Context [288], pit [385].
6. Lower part of chafing dish, PMR, glazed internally. Context [288], pit [385].
7. One element of multiple (double) bowl, PMR, glazed inside and out, handle broken off. Obj No. 2049, context [288], pit [385].
8. One element of multiple (double) bowl, PMR, glazed inside and out, looped handle broken. Spread [472/473].
9. Dish, PMR, glaze spots inside and out. Spread [472/473].
10. Dripping dish, PMR, glazed internally. Spread [473/473].

Phase 4: Vessels from pit [350] and spread [273]

11. Jug or bottle, FREC; portrait medallions, acanthus palmettes and central motto; motto reads WAN GOTS VILT SOIS [MEIN ZEIL(T)] ('When God wills it, then my time is up'). Context [276], pit [350].
12. Jug or bottle, FREC; portrait medallions, acanthus palmettes and central motto; motto reads WAN GOTS VILT SOIS [MEIN ZEIL(T)] ('When God wills it, then my time is up'). Spread [273].
13. Jug or bottle, FREC; portrait medallions and acanthus palmettes. Context [276], pit [350].
14. Jug or bottle, KOL FREC; portrait medallions and acanthus palmettes. Context [276], pit [350].
15. Mug/jug, RAER. Context [276], pit [350].
16. Flask, MART. Context [276], pit [350].
17. Pipkin, BORDY, yellow glaze internally. Context [276], pit [350].
18. Large handled jar, PMR. Context [276], pit [350].
19. Money box, BORDG, green glaze externally. Spread [273].
20. Dish, BORDY, yellow glaze internally. Spread [273].

Ceramic building material

M Laidlaw

The ceramic building material recovered from the site includes roof and floor tile fragments and bricks. The bricks consist of samples taken from each structural element, as well as other brick fragments encountered in feature fills and other contexts. A total of 746 fragments weighing just over 208kg was recorded. The whole assemblage is of post-medieval date. A breakdown of the assemblage by type is presented in Table 4.

Roof tiles

The roof tile fragments consist mainly of peg tile fragments, with a small number of pantile and

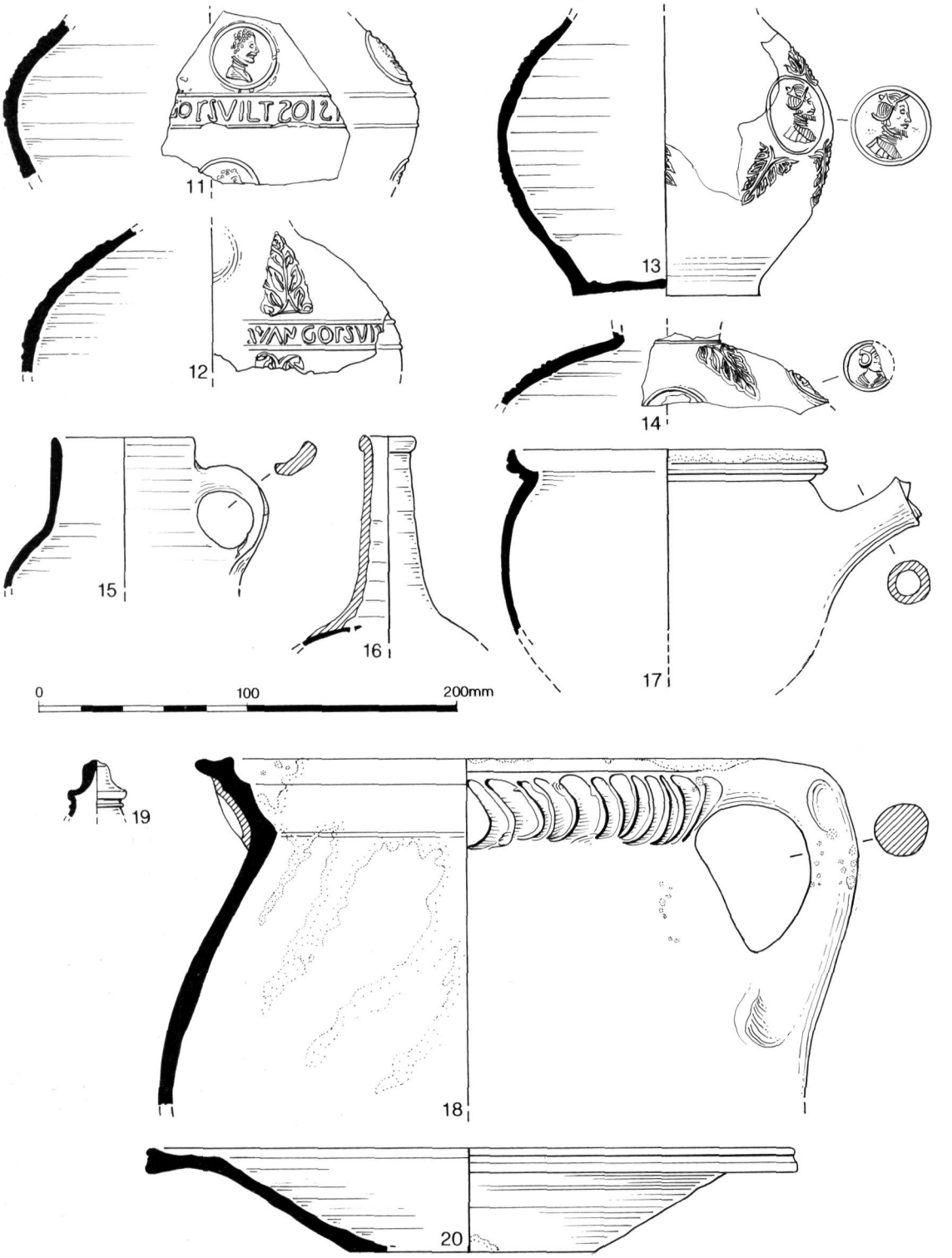

Fig 14. 17th-century pottery

Table 4. Ceramic building material by phase
excluding brick samples

Phase	Bricks	Roof tiles	Floor tiles
1	5/977	11/1057	—
1/2		3/250	
2	2/926	59/5798	—
2/3	5/830	6/407	—
3	22/14729	95/10009	—
4	30/8149	311/33395	4/822
5	10/3706	107/16223	1/1392
TOTAL	**74/29317**	**584/66514**	**5/2214**

other curved tile fragments. All of the roof tile fragments are very similar in fabric type. Three broad types were identified:

Q601 Hard moderately fine matrix, well-wedged with moderate quartz <1mm, mostly 0.5mm. Fired pale to dark orange, occasionally with an unoxidised core.

Q602 Moderately hard matrix, moderately-wedged with moderate quartz 0.5mm, sparse red iron oxide <2mm, sparse black iron oxide <1mm. Fired pale browny orange.

Q603 Hard moderately fine matrix, well-wedged with sparse quartz <2mm, rare ?chalk <7mm. Fired orange to reddish orange.

The majority of roof tiles were attributed to the moderately fine fabric Q601 (96% of roof tiles by weight). This fabric group covered a broad variation of fabrics from hard fired to a small number of very hard fired fragments and a moderate variation in colour. Small quantities of fragments were attributed to the two other fabric types mainly on the presence of distinct inclusions of iron ore and ?chalk. The tiles in the above three fabrics are likely to have been manufactured at various kiln sites around London using the readily available deposits of sandy clay found in Quaternary deposits throughout the Thames Valley.

The bulk of the fragments (583) are derived from peg tiles. No complete tiles were recovered, although surviving widths are fairly consistent in size (150–160mm, with the majority around 155mm, and 10–15mm thick). One complete length was observed (264mm). A total of 72 fragments have round perforations, half of which occur in pairs, with an average diameter of 14mm. The distance between the peg holes ranges from 25mm to 65mm. A smaller quantity of fragments have square holes, often paired and ranging in size from 9mm to 17mm.

The peg tile fragments were distributed in a large number of features ranging from Phases 1–5, with the majority from Phase 4, including a large dump in pit [324]; another tile dump was noted in Phase 2 (layer [422] — a make-up layer within Building C).

In addition, five pantile fragments and seven other curved fragments were recorded. One pantile was recovered from drain [165] (Phase 4) and four from pit [407] (Phase 4). Pantiles superseded peg tiles as the most common roof tile form during the 17th century. The curved fragments could derive from further pantiles, or from ridge tiles. One fragment is perforated on the crest of the tile. The curved fragments were from pit [407] (Phase 4) and layers [422] (Phase 2), and [273] (Phase 4) and [377] (Phase 5).

A small number of roof tiles including one curved tile and 13 peg tile fragments have splashes of glaze on their upper surface, and two peg tile fragments from gully [108] (Phase 5) have, unusually, splashes of glaze on their underside surface.

Floor tiles

The floor tiles recovered consist of four plain fragments, all glazed, and one decorated. Floor tile fragments were recovered from pits [350] and [437] and spread [273] (Phase 4) and wall [225] (Phase 5). The decorated tile fragment also came from spread [273].

Bricks

The brick assemblage consists of fragments recovered from features as well as complete bricks retained as representative samples from 13 structural elements, including walls and floors. The bricks are all handmade and unfrogged, and were divided into four broad fabric types on the basis of dominant inclusions and the nature of the clay matrix:

Q610 Hard, compact matrix with moderate to common clay pellets/lumps <5mm, moderate quartz <1mm. Fired mainly reddish brown.

Q611 Hard, compact matrix with moderate quartz <2mm, rare pebbles <15mm, sparse ?chalk flecks. Fired dark red to purple.

Q612 Moderately hard, fine matrix with moderate quartz <1mm (mostly 0.5mm). Fired orange.

Q613 Moderately hard, a less compact matrix with moderate quartz <2mm, moderate to common clay pellets. Fired orangey brown.

Due to the similarities of the fabric types it was often difficult to attribute bricks to a particular fabric as each covered a wide variation and a slight degree of overlap. The majority of bricks (77 fragments) are attributed to the moderately coarse fabric Q610, distinctive due to the presence of common clay pellets. A moderate quantity (34) are attributed to Q613 which is similar to Q610 but has a less dense matrix. Smaller quantities are attributed to the finer sandy fabric Q612 and the hard compact fabric Q611 characteristically fired dark red to purple (14 and 13 fragments respectively).

The dimensions of the bricks are also very similar. Average dimensions for the bricks are 221mm by 105mm by 57mm thick, dimensions which are closely comparable to the standard 'Tudor' brick as set out in the charter of 1571: 228mm by 108mm by 57mm (9in by 4¼in by 2¼in).

Clay pipes

M Laidlaw

The small assemblage of clay pipes includes 10 datable bowls from stratified contexts within Phases 2–5, one with a maker's mark (rosette heel stamp), as well as one bowl fragment with a second maker's mark (heel stamp HR). The bowls cover a restricted date range within the 17th century, the majority dating to 1610–40 (8 examples).

Worked stone

M Laidlaw

Twenty-seven stone fragments were retained, consisting of three portable objects and 24 architectural fragments.

Portable objects

The portable objects consist of one mortar (clearance), one whetstone (spread [273], Phase 4), and one possible quernstone fragment (context [474]). The mortar fragment (Fig 15, 1) is in a shelly limestone, possibly Purbeck marble. Its internal surface is smooth and worn, the upper surface is scratched and pitted, and the external surface has visible tool marks. The possible quernstone fragment consists of two conjoining fragments in a coarse lava type stone with one smoothed surface, a curved outer edge, and a rough external surface. The fragments are too small to attribute to a specific form.

Architectural fragments

The architectural fragments can be divided into four categories:

1. ashlars with at least one surface (8)
2. mouldings (5)
3. voussoirs (2)
4. roofing tiles (9)

One of the mouldings has the outline of a pointing hand incised lightly onto one face (Fig 15, 2). The fragments were recovered from clearance and pit [324]. The voussoirs were recovered from walls [149] (Phase 4) and [321] (Phase 5). The voussoirs and other architectural fragments may have been reused in later structures, but it is likely that at least some of the fragments derive originally from the Phase 2 building.

A total of nine fragments possibly derived from stone roofing tiles, consisting of three slate, one shelly limestone, and five sandstone fragments. These were recovered from gullies [130] and [165], soakaway [243], spread [273], and pit [483].

List of illustrated objects (Fig 15)

1. Mortar fragment. Obj No. 2063, context [100], clearance.
2. Fragment of moulding with incised hand. Obj No. 2087, context [100], clearance.
3. Fragment of moulding. Obj No. 2016, pit [324], Phase 4.
4. Voussoir. Wall [321], Phase 5.

Worked bone

M Laidlaw and Sheila Hamilton-Dyer

The bone objects recovered comprise one plain knife handle, recovered from context [195] (Phase 4), one die (pit [350], Phase 4), and 26 pinners' bones (Fig 16, 1–3), 21 from Phase 3 contexts, 5 from Phase 4, and 1 from clearance.

The pinners' bones are all metatarsi (3 horse and 23 cattle), cut off proximally and modified in order to hold copper alloy pins while they were sharpened during manufacture. Several pins offer direct evidence of this activity.

There is a high degree of standardisation in the modification, although size selection does not seem to have taken place as large bones have been cut down in size. Each bone had been sawn off below the proximal articulation (there is one proximal offcut). This operation had not been carried out from one side in the manner of Saxon bone working, *eg* at Southampton, or early Tudor bone working, *eg* at Baynard's Castle, but from all round the shaft. The desired end result was the shaft tube.

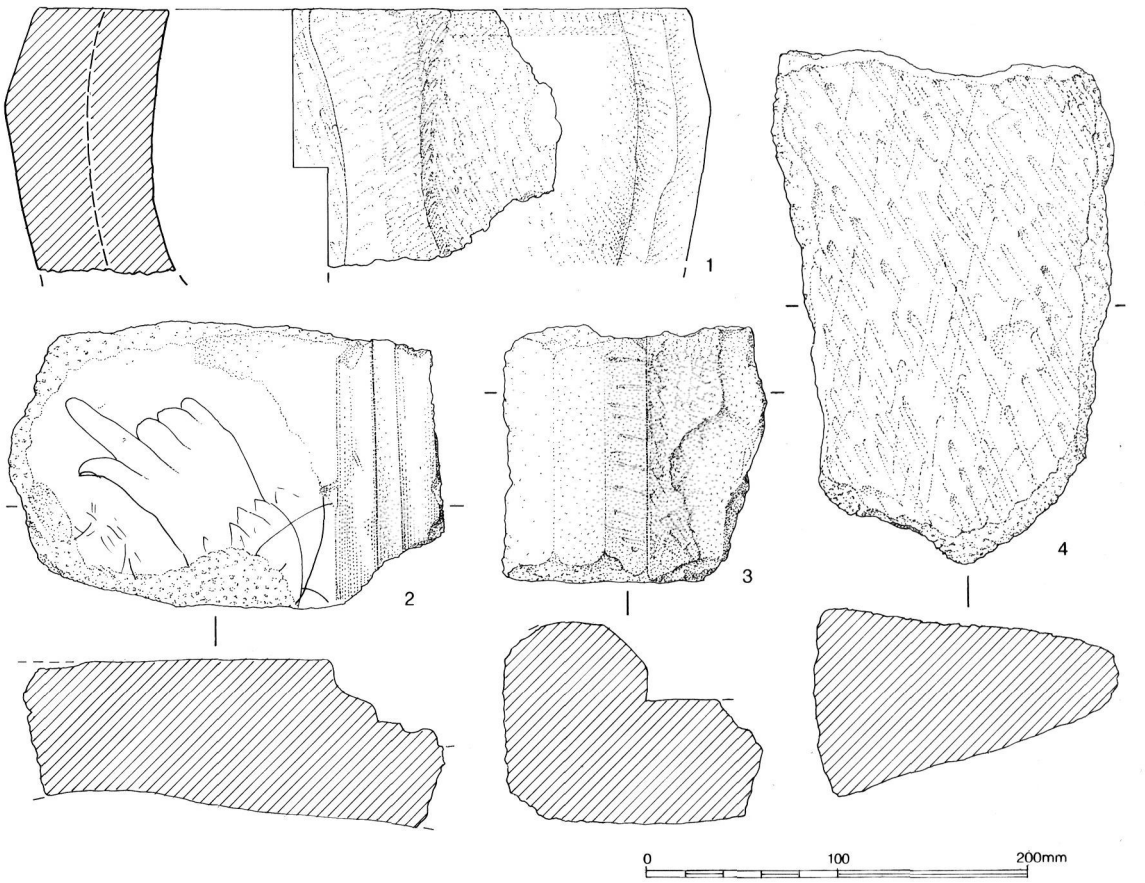

Fig 15. Worked stone

The cut end of the shaft was then formed into a rough square, not in alignment with the naturally square shaft but at 45 degrees. Several grooves were cut into the four sides of this square to hold the pins during the filing procedure. File marks are clearly visible on most of the bones from Highbridge Wharf, indicating that this was done at a slight angle. The largest of the bones had been trimmed on the sides of the distal articulation, either on one side or both. This may have been to make them more comfortable to hold, or perhaps easier to fit in some type of vice, while filing the pins. The three horse metatarsi have been modified in a similar way but one had been made five-sided rather than square.

There is evidence of both use and re-use of these bones. Several of the bones, particularly those recovered from spread [472] (Phase 3), are stained green at the proximal end from the copper salts from the pins. Most of the examples are quite worn, and some have been remodelled to a shorter length after being broken when worn thin. They were probably thrown away when too short or worn to be of any use. Two small end fragments have transverse grooves marking the desired shortened length, but were presumably discarded when the bones broke during sawing. One other bone had also been broken and was being re-shaped, but was ultimately discarded when it broke during sawing. This suggests that they were worked on site rather than supplied ready made.

These objects were used for pin manufacture from at least the mid-16th century until the process was mechanised in the late 18th century (MacGregor 1985, 171). They are apparently known from several sites within London, including Baynard's Castle (MacGregor 1985, 171, citing Guildhall Museum 1908; Armitage 1977). At Highbridge Wharf they were found mostly in contexts of Phase 3, in particular silting layer [121] and spread [472]. One example from gully [130] was associated with a small group of copper alloy pins, including blanks

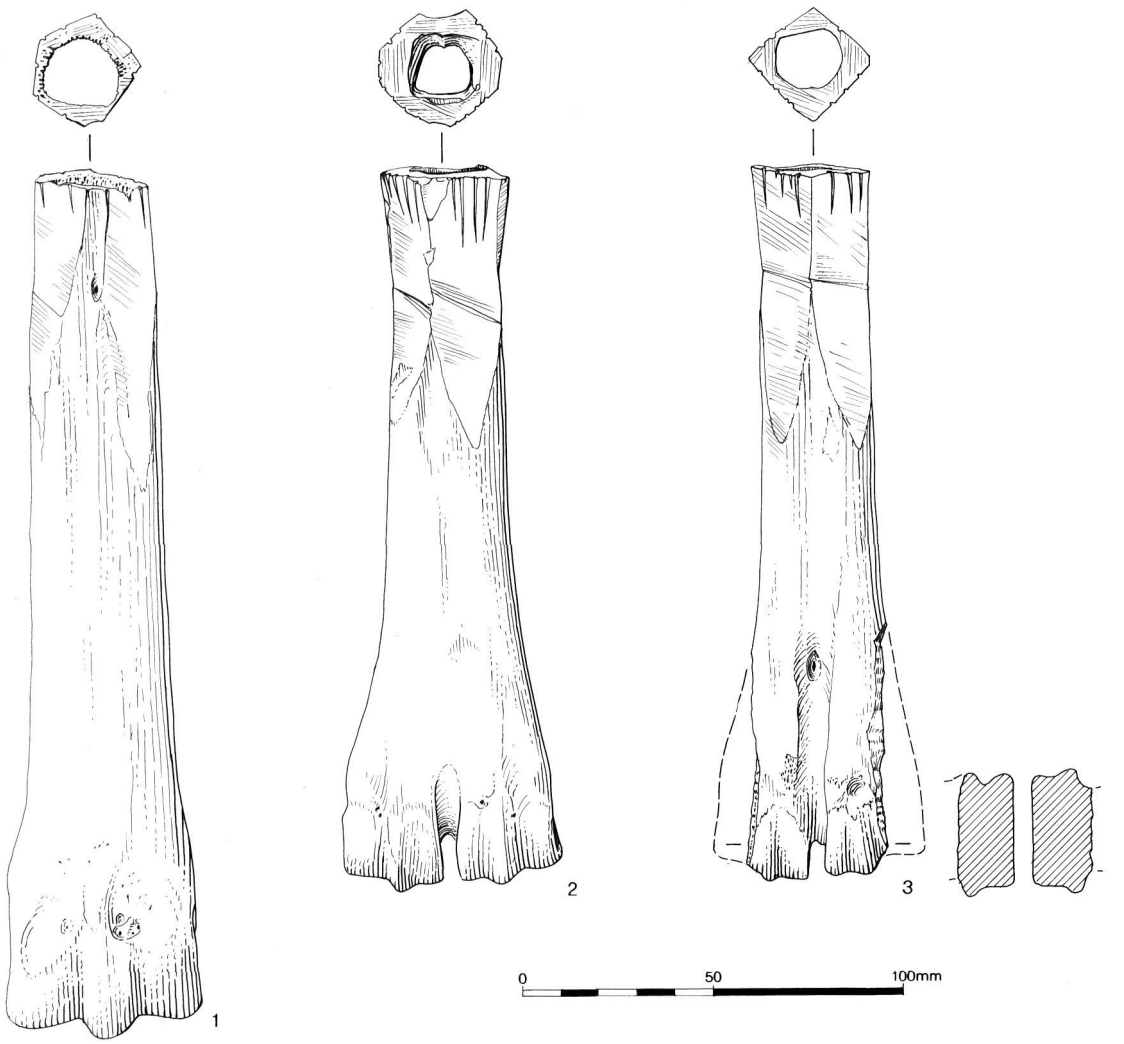

Fig 16. Worked bone

(see Laidlaw and Mepham, above). The focus of this activity, then, seems to be largely confined to Phase 3; further fragments from Phase 4 may be residual or may indicate continued activity for a limited time.

List of illustrated objects (Fig 16)

1. Pinner's bone, horse metatarsus, five flat facets with longitudinal grooves and diagonal file marks. Obj No. 2081, spread [472], Phase 3.
2. Pinner's bone, cow metatarsus, four flat facets with longitudinal grooves and diagonal file marks. 190mm x 55mm x 28mm. Obj No. 2093, silting layer [121], Phase 3.
3. Pinner's bone, cow metatarsus, four flat facets with longitudinal grooves and diagonal file marks, trimmed at the distal articulation. 187mm x 35mm x 28mm. Obj No. 2093, silting layer [121], Phase 3.

Leather

Lorraine Mepham

Fragments of leather came from two contexts, both in Phase 3. From the upper fill of gully [130] came fragments of probably a single welted shoe (Fig 17, 1). These comprise parts of the sole and insole, a separate heel insert, as well as welt and possible upper fragments. In addition, a single fragment, probably part of an upper, came from silting layer [121] (Fig 17, 2).

List of illustrated pieces (Fig 17)

1. Nine fragments, probably from single shoe; sole and welt, and possible upper. Obj No. 2025, context [111], gully [130], Phase 3.

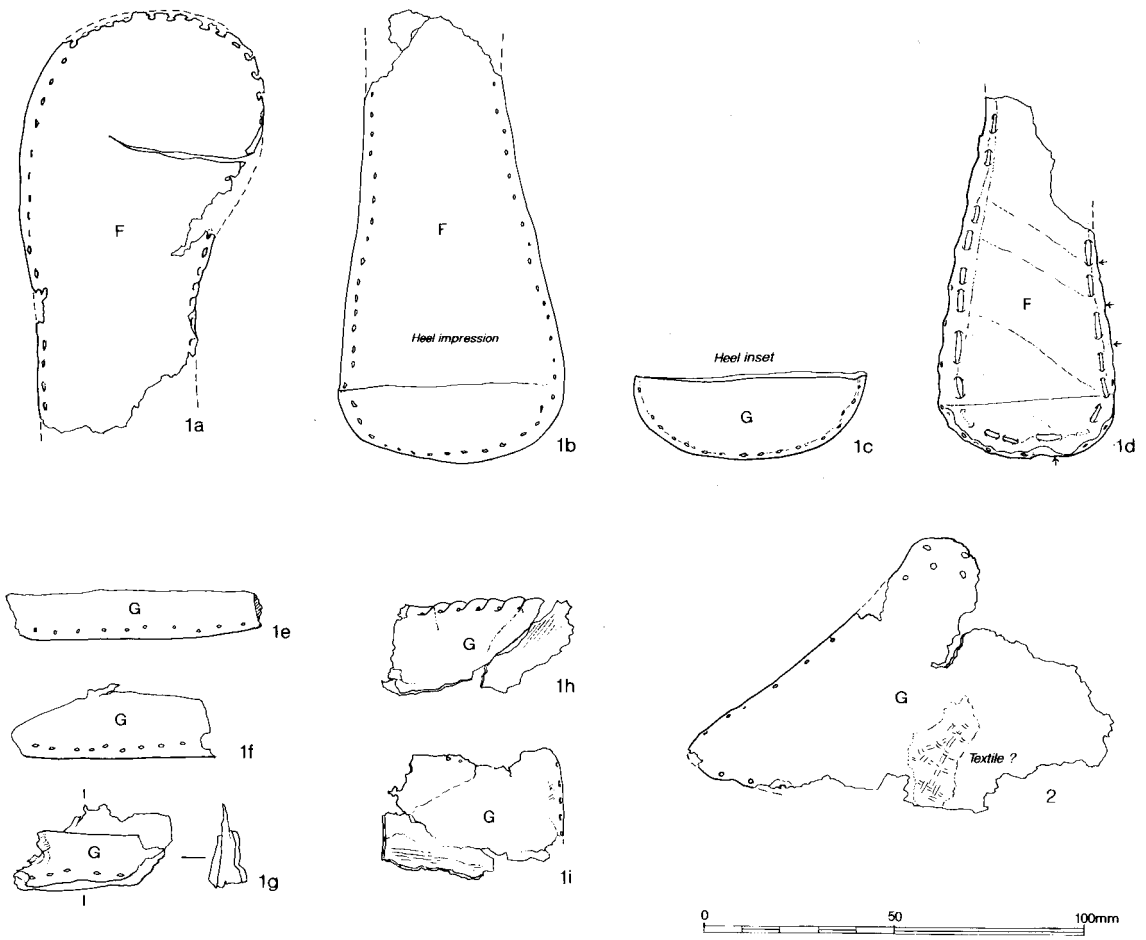

Fig 17. Leather

2. Single upper fragment. Obj No. 2030, silting layer [121], Phase 4.

ENVIRONMENTAL EVIDENCE

Plant remains

Pat Hinton

Samples from four contexts were selected for detailed analysis of plant remains, one from the medieval period and three post-medieval. A smaller sub-sample (*c.*2 litres) was taken from the Phase 4 posthole [343] to ascertain the extent of preservation by waterlogging and to allow comparison with the dried results from the standard flotation procedure.

All samples included both charred and uncharred seeds. Uncharred seeds in dry deposits can usually be dismissed as contamination from more recent vegetation but in this case, apart from some which are obviously far too recent and have been discounted, the seeds are very similar in appearance to those from the waterlogged sample, and are dried, brittle and hollow. There is no root material to suggest disturbance and therefore, although their age may not be certain, these seeds are recorded with the charred seeds in Table 5.

The results in the table are separated into two parts since not only do the plant remains fall into the two distinct categories of charred and uncharred but they indicate different original habitats. The charred remains in the first part of the table are those of cereals, pulses, and plants which are most likely to have been crop weeds. The uncharred seeds in the second part are those of

Table 5. Plant remains

Period		**Medieval**		**Post-medieval**		
Feature		**Pit 510**	**Fireplace 360**	**Spread**		**Pit 343**
Context		**521**	**254**	**273**		**343**
Phase		1	5	4		4
Preservation		Dry	Dry	Dry	Dry	Waterlogged
		Charred Seeds				
Cultivated plants						
Triticum aestivum s.l. - grains	bread wheat	3(2)	1	3(2)	2	
- rachis fragments				3		
Secale cereale	rye	2(1)			2(2)	
Hordeum vulgare L.	hulled barley	2		2	2	
Avena sp.	oats	2		3	3(1)	1
Cerealia indet. - grains	indet. cereals	5	1 ml	2	2	2
- fragments		0.5ml		7ml		
Vicia faba L.	broad bean			1		
Vicia/Pisum sp.	bean or pea			1		
Arable weeds						
Polygonum lapathifolia (L.) Gray	pale persicaria				1	
Vicia hirsuta/tetrasperma	hairy or smooth tare	3				
Galium aparine L.	cleavers			2		
cf Apiaceae	carrot family					1
Bromus cf *secalinus*	rye brome	1			3	
Poaceae indet.	grasses	1		1		
		Uncharred Seeds				
Ruderals, Weeds						
Ranunculus acris/repens/bulbosus	buttercups				1	
Fumaria sp.	fumitory		2			
Urtica dioica L.	stinging nettle		1		7	24
Chenopodium album L.	fat hen	1	1			
Chenopodium sp.	goosefoot	1				4
Atriplex sp.	orache	1	1			
Euphorbia peplus L.	petty spurge		1			
Hyoscyamus niger L.	henbane			4	191*	109*
Lapsana communis L.	nipplewort					1
Edible plants						
Ficus carica L.	fig		1			1
Vitis vinifera L.	grape		1			
Edible plants - Wood margin/scrub						
Corylus avellana L. - nut shell fragment	hazel				1	
Rubus fruticosus agg.	blackberry	3	6	1	3840*	600*
Fragaria vesca L.	wild strawberry				1	1
Prunus spinosa L - fruit stones	sloe				15	1(1)
cf *Prunus* sp. - fruit stone frags.	sloes/plums etc.				5	4
Sambucus nigra L.	elder	1	3	2	2	9
Damp ground						
Carex spp.	sedge		1	1		1
Unclassified						
cf Caryophyllaceae - embryo	pink family			1		

Key: ( ) = identification uncertain. * = estimated.

plants which may merely represent the more immediate environment, but some may have had a use as food or medicine.

Comparing the totals from the two parts of Sample 3005 from pit [343], in view of the different sample sizes (the wet sample equals about one-ninth of the dried), the results as far as the charred seeds are concerned are not surprising. A greater contrast is seen in the uncharred seeds where some species occur in proportionately greater numbers in the smaller waterlogged sample, presumably reflecting better preservation. The estimated total of *Hyoscyamus niger* (henbane) seeds in the waterlogged sample is slightly more than half the total in the much larger dry sample. The difference is less with *Rubus fruticosus* (blackberry), when the waterlogged seeds equal slightly less than a sixth of the dry seeds.

The totals of blackberries and henbane seeds from pit [343] were estimated from sub-samples but the entire sample was searched for other species. All taxa are represented by seeds (which term includes nutlets, caryopses *etc*) unless other stated and nomenclature follows Stace (1991).

Discussion

The charred crop plant seeds from medieval pit [510] differ very little from those from the three post-medieval contexts. The same range of cereals occurs in both periods, and one of the three rachis fragments in the post-medieval spread [273] indicates a hexaploid free-threshing bread wheat. Pulses, represented only by one *Vicia faba* (broad bean) seed and by one cotyledon, possibly of *Pisum* sp. (pea), were found only in the same sample. The charred wild plant seeds are few and are typical field weeds. *Bromus* sp. (rye brome) and unidentified smaller grass seeds occur in both phases and there is unlikely to be any significance in the presence of *Vicia hirsuta/tetrasperma* (tares) only in the sample from the earlier period and *Polygonum lapathifolia* (pale persicaria) and *Galium aparine* (cleavers) only in the later period. The cereals, pulses, and weeds were probably derived from the disposal of burnt domestic refuse. The few uncharred seeds are mainly unremarkable ruderal species.

Sample 3003, from the post-medieval fireplace [360] included only one recognisable cereal grain, *Triticum aestivum* s.l. (bread wheat), and some cereal fragments. The greater part of the sample consisted of small pieces of coal, with some fragments of charcoal and uncharred wood. Uncharred seeds, as before, include ruderal species, but the fruit seeds *Ficus carica* (fig) and *Vitis vinifera* (grape) are frequent items in medieval contexts, usually waterlogged cesspits.

Spread [273] produced slightly more cereals, and also traces of pulses such as broad bean and possibly a pea. Charred seeds again suggest crop weeds and probably derive from domestic fires. The very few uncharred seeds seem more likely to be chance occurrences.

The two samples from pit [343] include cereals and weed seeds similar to those in the previous samples (with the exception of the probable Apiaceae), but their greater interest is in the uncharred seeds. These, as before, are from plants which grow in waste or disturbed ground, or are fruits from woodland or scrub areas, and the most noticeable are blackberry and henbane.

Blackberries are of course appreciated fruits and have always been gathered, and the large numbers of seeds may reflect this. On the other hand they are always present in large quantities in the soil beneath thickets of brambles, and also where berry-eating birds have perched. (An experimental 0.5 litre sample of soil from below an established area of brambles yielded more than 150 seeds, *ie* almost exactly matching the estimated total of *c.*600 seeds from 2 litres of waterlogged soil from pit [343]). Henbane is a very poisonous plant though its leaves have a use as a narcotic and it has a long history of cultivation in herb gardens (Pierpoint Johnson 1862) but here it may only represent local surroundings; it prefers dry nutrient rich soil and now occurs mainly by roadsides or in other disturbed areas. Henbane produces large numbers of seeds, usually more than 300 to a capsule, and perhaps *c.*6,000 to a plant (Salisbury 1961). The presence of both blackberry and henbane seeds in a pit, however, argues for deliberate disposal rather than chance accumulation. Blackberry seeds were found in all samples but henbane, apart from four seeds in spread [273], only in pit [343], both post-medieval.

The charred cereals, pulses, and weeds provide no indication of where they were cultivated. Rye and barley suggest lighter soils than bread wheat and pulses but the weeds are non-specific and it is probable that more than one source is concerned. The uncharred seeds may do more to illustrate the closer environment. *Prunus*, *Sambucus*, *Corylus*, and *Fragaria* species (sloes, elder, hazel, and wild strawberry) are plants of hedges and wood margins and may well have been gathered. The other wild plants such as *Urtica*, *Chenopodium*, *Atriplex*, *Fumaria*, and *Euphorbia* species (nettles, goosefoot, orache, fumitory, and spurge), like the blackberry and henbane, are characteristic plants of open disturbed places,

usually nutrient rich, and *Carex* spp. (two species of sedges) in three post-medieval samples suggest at least some damp areas.

ANIMAL BONE

Sheila Hamilton-Dyer

Species identifications were made using the modern comparative collections of S. Hamilton-Dyer. Some fragments could be identified only to the level of cattle/horse-sized (LAR), sheep-sized (SAR), or just as mammalian. The few measurements follow von den Driesch (1976) and are in millimetres. Withers height estimations of the domestic ungulates are based on factors recommended by von den Driesch and Boessneck (1974). The archive contains further details of individual bones.

This small collection of 291 bones was recovered from features of medieval and post-medieval date. The bones include several associated with the manufacture of brass pins. The taxa identified are horse, cattle, sheep, pig, fallow deer, rabbit, domestic fowl, goose, and duck. Over 64% of the bones (187) could be identified to species, the material consisting mainly of large pieces which were often extremely well preserved. The distribution of taxa in each context is given in Table 6.

Medieval material is restricted to 16 bones from pit [510]. These are of cattle (8), cattle-sized fragments (5), and sheep (3). The sheep bones include a complete metacarpus which gives an estimated withers height of 0.525m. This is typical of the small values for medieval sheep found at other sites such as Southampton (Bourdillon 1980). None of the bones exhibited butchery marks but three had been dog gnawed and all are slightly weathered. A cattle maxilla has a third premolar which is impacted on the first molar.

The bulk of the bones (275) are from post-medieval deposits. Given that most contexts contained less than ten bones it is inappropriate to discuss these by context and the analysis treats the material as a single assemblage.

In eight contexts (marked on Table 6) 26 pinners bones, or fragments thereof, are present. These account for 3 of the 6 horse bones and 23 of the 107 cattle. They are discussed in detail above (Laidlaw and Hamilton-Dyer). The presence of these bones results in a notable bias in the cattle remains. Over 21% of the cattle bones recovered are pinners' bones; of 27 metatarsi in total only four are unmodified. In comparison there are just four metacarpi, all unmodified. Tarsals, toes, and distal tibiae are almost absent (one of each) and it therefore seems clear that the metatarsi had been brought in from elsewhere specifically for industrial use; as at Baynard's Castle, where cattle metapodials appear to have been specially selected for this purpose (Armitage 1977).

Excluding the 23 pinners' bones most of the cattle bones are of good meat areas: the scapula, pelvis, humerus, radius, and femur. A few head and foot bones are present. Most of the cattle-sized fragments are ribs and vertebrae. A high number of the bones (41%) have butchery marks. These are mostly clean chopping by a cleaver but also include knife marks on jaws indicating removal of cheek and tongue and along scapula blades from stripping the meat from the shoulder. There is also a hole in a scapula blade probably made when hanging up the meat, perhaps to cure it. One of the stripped scapulae is of a young calf and there are six other bones from calves, reflecting the increased interest in veal in the post-medieval period. Three of the cattle metacarpi are complete and estimates of withers heights are calculated as 1.225m (gully [130]), 1.256m and 1.5m (layer [100]). The first two would be acceptable, though large, for medieval material but the last is very large. The latter two were, however, recovered from the clearance layer and are not closely stratified. Other measurements are also of comparatively large animals and are representative of the improved cattle of the late 16th century onwards (Armitage 1977).

The 58 sheep bones are also dominated by the best meat bones, often butchered. A mixture of ages is represented with animals of around six months, under three years, and over three years, as indicated by epiphyseal fusion and tooth eruption and wear. No aged animals are represented indicating a selection for meat of high quality.

Almost no pig bones are present and remains of other taxa are also uncommon. There are three bones of fallow deer but two of these are the meatless metatarsi. The single rabbit bone is not butchered but could be meal remains. The nine bird bones are of fowl, goose, and duck, probably all domestic. Only one of these bones, a goose radius, has been cut. Dog bones are not present but some of the bones have been gnawed, suggesting their presence on the site; these are scattered throughout the material and not concentrated in any one feature.

The proportions of taxa and of anatomical elements vary quite widely from context to context. Layer [273] contains more cattle and sheep jaws than other contexts and the pinners' bones are

Table 6. Animal bones

Phase	Type	Feature	Context	pinners	horse	cattle	sheep /goat	pig	fallow	cattle -size	sheep -size	mammal	rabbit	fowl	goose	duck	Total
Medieval	Pit	510	515		—	4	—	—	—	3	—	—	—	—	—	—	**7**
		510	523		—	4	3	—	—	2	—	—	—	—	—	—	**9**
Post-med	Metalling		115		—	1	—	—	—	—	1	—	—	—	—	—	**2**
	Layer		118		—	—	1	—	—	—	—	—	—	—	—	—	**1**
	Layer		120	*1	—	5	—	—	—	2	1	—	—	—	—	—	**8**
	Layer		121	*10	1	21	5	—	2	9	1	—	—	—	1	—	**40**
	?floor		123		—	1	1	—	—	—	7	—	—	—	—	—	**9**
	Layer		138		—	2	1	—	—	5	3	—	—	—	—	—	**11**
	Layer		144		—	—	—	—	—	—	1	—	—	—	—	—	**1**
	Layer		161	*2	—	2	—	—	—	—	—	—	—	—	—	—	**2**
	Layer		195		—	1	3	—	—	—	3	1	—	—	—	—	**8**
	Layer		201	*1	—	1	—	—	—	—	—	—	—	—	—	—	**1**
	Layer		208		—	3	1	—	1	3	2	—	—	—	—	—	**10**
	Layer		241		1	—	1	1	—	—	1	—	—	—	—	—	**4**
	Layer		273		—	18	10	2	—	7	6	—	—	1	—	1	**45**
	Layer		276		—	10	14	1	—	11	4	—	—	2	—	2	**44**
	Layer		351		—	1	—	—	—	—	—	—	—	—	—	—	**1**
	Layer		442		—	—	—	—	—	1	—	—	—	—	—	—	**1**
	Layer		421		—	—	—	—	—	—	—	—	1	—	—	—	**1**
	?		449	*1	—	1	—	—	—	—	—	—	—	—	—	—	**1**
	Robber trench	126	329		—	—	3	—	—	—	2	—	—	—	—	—	**5**
	Linear	130	111		—	1	3	—	—	2	2	—	—	—	—	—	**8**
		130	127	*1	—	2	—	—	—	2	1	—	—	—	—	—	**5**
	Drain	165	162		—	2	—	—	—	—	—	—	—	—	—	—	**2**
	Structure	305	248		—	—	1	—	—	1	—	—	—	—	—	—	**2**
	Pit	313	308		—	1	—	—	—	—	—	—	—	—	—	—	**1**
		313	309		—	—	1	—	—	—	—	—	—	—	—	—	**1**
	Pit	324	322		—	—	3	—	—	2	3	—	—	—	—	—	**8**
		324	323		—	1	—	—	—	1	1	—	—	—	—	—	**3**
		324	331		—	—	—	—	—	—	1	—	—	—	—	—	**1**
		324	332		—	1	1	—	—	1	—	—	—	—	—	—	**3**
	Pit	350	280		—	1	—	—	—	—	—	—	—	—	—	—	**1**
	Pit	385	288		—	5	2	—	—	—	—	—	—	—	—	—	**7**
	Pit	435	434		—	1	1	—	—	1	3	—	—	—	—	—	**6**
	Pit	437	436		—	3	—	—	—	1	1	—	—	1	—	—	**6**
	Pit	506	505		—	2	—	—	—	—	—	—	—	—	—	—	**2**
	Pit	440	472	*9	4	6	—	—	—	1	3	—	—	—	—	—	**14**
Clearance	Layer		100	*1	—	6	3	—	—	—	1	—	—	—	—	—	**10**
			Total		**6**	**107**	**58**	**4**	**3**	**55**	**48**	**1**	**1**	**4**	**1**	**3**	**291**
			percent		***2.1***	***36.8***	***19.9***	***1.4***	***1***	***18.9***	***16.5***	***0.3***	***0.3***	***1.4***	***0.3***	***1***	
			% cattle, sheep, pig			***63.3***	***34.3***	***2.4***									

concentrated in layers [121] and [472]. Generally the numbers of bones are too small to detect real differences in disposal practices, any differences owing more to random statistical effects.

Animal bone recovered from samples taken was dominated by fish bones. Common eel (*Anguila anguila*), conger eel (*Conger conger*), small *cyprinids* (carp family), small *gadids* (cod family), flatfish (*pleuronectidae*), and *salmonids* (trout family) were all retrieved. A few small bird bones were also retrieved along with small mammal and amphibian bones.

THE DOCUMENTARY EVIDENCE

Christopher Phillpotts

Manuscript sources for the history of the site of Creedy's Yard and its predecessors have been consulted at the British Library Manuscripts Department, Greenwich Local History Library, London Metropolitan Archives, and the Public Record Office. The surviving medieval and post-medieval records of Greenwich manor are mostly held at the PRO. These have been consulted selectively, together with deeds and surveys in all these repositories.

Some secondary works and primary printed sources were also used, and these are listed in the Bibliography. Detailed maps and engravings of Greenwich are available from the 16th century onwards. The research into this area of Greenwich has not been conducted exhaustively, but further work would be unlikely to add materially to the interpretation of the excavation site offered below.

The Saxon period

Recent analysis suggests that a series of barrows in Greenwich Park was constructed for burials in the mid-6th to mid-8th centuries. Other burials are known from the north-east part of the National Maritime Museum grounds at TQ 3869 7785. One grave contained three enamelled discs from a hanging bowl of Celtic design, dated to *c.*AD 700, and three others contained bronze pins and 'ring money' (Montmorency 1910–11, 125; Webster 1902, 15–16; RCHME 1994, i, 5, 7 fig 2, gazetteer no. 57; ii, 3–8).

The place-name Greenwich is thought to be derived from the Anglo-Saxon for 'green port'. The 'green' element may be compared to Greenhithe lower down the Thames; the 'wic' element appears to indicate a substantial port (Field 1980, 53). The first known mention of Greenwich was as part of the large estate of Lewisham. This estate, including Greenwich and Woolwich, was granted to the Abbey of St Peter at Ghent by King Edgar in AD 964; an earlier grant in AD 918 by Aelfthryth, daughter of King Alfred, is now known to be a later forgery. After a period in which the Abbey lost control of the lands, the grant was confirmed by King Edward the Confessor in accordance with a promise he had made in 1016, and by William the Conqueror in 1081 (Birch 1887, ii, 337–9 no. 661; Round 1899, i, 500–2 nos 1373–5; Martin 1927, 104–5, 125–6; Grierson 1941, 86–95; Sawyer 1968, 236 no. 728, 299 no. 1002).

The Lewisham estate was of the type known as 'multiple estates', in which different agricultural and pastoral functions were spread over a wide area to take advantage of the variation in local land resources. Each of these estates formed a unit of exploitation which comprised upland and lowland zones of arable, pasture, and woodland, and sometimes marshland zones, which provided resources for fishing, fowling, and reed harvesting. It has been suggested that these estates were utilised continuously from the Romano-British period onwards, or even from the Iron Age. Their extents and operation can often be traced in later manorial structures (Everitt 1986, 72–5).

There is likely to have been some settlement shift within this land unit during the course of the middle or late Saxon period. The mechanism by which these shifts of settlement occurred is unknown, but in the context of the division of the landscape into a series of multiple estates, they are likely to have been seigneurially directed. The considerable distance between the parish church and the later manorial centre suggests a change of focus in settlement at Greenwich in the late Saxon or early medieval period.

The Greenwich settlement probably formed the river port element of the Lewisham estate. The estate as described in *Domesday Book* included a port worth 40 shillings a year, probably on the Thames at Greenwich (Morgan 1983, 8.1; Watson 1987, 110). There was a manorial wharf at Greenwich in 1293 (Martin 1927, 108).

In 1012–1014 and 1016 Danish Viking fleets lay moored at Greenwich. During the time that the Danes were there, they captured and killed Alfege, Archbishop of Canterbury, in 1012. The archbishop's body was transported from St Paul's Cathedral to Canterbury in 1023 (Garmonsway

1972, 142–5, 156–7). The church of St Alphege was built in commemoration at the reputed place of his martyrdom, on the west side of Greenwich Church Street. The grant of AD 964 included churches and churchyards within the Lewisham estate.

The medieval period

In the *Domesday Book* survey of 1086, the present Greenwich was not mentioned by that name. The bulk of Greenwich was included in the entry for the large estate of *Levesham*, held by the Abbey of Ghent, while *Grenviz* referred to West Greenwich, the present Deptford (Morgan 1983, 8.1; Watson 1987, 109–10).

The lordship of the manor of Lewisham and Greenwich, with the advowson of St Alphege church, remained with the Abbey of Ghent until the early 15th century. It was administered from its buildings in Lewisham, called the Priory of Lewisham and Greenwich. There were also priory buildings in Greenwich, but few monks were ever in residence on either site. Greenwich continued to function as a river port. Receipts of the manor in 1267–70 included quay dues. In 1293 and 1299 the abbot levied a toll on carts carrying wood along the high road to his quay at Greenwich.

The changing economic circumstances of the 14th century did not favour direct farming by a distant absentee landlord, particularly one whose estates were liable to confiscation by the Crown because of the Anglo-French wars. The Greenwich lands were leased out in 1346 for fifteen years to John de la Rokele, in order to satisfy a debt. The whole manor was leased out for twenty years in 1376. In an inquisition of 1380 the manor stock was noted as consisting of pigs, barley, rye, wheat, oats, beans, and cart-wheels. The Abbey retained ownership until the Crown confiscated the lands of alien religious houses in 1414 (BL Additional MS 6164 f416; *CPR 1345–8*, 72–3; Drake 1886, 43 n 7, 95; Montmorency 1906, 22, 24, 33; Mandy 1910–11, 134; 1912, 208–9; Martin 1927, 110–19; Mills 1993, 26–7, 39).

The manor of Lewisham and Greenwich was immediately used by Henry V to endow the new Charterhouse he had founded at Sheen. In 1415 the Prior of Sheen was permitted to sue for the arrears of rent in the manor at the Court of Exchequer. The Priory leased out the manor to a tenant for three years in 1428 (PRO E41/79; *CPR 1413–16*, 367; Drake 1886, 43 n 12, 95 n 5; Martin 1927, 119–20).

The fundamental feature of the history of all the manors and parishes along the banks of the Thames below London in the medieval and early modern periods was the struggle to reclaim the marshes from the river. Earthen banks or *walls* were constructed along the riverside, and the land behind was drained by ditches. This was enclosed and drained in a series of units divided by cross-walls, built out from the gravel *uplands* or *inlands* and running perpendicularly to the river. The reclaimed land behind the walls was utilised for meadow and pasture, and also for sowing corn. The unenclosed marshes in front of the walls were used for fishing and fowling.

It is not known at what date the lower Thames was embanked but it may have been as early as the Saxon period. The grant of some marshland in East Greenwich in 1238 included the obligation to maintain the Thames walls and marsh ditches (CLRO Bridge House Deeds C17). The grant of a field called Trinmad by Walkelin de Grenewiz in the reign of Henry III (1216–72) was subject to a similar service (*CAD* iv, 44 no. A6483; PRO E40/6483). The Thames walls were referred to in the manorial account of 1268 (Drake 1886, 43 n 7). In rentals of the manor in the late 13th and early 14th centuries, tenants paid rents for inlands and for pieces of reclaimed marshland called *Michelefotteshope* or *Muthenateshope*, *Beleshope*, *Walleshope*, and *le Hoke* (PRO SC11/349, 350, 351; SC12/9/25).

There were *walreves* to watch over the river walls in 1325 and 1329. Two tenants were fined 3d each for damaging the walls in the marshes in these year (PRO SC2/181/15 and 57). The obligation to maintain the walls was included in the leases of Ghent Abbey's property in Greenwich in 1346 and 1376 (*CPR 1345–8*, 72–3; Martin 1927, 114, 116).

The earliest of the series of royal commissions to review and repair the river walls on the south side of the Thames was dated 1315, but they may have functioned satisfactorily for some centuries before this. The part of the Thames frontage including Greenwich received the attention of the commissions particularly in 1315 24 and 1377–1410 (*CPR 1405–8*, 357; Dugdale 1772, 59–62; Montmorency 1906, 23–5). Flooding by the Thames caused a permanent loss of 60 acres of arable land to the manor at Greenwich in the 14th century (BL Additional MS 6164 f416).

Rising river levels caused particular problems for the river walls in the 15th and 16th centuries. However, it appears that new marshes were being drained for arable exploitation in the manor of Greenwich in the 15th century (BL Cotton MS Otho Bxiv ff79v–80).

Fishing probably formed an important part of the economy of Greenwich. In 1349 Greenwich fishermen were found guilty of using nets of too fine a mesh (Riley 1868, 244–5). There are also indications of wider-ranging trade at Greenwich. A Greenwich mariner was licensed to trade in Gascony as early as 1229 (Montmorency 1906, 21). In 1326 the men of Greenwich were exempted from military service on land because they had sent ships to serve with the king's admiral (*VCHK* ii, 337).

The Abbey of Ghent's buildings in Greenwich served as a manorial centre, collecting the produce of the tithes of the parish, and the manor's courts were sometimes held there. They were already described as 'the old house' in 1268. In 1281 there was a grange and a courtyard enclosing three acres, including apple trees (Drake 1886, 43 n 7). The lease of the Abbey's lands in Greenwich to John de la Rokele in 1346 included buildings and enclosures. The Abbey was to repair the buildings, one of which was a stable, but Rokele was to provide the straw to thatch them. A grange called Tendebarn (probably the tithe barn) was reserved from the lease (*CPR 1345–8*, 72–3). In 1370 the Abbey through its Priory of Lewisham held buildings described as 'a capital messuage' in Greenwich, which were not leased out (BL Additional MS 6164, f416). In 1396 the easternmost building in Greenwich when approached up the Thames was the guest-house (*hostel*) of the Abbey's establishment there. This comprised a group of buildings entered from the landward side through a gatehouse. The gatehouse had a tiled roof, but the rest of the buildings were thatched. They were in the custody of a one-eyed caretaker called Henry Brioul (Martin 1927, 120–1). In the lease of the manor in 1428, the premises were described as a grange with small house with chambers annexed to it, assigned to the farmer of the manor as his residence (PRO E41/79). This became known as the manor house of Old Court by 1468 (PRO E40/4923). It lay at Ballast Quay, to the east of the excavation site along the waterfront.

Highbridge

There are no certain references to Highbridge by that name in the medieval period, but there are some other place-names which might be equivalent. In 1281 an extent of the Abbot of Ghent's manor mentioned 16 acres at *Strandbrugge* (Drake 1886, 43 n 7). In 1303 Walkelin Dat paid rent for land at *Notesbrugge* and the heirs of William Martin for land at *Stondbrugge* (PRO SC11/351). In 1322 the Martin heirs were in arrears for their rent for the land at *Stranbregge* (PRO SC12/9/25). This name implies a jetty on the shore. In 1419 a wharf at *Estgaite* was in need of repair, the responsibility lying with the tenant Stephen Schorham (PRO SC2/181/60). This can be compared to the wharf at Billingsgate, further to the west in Greenwich.

In 1453 a decree of the Venetian Senate ordered the captains of its annual trading galleys which sailed to England and Flanders to avoid delay and loss of crew members at London by mooring at Gravesend or Greenwich. Goods destined for London were to be forwarded from there up the river at the expense and risk of the captains (*CSPV* I, 77–8 no. 313). It has been surmised that the point at which the galleys were instructed to halt was a jetty or *bridge* at Highbridge (Stone 1912, 192; Barker 1993, 115). The line of the present Eastney Street probably served as a route to bring goods from the wharf here, although no evidence survives for it at this period, except perhaps the reference to *Estgaite*.

Between Old Court and Highbridge a series of tenements and gardens had been built by the late medieval period. Property deeds surviving from the late 14th century onwards provide evidence for these, although more detail is available for those at the east end of the row than those near Highbridge (Fig 18).

The property immediately to the west of Old Court is known from land transactions dating back to 1372, when Walter Sprot sold it to Thomas Bakere. By 1390 two shops had been built on it. The premises came into the hands of John Gunthorpe, Dean of Wells and member of the Royal Chapel, in 1483, for the purposes of building. It was then flanked by ditches to the east and west, and included a stretch of the Thames wall with a wharf on the foreshore in front of it. The parishioners retained a right of way along the wall when perambulating the parish bounds. Another house lay on its west side (PRO E40/4756, 4898, 4901–2, 4912, 4919–24, 4926; Drake 1886, 77, 80, 95 n 5, 277).

Further to the west William Folton sold land and two tenements to John Brightwode in 1475. Brightwode's widow gave them to the parish of Greenwich in 1508. This property later formed the nucleus of the Trinity almshouses site. On the west side of it Henry Petit the waterman held land which comprised all or some of the excavation site. It later passed to Henry Abyngdon of the Royal Chapel, and in 1494 to Robert Cosyn (PRO E326/10504; Drake 1886, 277). On this property or adjacent to it Cosyn held a tenement and garden, measuring 7.5m by 22.6m, formerly belonging to John Read and his wife Joan of Lewisham. The Reads also

held the Sprot property in 1390–3, and later a garden or toft from the Prior of Sheen (Drake 1886, 95 n 5). Cosyn's house probably lay near the centre of the excavation site and is possibly represented by the foundation walls and robber trenches of Building A, although there is no evidence to suggest a 15th-century date for the construction of this building.

Somewhere in the vicinity of the excavation site or Eastney Street John Fox held two tenements with a wharf on the River Thames in 1439. Other tenements and gardens lay to its east and west, and the property stretched southward to a footpath leading to All Saints Chapel, but it cannot be located precisely (PRO E211/512E).

Beyond the footpath to the south of all these tenements and gardens lay *Custelotfeld*, divided between several of the manorial tenants (PRO E40/4756). On the south side of this ran the road from Greenwich to Woolwich, now represented by Old Woolwich Road.

Further to the west, on the site of the later royal palace, chalk and limestone sleeper walls of a 14th-century rectangular building have been excavated. The site was granted to Humphrey Duke of Gloucester in 1417, and he built his residence Bella Court there *c.*1427. He enclosed and laid out Greenwich Park in 1434, and built a tower in its centre on the site of a pre-existing building called Mirefleur. This was later the site of the Royal Observatory. Duke Humphrey's residence passed to the Crown in 1447 and was occupied by Henry VI's queen, Margaret of Anjou. A house of Observant Friars was established within the precincts in 1482. The residence was expanded from *c.*1500 onwards by Henry VII, who renamed it Placentia, and by Henry VIII as Greenwich Palace (*CPR 1429–36*, 369; Drake 1886, 55–6; Webster 1902, 3, 11–13; Montmorency 1906, 33).

The post-medieval centuries

The manor of Lewisham and East Greenwich returned to the Crown by one of Henry VIII's enforced exchanges of land with Sheen Priory in 1531 (PRO E40/4758; E41/149). It has remained a royal manor ever since. The manor house of Old Court was sold to the Crown by the Earl of Warwick in 1550 (*CPR 1549–51*, 277–8). The Crown sold it to Sir John Morden in 1699, and he left it in his will to Morden College in Blackheath (Drake 1886, 46). The freeholder tenants continued to owe small quit-rents to the Crown as lord of the manor at the end of the 17th century, but they were considered archaic and not worth collecting (PRO C205/20/6; MPE 245).

The struggle to reclaim the marshland from the River Thames at the east end of Greenwich continued into the 16th century. Fourteen acres of marshland in the New Marsh, and thirteen acres three roods in Cowemershe, were included in a lease of 1540 (*CAD* v A12995; Montmorency 1906, i, 32).

The growth of the Palace became the dominant factor in the economy and development of the settlement of Greenwich. It was one of the chief homes of an expanded royal entourage in the Tudor period. By 1522 many of Henry VIII's courtiers had established their own town houses in Greenwich, including a series along the river to the east of the Palace frontage (Drake 1886, 58 n 10; Thurley 1993, 129).

One of these town houses, known as Compton House, was owned by Sir William Compton from 1512 onwards. This probably lay immediately to the west of the excavation site. Sir William was Groom of the Stole from 1509 to 1525 and Keeper of Greenwich Palace for Henry VIII from 1519 to 1527 (Drake 1886, 56 n 5, 64, 80, 108; Thurley 1993, 83).

The Compton family acquired much of the land between Greenwich Park and the river in this area (Drake 1886, 45 n 10). The Comptons owned the house at the corner of East Lane and Highbridge Wharf for the remainder of the 16th century. It probably had its own wharf to give access to the Thames. It appears in a mid-16th-century view of the Palace from the north by Wyngaerde as a two-storey structure with a central gable and chimney-stack.

Sixteenth-century deeds record the houses occupied along the waterfront between Highbridge and Old Court; again most information is available about those at the east end and relatively little about the immediate area of the excavation site (Fig 18).

To the east of Compton House, Robert Cosyn's tenement and garden passed to Thomas Shelton, who sold it in 1547 to Sir Thomas Cawarden, Henry VIII's Master of the Revels. To the east and south of this was the property later known as Bear Yard (represented by the yard surfaces excavated), and then another house with a garden stretching south to the Woolwich Road (PRO E326/8201 and 10587; E328/225; Drake 1886, 80, 106, 278). All of these lay partly in the excavation site, but no details are known of them except some of the owners' names. It is not clear if any of them became incorporated into Compton House.

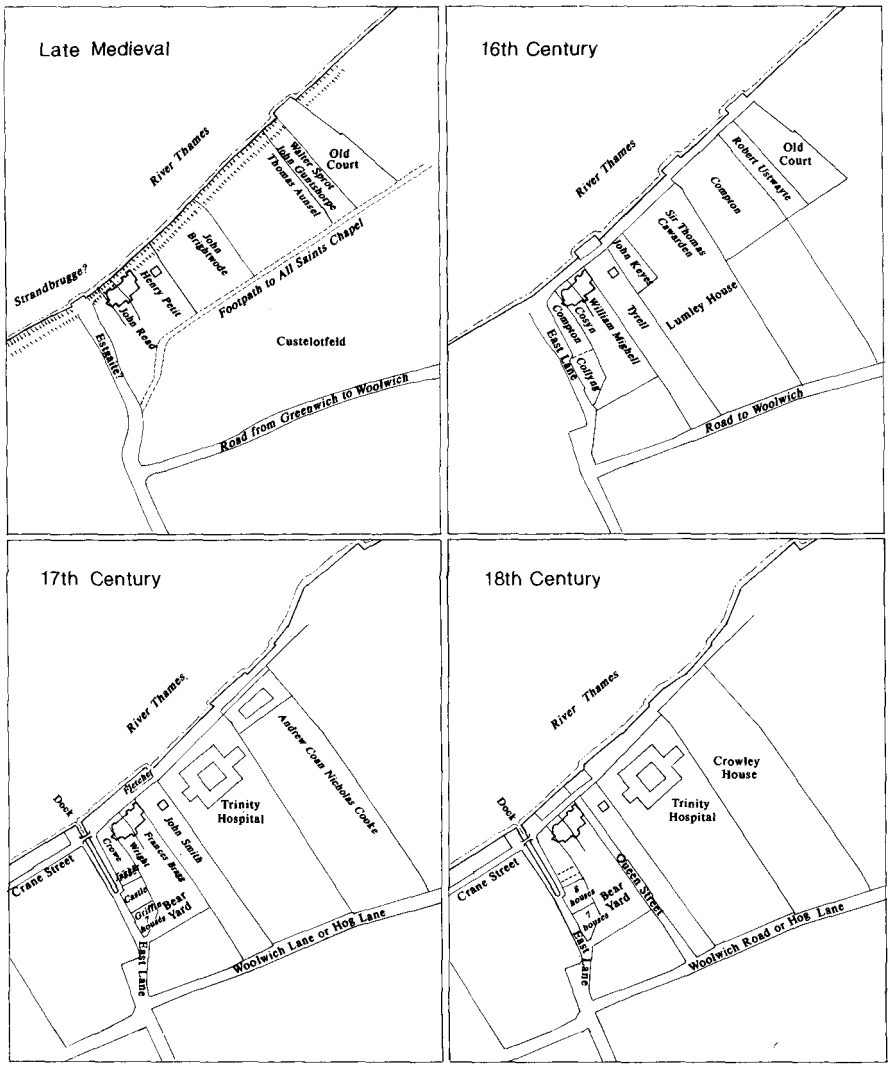

Fig 18. Interpretative maps of the site area

The next tenement to the east was Brightwode's former house, which was acquired by William Cornysshe, Master of the Royal Chapel, in 1512. He was followed by Richard Pigot, also of the Royal Chapel, in 1529 (PRO E326/10503; Drake 1886, 109, 277–8). Cawarden bought the premises in 1546, when it is known to have been a large house with a garden and an orchard on its south side (PRO E326/8200 and 12151; SC12/9/28; Drake 1886, 106). Cawarden leased the small house and garden in the north-west part of the property (adjacent to the excavation site) to John Keyes of the Royal Chapel (PRO E326/11734). Cawarden also acquired temporary control of the Compton estate in 1545, during the minority of its heir (PRO E326/8754). He sold his properties in Greenwich in 1552 to John Dudley, Earl of Warwick and Duke of Northumberland, who owned them only briefly before he was attainted for high treason and executed in 1553 (PRO E328/225; Drake 1886, 79–80). The Brightwode house was then granted to the Duke of Norfolk in 1558 (*CPR 1557–8*, 286–8).

Beyond this to the east lay other properties acquired by the Comptons and held by them throughout the 16th century. The former Gunthorpe house next to Old Court passed to Robert Ustwayte, who sold it to Henry VIII in 1518. It was at that time on lease to the Earl of Worcester (BL

Additional Charter 23780; PRO E40/13088; Drake 1886, 77, 79, 108, 278).

The road now called Eastney Street, and then known as *Estlane*, was first mentioned in the 1530s, but probably had a continuous existence from the medieval period. Henry VIII had a wooden *cock cope* with six rooms built here in 1533 to house his fighting cocks. They were moved in the following year because the noise they made disturbed the peace of Queen Anne Boleyn (Kirby 1954–6, 26, 44; Thurley 1993, 190–1). Other contemporary properties are known in *Estlane*, barns and stables intermixed with dwelling houses. Yards, gardens, and orchards lay to the rear of the street frontages (*eg* PRO E326/6894; SC12/9/28). A barn on East Lane leased by Hugh ap Harry from the Compton estate in *c.*1545 may have lain to the rear of Compton House.

To the south of Compton House on the east side of East Lane were two tenements sold by Robert Hawkyns to Edward Collyng in 1539. By 1567 these had become three houses (Drake 1886, 106–7, 109).

There were several inns on East Lane in the 17th century, including the Rowe Buck, first mentioned in 1602 (PRO E40/5533); the Kings Arms, sold in 1686 (Drake 1886, 80 n 3); and the Red Lion, which existed in 1590. Its site had been divided into seven tenements by the 1690s (BL Additional Charter 71745; Drake 1886, 107). Two water conduits ended in cisterns in this street at this time, and a dock reached part of the way up the street from the riverside, to the west of the excavation site (PRO C205/20/6). A footbridge crossed it at the waterfront. This is shown on Travers map of 1695, where the lower part of East Lane is named as Bridge Lane. The buildings of the excavation site are not shown, but the prominent surrounding structures such as Norfolk College and the buildings on the Old Court site, are shown (see Fig 5, from PRO MR 253).

William Lord Compton, great-grandson of Sir William, sold several houses, a stable and a wharf, and other property in East Greenwich to Innocent Laniere in 1612. This included the house at the corner of East Lane and Highbridge, and probably the adjacent properties to the east. The Laniere family were musicians to the royal court. Drake stated that the house was taken down and the site sold, but there appears to be no evidence for this. The structures may have been rebuilt at this time however (Drake 1886, 64, 80 n 2, 81 n 3).

The Cawarden house became Lumley House in 1599 when it was bought by John Lord Lumley. It was purchased from Lumley by Henry Howard, Earl of Northampton, in 1611 to provide the site for the almshouses he intended to found. Lumley House was demolished, the small adjoining house was removed, and the Trinity Hospital almshouses were built in 1614. They were intended to house twelve poor men from East Greenwich and eight from Shottisham in Norfolk. The building was later known as Northampton or Norfolk College. It was placed under the administration of the Mercers' Company in 1615, according to the terms of the founder's will. Following a rebuild in 1812 in the Gothick style it is still standing (Drake 1886, 79–80, 90, 91 n 10; RCHME 1930, 38–49; Imray 1981, 119; Barker 1993, 115; PRO CRES5/420).

The royal use of Greenwich Palace effectively ended with the Civil War of the 1640s. During the course of the 17th century most of the aristocrats, royal chaplains, and courtiers moved away, to be replaced by a maritime class of sea-captains and merchants. Tenements were divided into rows and alleys of smaller houses. Captain Anthony Crowe bought the former Compton House from the Lanieres. In 1695 Captain William Wright occupied the house to its east, represented in the excavation by walls [149], [236], [238], and [259]. Of the three properties along East Lane to the south of Crowe's house, one had been divided into three tenements and another into seven. To the rear of these and to the east of Wright's house was the Bear Yard, property of Frances Bragg, widow, comprising two tenements, a barn, a backside, and a wharf. This may have housed some industrial function. Most of the pinners' bones and pins appear to have been found within its limits. On its east side, at the east end of the excavation site, the house and garden of John Smith stretched back to the Woolwich Road. It was empty in 1696 (PRO C205/20/6; Kimbell 1816, 183ff, partly analysed in GLHL Greene MSS; Fig 18).

Beyond this lay the almshouses of Trinity Hospital. The house on their east side was sold by Henry Lord Compton in 1621, and rebuilt in the 1640s as a substantial courtyard house by Sir Andrew Cogan, a London merchant. It later passed to George Boreman and in 1677 to Nicholas Cooke (Drake 1886, 79).

In the early 18th century a needlemaker called John Loe held property on the east side of East Lane (PRO CRES5/420, undated rental, no. 19). Needle and pin making was introduced into England in the 16th century, and was organised on a cottage industry basis.

The street frontages of East Lane and Highbridge Wharf were fully built up in the 18th century. There was further sub-division of tenements in East

Lane as the density of occupation increased and the status of the area declined. The Bear Tavern and the Swan Tavern appeared in East Lane by 1735. The dock remained open until at least 1770 (PRO CRES5/420; Fig 18). Structures were established along the waterfront side of Highbridge by the 1740s. Queen Street had also been laid out to run north–south on the west side of Norfolk College on the site of John Smith's tenement, later occupied by Colonel Joseph Bell (Hawksmoor map 1720; Rocque's map 1741). This crossed the east end of the development area; the trial trench to the east of the main excavation may have been sunk into the cellars of its houses. On its west side lay an irregular yard, the successor of Bear Yard, later known as Crown Court. Sewer 203 was later inserted to run through this yard.

On the east side of the Trinity Hospital almshouses Nicholas Cooke's house was sold in 1704 to Ambrose Crowley, an ironmaster from Newcastle. He rebuilt it as Crowley House and also constructed warehouses. Fire destroyed 60 houses adjacent to Crowley's warehouses in 1770. The house was demolished in 1854, and the site subsequently passed to Trinity Hospital (Drake 1886, 79, 104).

Modern developments

In the 19th century East Lane or East Street contained chapels for Roman Catholics and Baptists (Drake 1886, 98 n 3, 105). The street frontages of East Street and Highbridge Wharf were fully built up. The Three Crowns Tavern had been established on the waterfront, opposite the north-west corner of the excavation site, and the Crown and Sceptre at the east end of the site by 1800 (GLHL Greenwich Parish Rate Books; Morris's parish map 1832; tithe map 1844). Both these public houses remained into the 20th century. They were weather-boarded structures rising from brick-built lower storeys. The Three Crowns housed the Conservative Club and the Curlew Rowing Club until it was demolished in 1936 (Kelly 1900, 1920, 1929–30).

The East Lane and Highbridge Wharf area of the 19th century was crowded with working-class dwellings, housing fishermen, watermen, dockers, shipwrights, labourers, tailors, shoemakers, brickmakers, plasterers, bricklayers, and carpenters. In East Lane (later East Street) there were a number of shops, including grocers, bakers and blacksmiths; and at the north end of the street a corset-maker, a fishmonger, and a pork butcher in 1861, replaced by a purveyor of horse flesh in 1871. The area was poor, housing some Greenwich pensioners (retired sailors) and others in receipt of parish relief (PRO HO107/489/2, HO107/1587, RG9/401, RG10/757, RG11/723, RG12/511; see Fig 9). By 1891 Alonzo Manchester was running a boarding house for labourers. This occupied the north-west part of the excavation site, on the former Compton House property.

The area was flooded by unusually high tides in 1841, 1874, and 1881. Several new streets were built in this part of Greenwich, to the east of the Hospital, in the late 19th century (Drake 1886, 91 n 1, 104).

In the early 20th century there were still shops on the east side of East Street, towards the waterfront, including a fried fish shop and a fishmongers. By 1916 the road had been re-named Eastney Street. By 1920 the shops included a scrap metal merchant and a marine stores run by Ernest Freak, who had also taken over the running of the lodging house on the corner with Highbridge Wharf, which remained open until 1935–6. By 1937 this and the adjacent buildings to the east had been demolished to form Creedy's Yard. On the waterfront side of Highbridge Wharf were lightermen and barge-builders (Kelly 1900, 1920, 1929–30, 1935–6; OS map 1916).

DISCUSSION

Nicholas Cooke

The excavations undertaken at Highbridge Wharf Greenwich have revealed evidence for medieval, post-medieval, and modern development on the site. The absence of prehistoric and Roman deposits from the site (with the exception of two sherds of late prehistoric pottery) is interesting in the light of the evidence for Neolithic and Roman activity in the vicinity. Some doubt, however, has previously been cast on the authenticity of some of these records (Bowsher 1997, 14), and the absence of remains of this date may be a reflection of the site's proximity to a river prone to periodical flooding.

The earliest archaeological remains excavated on the site belong to the medieval period. Although these contained little in the way of finds they do point to activity, and settlement in the vicinity, although no identifiable structures were excavated. Pit [510] is likely to have been dug to act as a

waterhole or as a primitive soakaway. The proximity of this activity to the river is perhaps surprising, and might indicate that there were riverside banks or revetments reliable enough to ensure that the site rarely flooded.

The pottery recovered from these features is consistent with relatively low status land use of the area in the medieval period. This is highlighted by the fact that a high proportion of the medieval pottery on the site was recovered either from pit [510], or as residual material in later features. The evidence indicates that the site formed part of a pattern of relatively 'low status' riverside settlement. For example, the plant remains from pit [510] might indicate a primarily agricultural settlement. It may also have acted as a safe anchorage for boats, although there is no evidence from the site to link it to the medieval port attached to the Lewisham Estate and mentioned in the Domesday Book. The features may however have been related to other activities of this estate.

The chalk and limestone built well [459] is the only evidence for later medieval activity on the site, although a number of sherds of pottery dated to the 13th or 14th centuries were recovered. The construction of such a well so close to the river may indicate that the water from the Thames itself was not considered suitable as drinking water. Indeed, if pit [510] is a waterhole, then it is possible that this was the case as early as the 11th–12th centuries.

The earliest excavated buildings on the site are the three buildings probably built during the 16th century. Of these, only Buildings A and B are likely to represent the remains of individual houses. Building C may be a small outbuilding or workshop. A panorama of Greenwich by the Dutch artist Anthony Wyngaerde in 1558 shows the area of the excavation occupied by a two-storey structure with a central gable, the main axis of which lay parallel to the river and which was partially obscured behind a covered wharf. This is almost certainly Building A, the building owned by Robert Cosyn and Thomas Cawarden in the 16th century. To the west of this lie two buildings on the corner of East Lane, one of which is likely to have been Compton House, which lay just beyond the area of excavation. A partially obscured building to the east of the main building may be that identified as Building B in the excavation and possibly that owned by William Mighell in the 16th century.

The construction of these houses was roughly contemporary with, and likely to be associated with, the growth of the royal palace of Placentia. The limited evidence recovered for high status occupation came from dumps of material and rubbish pits dug in the early 17th century. These contained earlier material, including quantities of imported pottery vessels, along with vessel and window glass and floor tiles. These almost certainly represent residual material related to Building A. The architectural voussoirs and mouldings recovered from later Phase 4 and Phase 5 walls may also have originated in this building, and are indicative of quality construction. The buildings themselves only survived at foundation level or as robber trenches. The foundation walls all consisted of mortared sandstone and limestone blocks, although the visible portions of the buildings may have been brick built.

Sixteenth-century deeds relating to land ownership in the area suggest that the area of land to the east of Compton House, occupied by Building A, was owned by Robert Cosyn, before passing into the hands of Thomas Shelton, who sold it to Sir Thomas Cawarden in 1547. This is unlikely ever to have acted as his home, as he owned a much larger house slightly further to the east (later known as Lumley House). The yards extending to south and south-east of Buildings A and B probably represent Bear Yard, which was owned by a William Mighell in the 16th century. The buildings themselves may have had enclosed yard areas of their own, but no evidence for these was recovered during the course of the excavations.

It is within Bear Yard that much of the evidence for pin making was recovered. This is likely to be contemporary with the occupation of Buildings A and B. The assemblage of pinners' bones recovered from these contexts is thought to be the largest known from London. No evidence was recovered for any *in situ* metalworking, although the manufacture of the pins is likely to have taken place in the vicinity, and some of the pins recovered during the excavations were unsharpened blanks.

Records indicate that William Lord Compton sold Compton House and a number of other houses in the area to Innocent Laniere in 1612. This may have included Buildings A and B. They also record that Compton House was pulled down and the site sold. The demolition of Building A is also likely to have taken place at this time. This demolition and clearance, along with the subsequent construction of a new building on the site is likely to be responsible for the large quantities of residual material recovered from Phase 4 deposits.

The construction of a large building (D) with a south-east to north-west axis in the 17th century was

associated with a newly lain external yard. This building was of brick on sandstone and limestone footings and incorporated re-used material from the earlier buildings. None of the floor levels of this building survived, although there was evidence for a possible internal division in the one room excavated, and the surviving floor of the fireplace was likely to have reflected the original floor level.

Industrial activity continued in Bear Yard into the 18th century, with some evidence for the continuation of pin making into the 17th century in the form of pins and pinners' bones in early Phase 4 deposits. This appears to have ended shortly after the construction of Building D. There was no apparent attempt made to maintain the gravelling of Bear Yard after the construction of this building.

During the life of Building D, a number of brick built structures were added to its southern extent. These may have lain within the limits of Bear Yard, and may have been unrelated to the house itself. Their exact function is uncertain, although they may have served as a series of interconnecting tanks. This indicates a continuation of industrial activity within Bear Yard during the late 17th and early 18th centuries.

Building D appears to have been demolished during the 18th century, as there is a marked absence of 18th-century pottery from the site. An Ordnance Survey Map of 1869 shows the site occupied by buildings corresponding to the two modern cellars. The construction of the large 19th-century drain and soakaway, along with the demolition of the two modern buildings, represents the last archaeological phases prior to the levelling associated with the yard in the 1930s.

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