

EXCAVATION AT BARTON STREET, CASTLEFIELD, MANCHESTER

A report by Dr Richard A Gregory

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Roman lead figurine discovered during the excavation of Area 6

MANCHESTER
1824

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Summary

The University of Manchester Archaeological Unit (UMAU) was commissioned by Watkin Jones Homes to undertake an archaeological excavation at Barton Street, Castlefield, Manchester (NGR: SJ 833 977), in order to satisfy a Manchester City Council Planning Condition prior to the construction of residential apartments. The following report presents a description, interpretation and discussion of the results of the excavation and includes a full specialist analysis of the extensive Roman artefactual assemblage retrieved during the course of the excavation.

The excavation was located immediately to the north of the Roman fort of *Mamucium* within an area originally forming part of Manchester's Roman garrison settlement. Within this area a large swathe of Roman archaeology survived which could be divided into four main periods of Roman occupation. The Period 1 (late first to early second century AD) remains included a large ditch, which probably formed part of a military annexe linked to the Period 1 fort. In Period 2 (early to mid-second century AD) a number of successive timber buildings were built across the site, which functioned as domestic/commercial concerns and possible workshops. A series of pits also dated to this phase, and some may have been connected to industrial processes. During period 3 (mid- to late second century AD) a two phase building was constructed in the northern half of the site, which in its later phase was built in both timber and stone. The latter was also associated with a number of unusual small finds and an urned cremation burial, suggesting that it may have functioned as a building connected with ritual/cult activities. In Period 4 (third century AD), although there was some evidence for sporadic activity, the area appears to have been largely abandoned.

During the seventeenth century the area then appears to have been used as agricultural land, as evidence by a relict ploughsoil which sealed the Roman levels and contained seventeenth century pottery and clay tobacco pipes. In the late eighteenth century the area formed the focus of residential development, associated with the rapid expansion of industrial Manchester. Evidence for this expansion was uncovered in the form of two late eighteenth century worker's houses.

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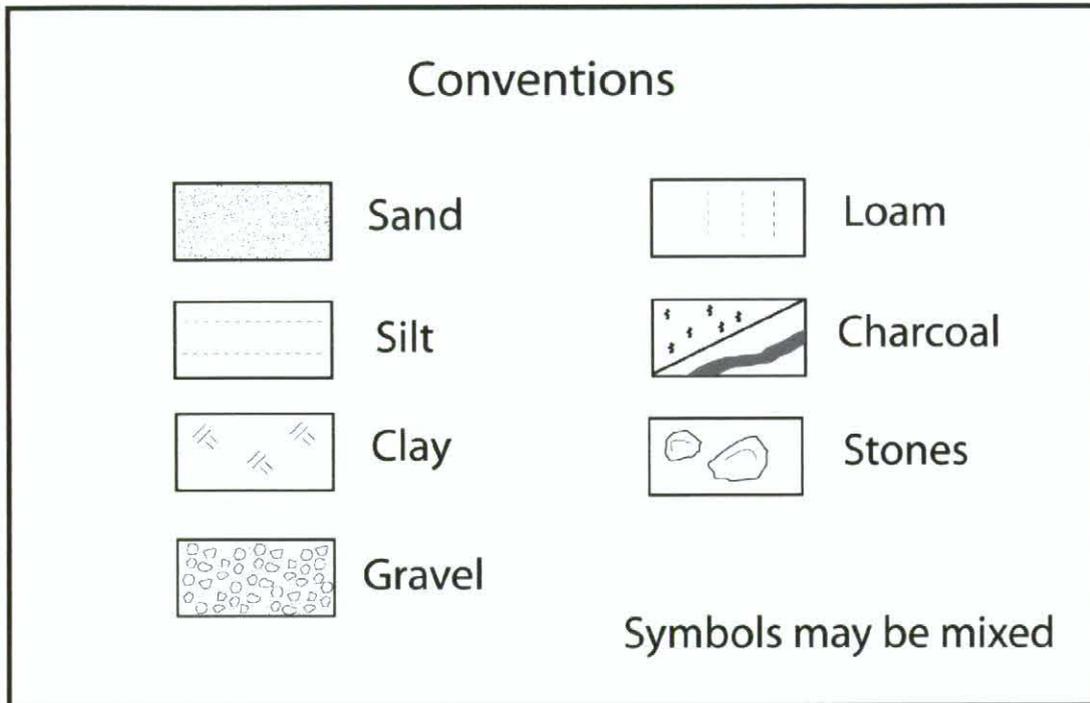
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Drawing Conventions



1. Introduction

- 1.1. Within the Roman *vicus*, just beyond the fort's northern defences (NGR: SJ 833 977), a rescue excavation was completed during 2003 and 2004 in an area found immediately east of Barton Street and immediately west of the Roman Gardens (**Illus 1**). The excavation was in response to the redevelopment of this area of Castlefield by Watkin Jones Homes and was initiated in order to fulfil a Manchester City Council planning condition.

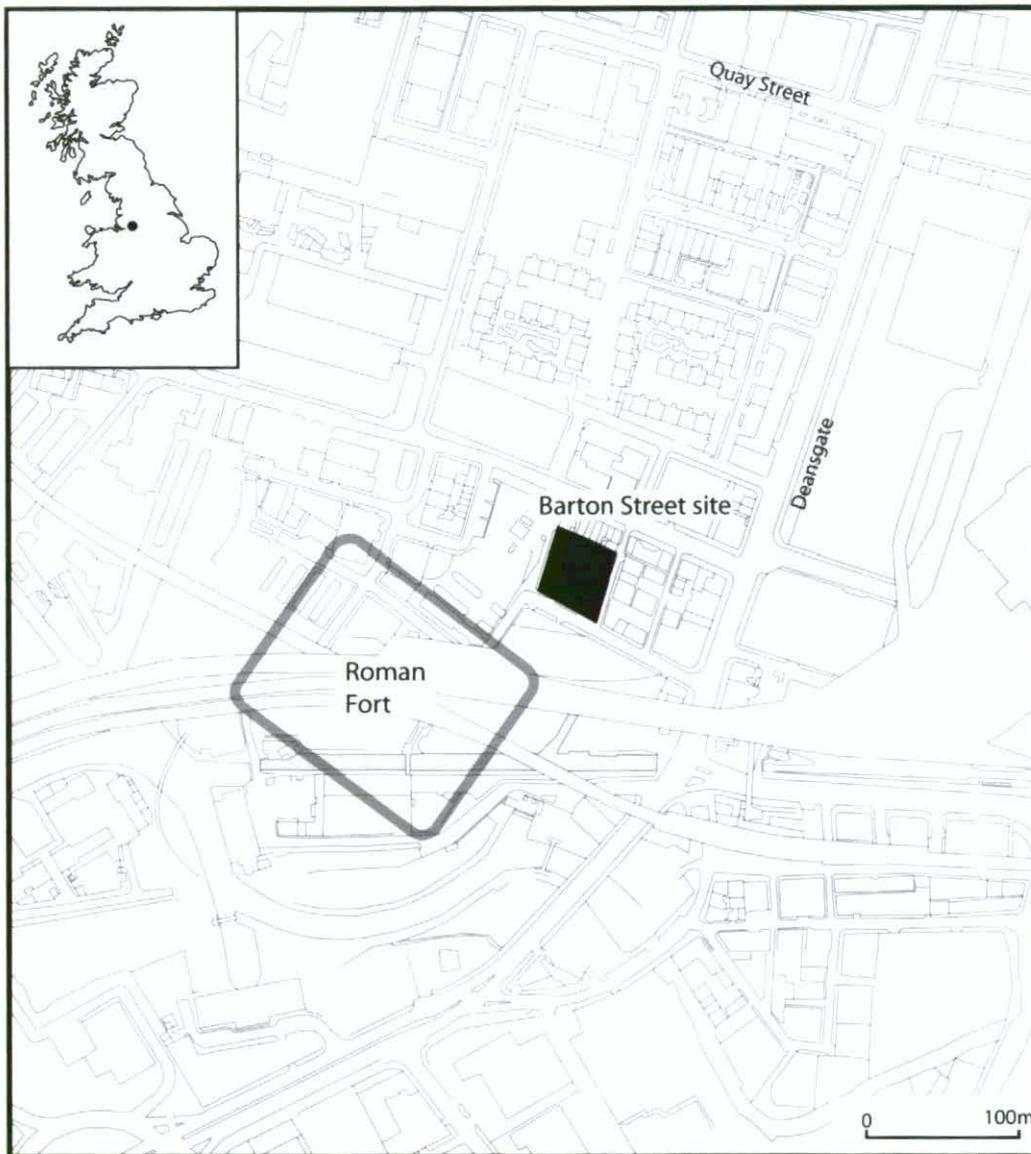


Illustration 1. Location of the excavation (Reproduced from modern OS mapping by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office © Crown Copyright. All rights reserved: Licence No. WL8021).

- 1.2. In mid-2003, prior to redevelopment, the site was occupied by a derelict Police Station, built in 1897, a small disused warehouse and a modern car park, but following an archaeological desk-based assessment it was strongly suspected that Roman archaeology would survive within this area (Arrowsmith 2000).
- 1.3. The initial phase of work began in October 2003, following a brief issued by the Assistant County Archaeologist, Norman Redhead, and entailed the excavation of seven evaluation

trenches, which exposed evidence for Roman archaeology predominantly within the area of the modern car park (Illus 2: T1-7)¹. In light of these results, the evaluation was followed by an open-area excavation, both in the area of the car park and along the remaining section of Worsley Street. This street originally, during the late eighteenth and early to mid-nineteenth centuries, ran parallel to Liverpool Road, linking Barton Street with Collier Street and was lined by housing and later a mixture of domestic and industrial buildings (Arrowsmith 2000).

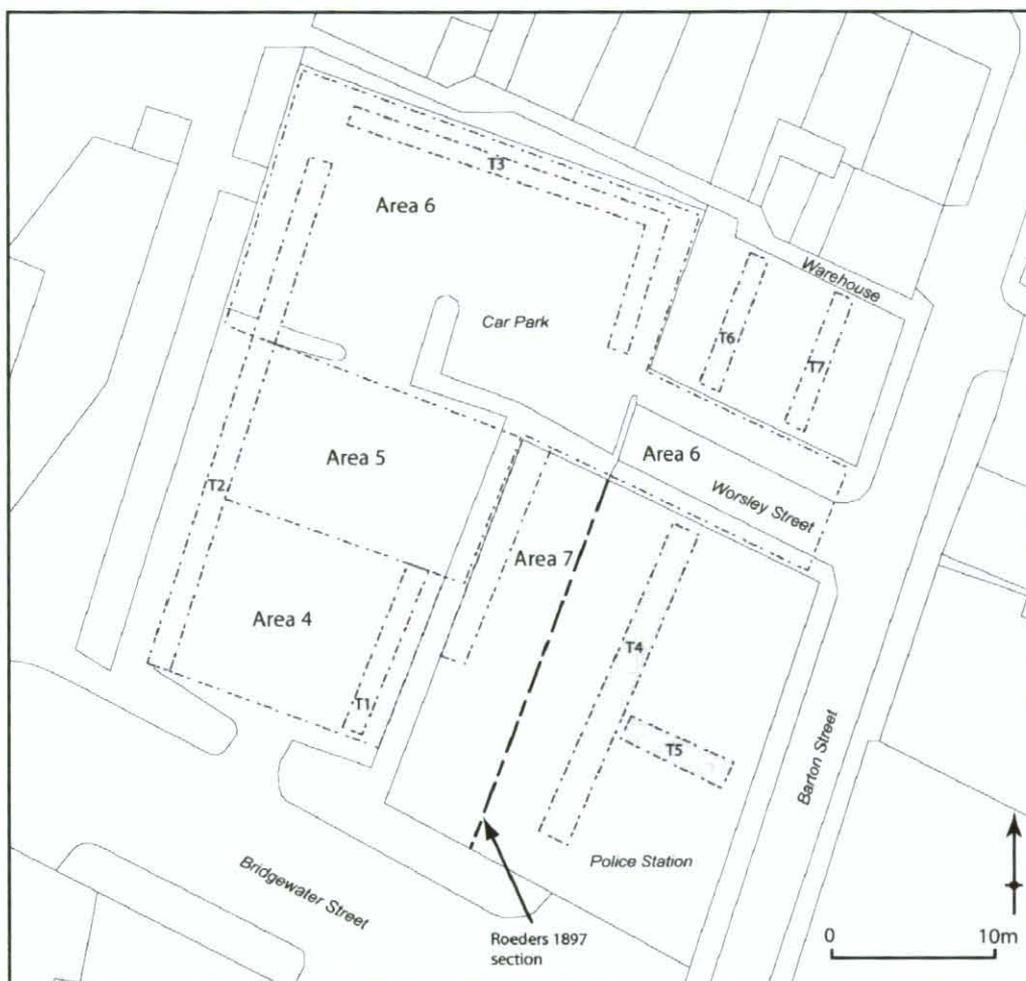


Illustration 2. Location of the evaluation and open-area excavation trenches (Reproduced from modern OS mapping by permission of Ordnance Survey on behalf of The Controller of Her Majesty's Stationery Office © Crown Copyright. All rights reserved: Licence No. WL8021).

- 1.4. Methodologically, the open-area excavation adopted a phased approach, in order to minimise the quantity of spoil present on site at any one time. Two areas of the development site (Illus 2: Area 4 & 5) were, therefore, machine stripped and excavated in January and February 2004, with a further two areas (Illus 2: Areas 6 & 7) excavated between February and May 2004. Significantly, these excavations proved extremely rewarding as they led to the retrieval of approximately 6500 separate Roman artefacts and exposed one of the largest areas of in situ Roman archaeology which has yet to be excavated within Manchester's Roman *vicus*².

¹ The excavation and post-excavation work was funded by Watkin Jones Homes and a special debt of gratitude must be given to Mr Eric Pritchard for facilitating the programme of works.

² The 2003/4 site investigation was only possible through the skilful excavation of the site by the archaeological field division of UMAU. David Power managed the project, whilst the fieldwork was directed by Dr Richard Gregory. The excavation team consisted of Steve Bell, Laura Broughton, Phil Cooke, Sarah Craig, Andrew Dicken, Ruth Garratt, Chris Heyes, Mike Higgins, Ian Heath, Niles Mason, Graham Mottershead, Peter Noble and Keiran Power.

2. Previous Archaeological Investigations

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Prior to the 2003/2004 excavations at Barton Street, two earlier archaeological investigations had been undertaken within the environs of the former Police Station.

2.2. Charles Roeder's 'Watching Brief'

The first of these investigations was completed by the late nineteenth century antiquarian Charles Roeder who visited the site in 1897 during the construction of the Police Station. During these visits Roeder retrieved a selection of Roman artefacts and assembled a plan and section drawing showing the form of the Roman archaeology exposed during the digging of the foundations and cellars for this new building. These drawings, which are now held in Manchester Central Library, show the presence of two large features, filled with blue/green clay, cutting through the natural sands and gravel. Cut into the top of the more northerly features Roeder also denoted the position of a 'black pool', or pit filled with organic matter, and a layer of re-deposited gravel which appears to seal the Roman levels below (*Illus 3*).

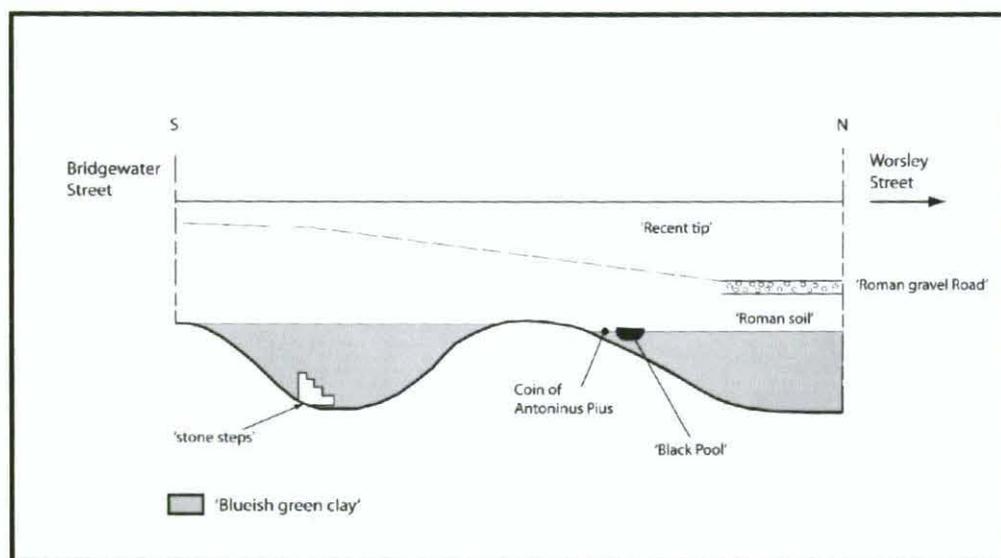


Illustration 3. Charles Roeder's section. Not to scale (for section location refer to Illustration 2).

In interpreting these remains, Roeder (1899, 100-1) argued that the two large features originally formed part of the outer defensive ditches, surrounding the Roman fort, associated with a later metalled road surface. It now seems probable in the light of the more recent excavations that his interpretations were partly correct, as the more northerly of the features aligns with the position of a Roman ditch, which was identified during the 2004 excavations. On the strength of Roeder's section, this ditch, in the vicinity of the Police Station, appears to have been backfilled during the Roman period and then sealed by a metalled surface associated with the later *vicus*. The southern feature is slightly perplexing, however, and whilst potentially it originally formed a large Roman pit, curiously Roeder (1899, 101) argued that close to its base were a number of millstone grit blocks forming 'a flight of stone steps'.

2.3. Profesor G D B Jones' Excavations

A second archaeological investigation was initiated by Professor G D B Jones and was undertaken, concurrently with the excavations at the north gate of the Roman fort, between

1979 and 1981. This excavation examined a small area immediately to the west of the former Police Station, positioned in the former backyards of the eighteenth and nineteenth century housing, which once fronted Worsley and Bridgewater Street (Illus 2: Area 4). Although this excavation was never completed by Professor Jones' team, or detailed in any subsequent excavation report, the area was re-excavated in 2004 and the excavation completed. Through this re-excavation, and also through careful examination of the original site archive held by the Manchester Museum³, it has been possible to reassemble and reassess Professor Jones' original discoveries and incorporate the results into the excavation narrative detailed below.

³ Thanks must be extended to Professor John Prag of the Manchester Museum for allowing access to the Worsley Street archive.

3. Roman Archaeology

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3.1. Site Taphonomy

Geologically, the excavated area is located on a series of reworked sands and gravels that were deposited by alluvial processes during the early Holocene (Broadhurst pers comm) and which, during antiquity, created a small low rounded knoll at the northern end of the site. Interspersed through the sands and gravels were also grey sandy clay deposits, which in some areas contained layers of reworked coal, and these were presumably laid down at a similar time to the other natural deposits at the site and through similar alluvial mechanisms. The superficial deposits overlay deposits of Sherwood Sandstone (formerly classified as Bunter Sandstone) which, during the Roman period, outcropped close to the River Medlock. The Roman remains identified at Barton Street are unsurprisingly composed of these natural materials. The Roman buildings, for example, used both sandstone and clay in their construction, whilst gravel was extracted from the area and was used to construct metalled roads and other consolidated surfaces.

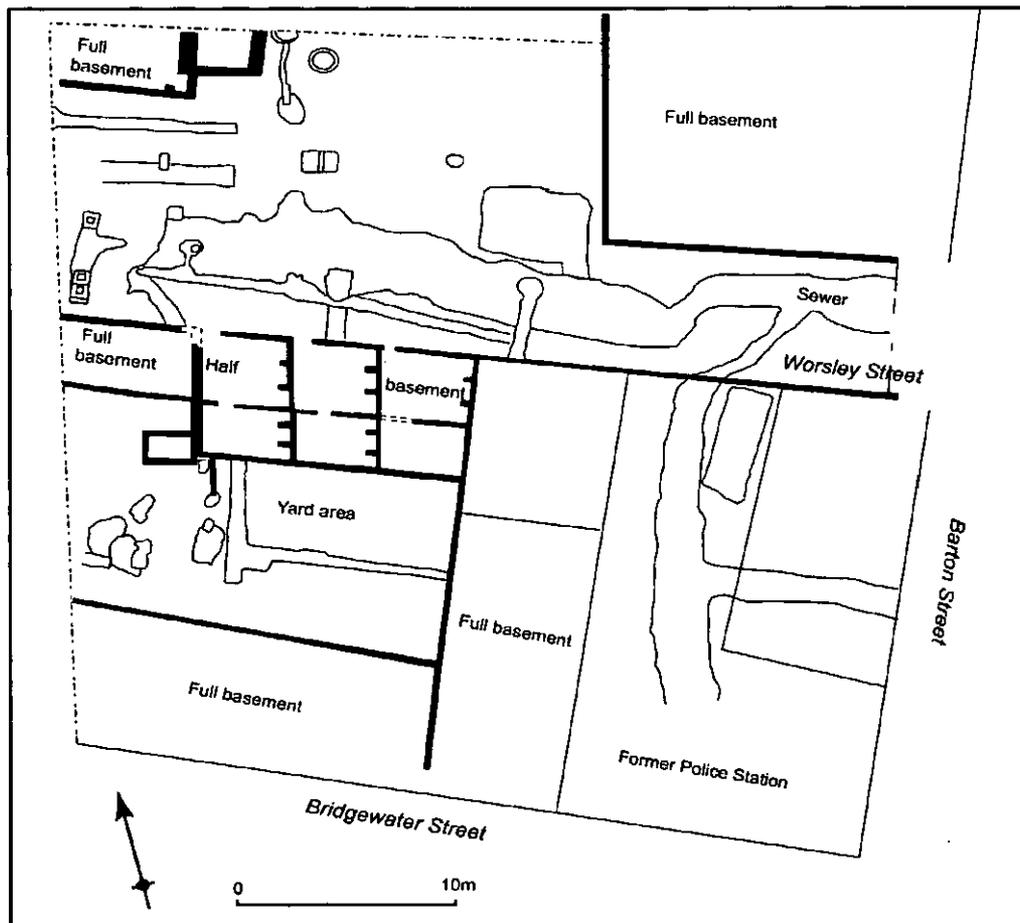


Illustration 4. Industrial period features.

At Barton Street, as in other areas of Roman Manchester, the survival of the Roman remains has been wholly conditioned by later phases of activity (Illus 4). The more obvious affects included the deep intrusions created by the nineteenth century cellars and the Worsley Street sewer trench, which obliterated all tangible evidence of Roman activity. Other features that had a detrimental affect on the Roman archaeology included modern drains and a large

square-shaped pit located immediately north of the Worsley Street sewer trench. In the central area of the site, although Roman remains were identified, these too had suffered a degree of truncation through the construction of half-basements associated with eighteenth century housing, which had destroyed at least 1.2m of Roman stratigraphy (**Illus 5**). A full description and discussion of the eighteenth and nineteenth century remains from the site can be found in Appendix 1.



Illustration 5. Two truncated Roman ditches [122/471/989 & 457/978], prior to excavation, running beneath a late eighteenth century basement.

Fortunately, in the remaining portions of the site the integrity of the Roman archaeology appeared largely intact (**Illus 6**). The best preserved Roman deposits were located in the northern half of the site and were found sealed beneath a relict ploughsoil. In consequence the Roman archaeology here, though partially truncated by early ploughing, was relatively undisturbed. Similarly, in the 'backyard area', sandwiched between the houses that once fronted Worsley and Bridgewater Street, Professor Jones' excavations suggest that the Roman remains here had also suffered comparatively little post-medieval disturbance. The level of survival across the site is, therefore, significant as it has enabled, through careful excavation and post-excavation analysis, a partial reading and reconstruction of the history of Roman activity within this area of the *vicus*.

3.2. Excavation Narrative

3.2.1. Period 1 – Late First -Early Second Century AD

The earliest identifiable Roman activity initially involved the digging of a large ditch and two associated pits during the late first century. Following the backfilling of these features within the early years of the second century, a series of gravel extraction pits were then dug in the northern half of the site.

Phase 1 – Ditch and pits

The earliest Roman feature at Barton Street was a large, *c.* 4m wide, ditch [122/471/987], which was aligned north-west – south-east and ran across the complete span of the site (**Illus 7**).

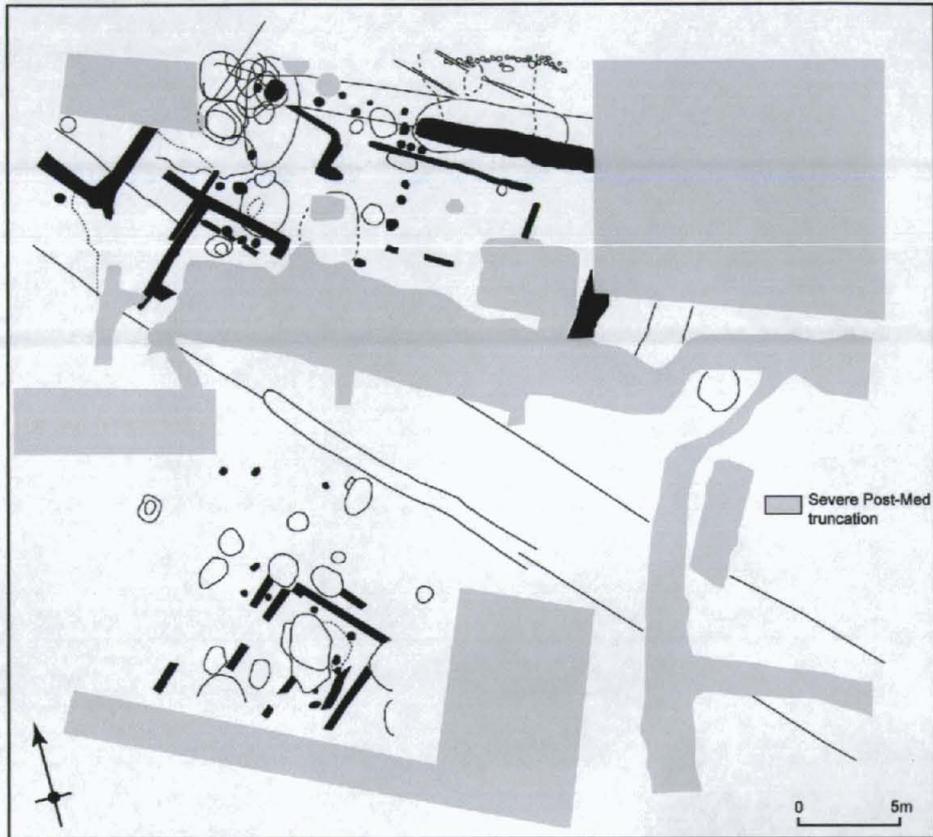


Illustration 6. Roman features.

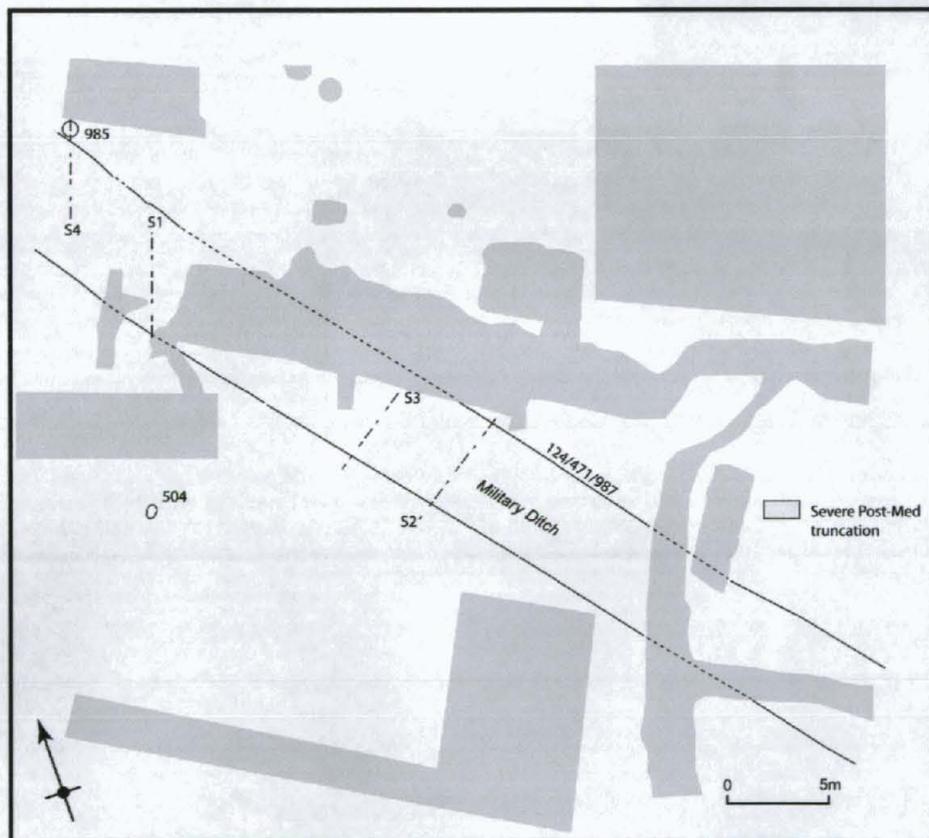


Illustration 7. Period 1 phase 1 features.

When considered in relation to an identically early ditch identified at White Lion Street (Jones & Grealey 1974), Liverpool Road (Connelly, 2002) and within Owens Court, close to Bridgewater Street (Gregory 2004), it is probable that it formed the outer boundary of a military annexe, which was linked and was contemporary with the earliest timber auxiliary fort. Although a number of sections were excavated across the ditch the most informative was located in an area where the ditch had been partially disturbed through post-medieval truncation (Illus 8: S2). This section indicated that the ditch had a shallow V-shaped profile with a clearly defined sump, or 'ankle-breaker', at its base. Taken together the excavated sections suggested that it had a maximum depth of *c.* 1.3m and, whilst a small quantity of natural material [989] had washed into the ditch in some areas, the ditch had been intentionally backfilled with clay and silty, or sandy, clays [153, 179, 182, 464, 476-8, 498, 708, 988, 991, 1001-6, 1014-15 & 1019-21], associated with Flavian pottery and a sherd of mortarium dating between AD60-90. Presumably, these deposits originally formed a bank, or rampart, positioned on the inner edge of the ditch, which was shunted into the ditch, along with refuse, during an act of demolition at the close of the first century.

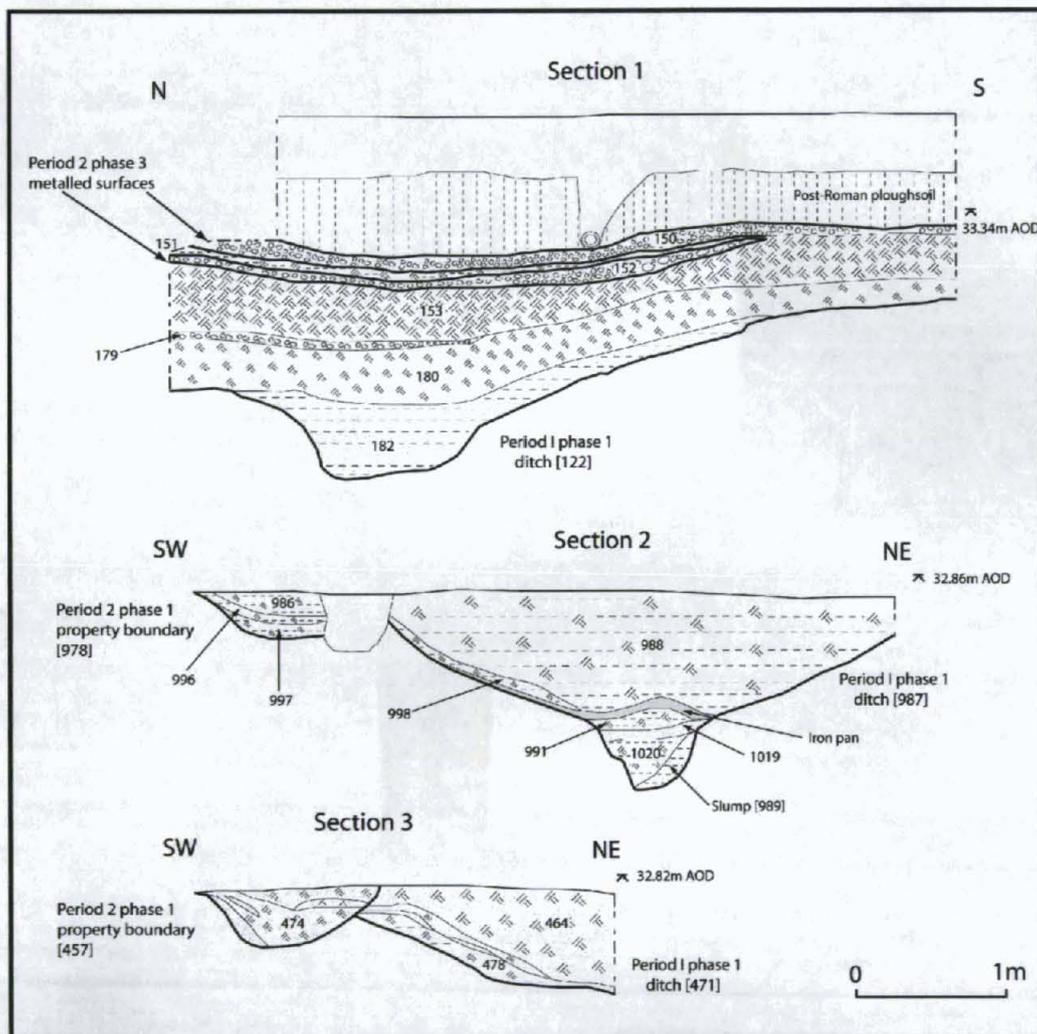


Illustration 8. Sections across ditch 122/471/989 and ditch 457/978 (for section locations refer to illustration 7).

Contemporary with the early ditch was a circular pit [985], which was positioned close to the northern edge of the ditch, beneath a later *vicus* building (Illus 7 & 9). This pit had a *c.* 1m diameter, flat-bottomed U-shaped profile, was *c.* 1.1m deep and probably originally secured a timber post. Although the pit was devoid of finds, excavation indicated that it was initially filled with silty clay [1008], which was sealed by two other deposits [1001 & 1006] that were

identified within the adjacent ditch, indicating that both features were backfilled at exactly the same time. It is also likely that another circular pit [504], located to the south of the ditch, was also contemporary with the early ditch (*Illus 7*). Although this second pit had been partially truncated by a later Roman pit, it had a *c.* 0.8m diameter, was straight sided with a flat-bottom, and was *c.* 1.3m deep. This pit contained a lower deposit of grey clay [501] and an upper deposit of grey mottled clay. Both deposits were associated with coarse ware pottery which dates to the Flavian period, and a mortarium sherd dating between AD65-100, suggesting that this pit, in a similar way to the ditch, was backfilled by the close of the first century. A near complete globular grey ware jar was also discovered at the base of this pit.

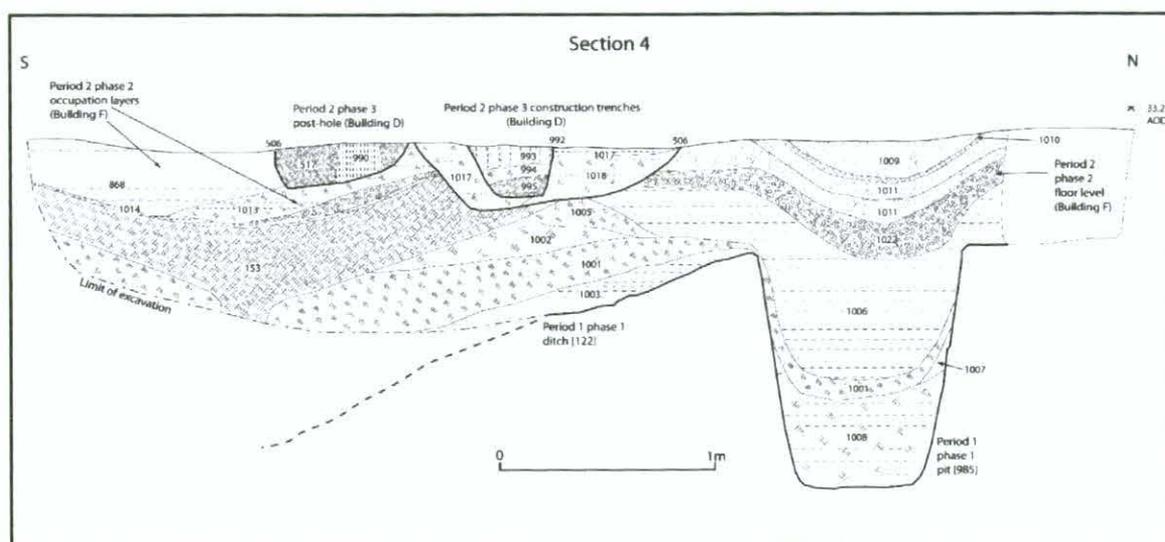


Illustration 9. Section 4 (for section location refer to illustration 7).

Phase 2 – Early pits

Following the backfilling of the phase 1 ditch a series of intercutting pits [839, 854, 764, 829, 845, 873] were then dug in quick succession close to the north-west corner of the site (*Illus 10*). These pits were excavated into the natural gravel and it is likely that they were dug as a means of extracting gravel, which could then be used for consolidating road and floor surfaces. In total, five pits were dug and backfilled over a comparatively short period of time, and taken together these constitute a second phase of activity within this early period (*Illus 10, 11 & 19*).

The earliest of these pits [839] was oval in shape and, perhaps, measured *c.* 1.5m by *c.* 1m (phase 2A). This pit had a minimum depth of *c.* 0.7m and was dug into the natural gravel, implying that it might have been an extraction pit. Following removal of the gravel this pit was then backfilled with loamy sand [840 & 841]. Following the backfilling of this pit, another three pits then appear to have been dug and rapidly backfilled (phase 2B). One of these pits [854] was oval in shape, measuring *c.* 2.3m by *c.* 1.4m, and partly truncated pit [839] and the natural gravel, which may again implying that it was a gravel extraction pit. This pit was *c.* 1.2m deep and was backfilled with sandy clay [855-9] that was associated with late first-early second century pottery sherds. The second pit [764], although larger in size, was probably also an extraction pit, which had been cut into the natural gravel. This irregular shaped pit measured *c.* 5.3m by *c.* 2m, extended for a depth of *c.* 0.6m, and was backfilled with sand and sandy silt [761, 875-7]. The third pit [829], contemporary with pits [854] and [764], was oval in shape, measuring *c.* 2m by *c.* 1.4m, and was *c.* 1.6m deep. This pit was similarly backfilled with sand, loamy sand and silty sand [830-5 & 932-4]. After the backfilling of these pits another pit [845] was then dug (phase 2C), although it was not clear whether this pit was specifically dug as a gravel extraction pit as it partially truncated the fills of pits [854] and [829]. It was, however, oval in shape, measuring *c.* 1.8m by *c.* 1.2m, with a

depth of *c.* 0.9m, and was backfilled with sand and silty sand [846-7]. One further pit [873] was also dug and backfilled at a similar time to pit 845 (phase 2C). This pit [873] was a shallow oval extraction pit, measuring *c.* 2.5m by *c.* 1.8m, which had been backfilled with coarse and fine sand [874 & 881].

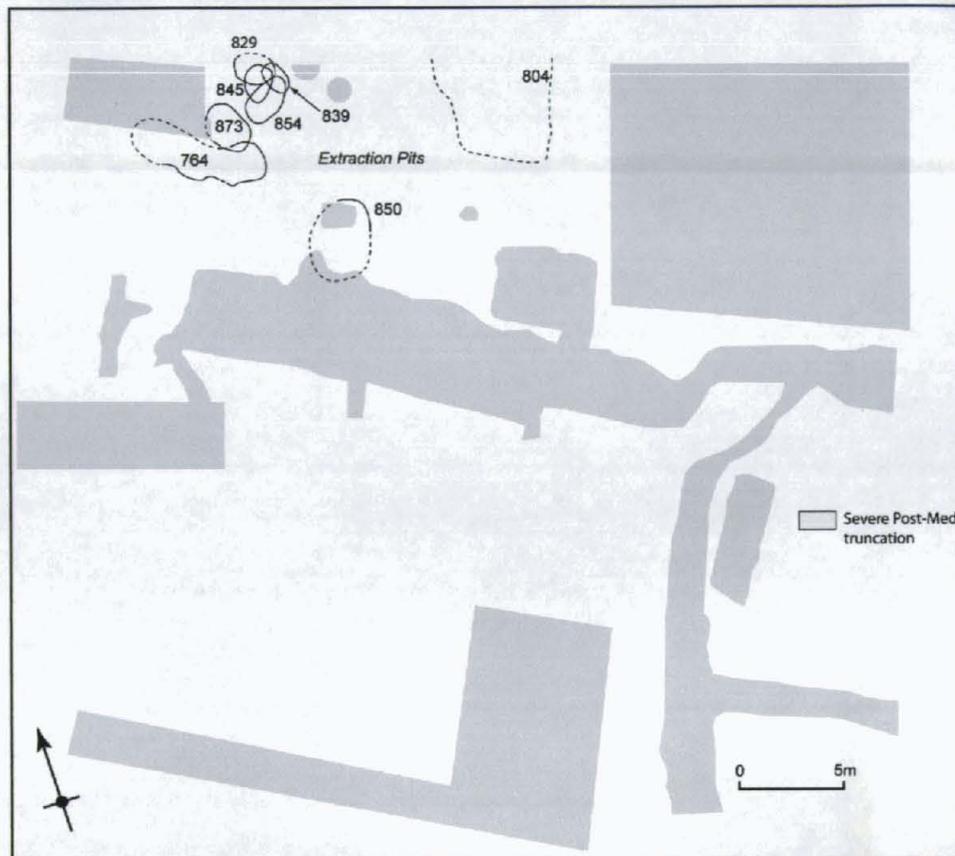


Illustration 10. Period 1 phase 2 features.

On the basis of their position and the associated artefacts contained within their fills, two other pits [804 & 850] might also have been dug and backfilled during this phase (Illus 10). One of these pits [804] was a large square shaped extraction pit, found at the northern edge of the site, which had been partially truncated by a series of later period Roman features. Although the limits of the pit ran outside of the excavated area, within the area examined the pit was *c.* 4.8m square and *c.* 1.2m deep, and contained backfilled sand, sandy silt, silty sand and sandy gravel [797-803, 805, 904, 906-7 & 909-15], associated with late first-early second century pottery sherds (Illus 33 & 34). A final gravel extraction pit [850] was discovered in the northern portion of the site. Although this pit had been truncated by the sewer trench and a small modern drain, it is possible that it was originally oval in shape, measuring *c.* 4.8m by *c.* 3m. This pit was *c.* 1m deep and was backfilled with silty clay and sandy silt [851-3].

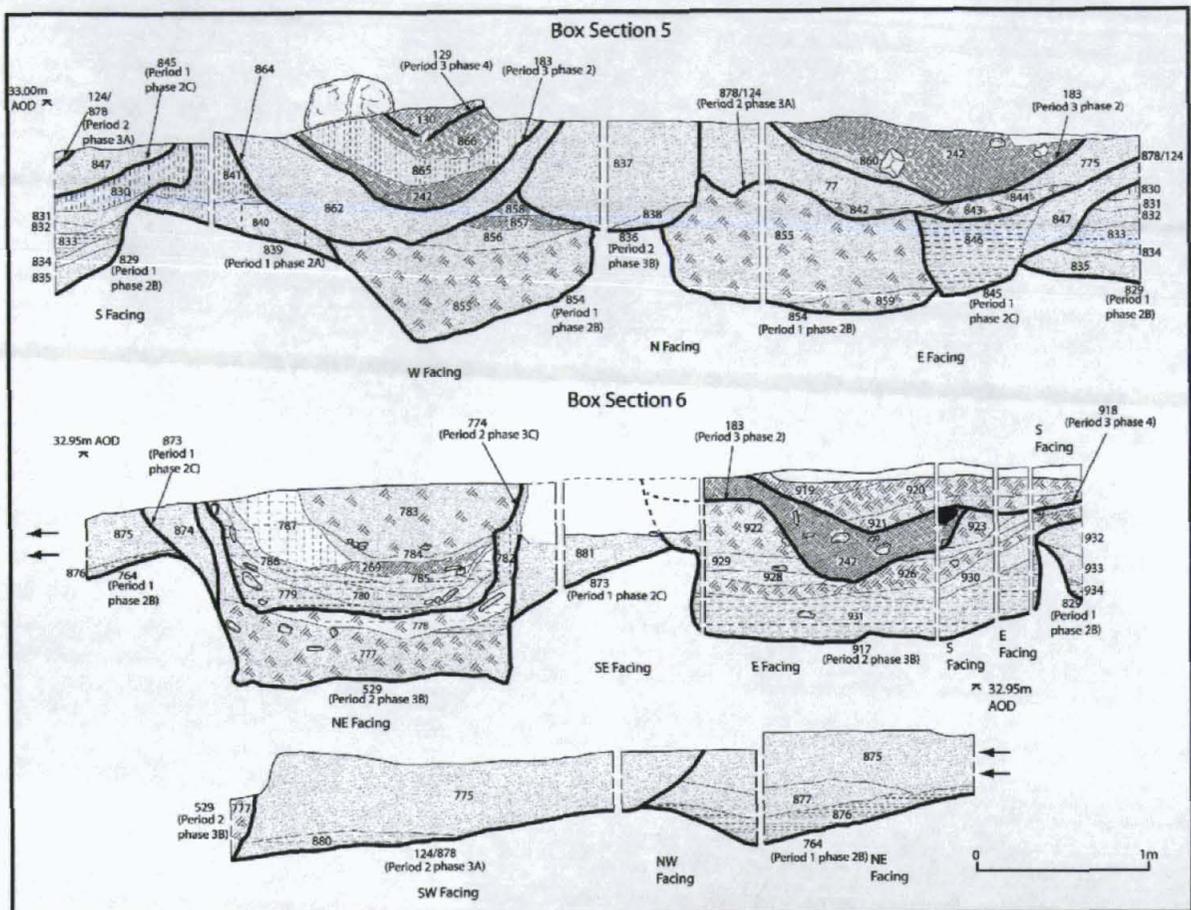


Illustration 11. Box sections 5 and 6.

3.2.2. Period 2 – Early to Mid-Second Century AD

The Period 2 remains date between the early and mid-second century and include the first timber buildings that were constructed in this part of the vicus. In the north-west corner of the site three successive timber buildings were identified (Building E, F & D) that fronted the road exiting the north gate of the fort. The earlier of these buildings (Buildings E & F) were associated with two property boundaries, whilst the latest building (Building D) was systematically refurbished at some stage during the mid-second century. A series of pits identified in the north-west corner of the site were also connected with the construction and occupation of Building D. Similarly, in the southern half of the site at least three separate timber buildings (Buildings A, B & C) were identified, and one (Building A) might have functioned as a metalworkers workshop, which fronted a road running along the course of Bridgewater Street. Following the demise of this workshop a series of pits were then dug across the site and some of these may have been connected to industrial processes occurring within the vicus during the mid-second century.

Phase 1 – Buildings E, B, C and the associated property boundaries (c. AD100-120)

Following the backfilling of the Period 1 extraction pits, a Roman building – Building E – was constructed close to the north-west corner of the site (Illus 12). This building was partially defined by three construction trenches [89, 815 & 814/937] that originally secured a timber wall (Illus 13). The depth of these construction trenches varied between c. 0.1m and c. 0.2m and they were generally c. 0.2m wide, although the northern construction trench [89] was c. 0.6m wide at its southerly end. The trenches were all filled with sandy silt [90/642, 820/938 & 821], which was associated with late first-early second century pottery sherds. The arrangement of the construction trenches, with a slight gap between the western and

southern trenches [815 & 814/937], alongside their profile, also indicated that the timber wall, which the trenches originally secured, was constructed of upright posts set directly into the construction trenches, as opposed to within a wooden sleeper beam (*cf.* Hanson 1982, 171). Moreover, this structural arrangement was confirmed with the identification of two post-impressions within the northerly construction trench [89]

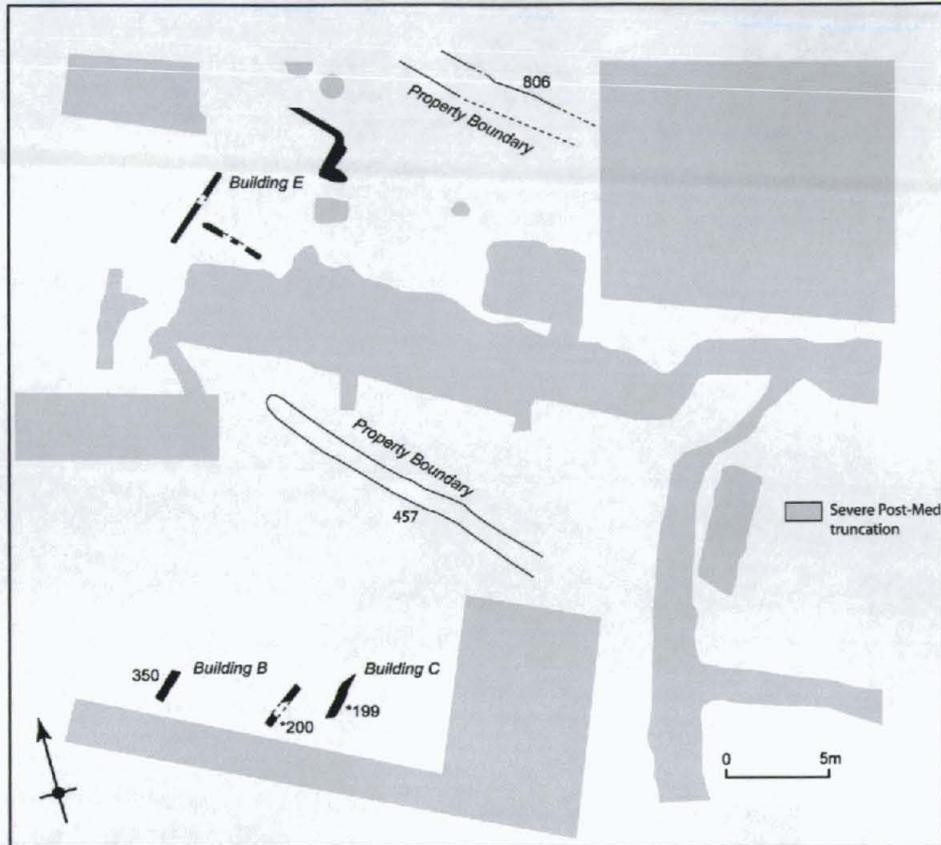


Illustration 12. Period 2 phase 1.

Although the remains of this building were fragmentary due, in part, to the construction of later Roman period buildings, a partial reconstruction of its plan is possible. The construction trenches, for instance, clearly define one rectangular shaped room, which measured *c.* 6.6m by *c.* 3.9m (Illus 13). The position and relationship of two of the construction trenches [815 & 89] also suggests that this room was entered from the outside *via* the south-east. Indeed, it is conceivable that on this side of the building a door was hinged to a post, located at the end of the northerly construction trench [89], and this may explain the enlarged and out turning form of the construction trench at its southern terminus. The termination of the western construction trench [814] and its continuation to the south-west [937] also suggests that a second room was associated with Building E, which could be entered through the north-western corner of the identifiable rectangular shaped room. Unfortunately, the available evidence allows little more to be concluded, but it is likely that the two rooms formed elements of an L-shaped building, which fronted the road exiting the north gate of the fort.

Located close to the southern margins of the site, a number of other timber buildings were exposed that were probably contemporary with Building E (Illus 12). In this area two truncated, *c.* 0.4m wide, construction trenches were identified during Professor Jones' excavations [*199 & *200], whilst a third construction trench [350] was located during the more recent excavations. This latter construction trench was *c.* 0.4m wide, *c.* 0.6m deep, contained sandy silt and clay [351 & 366-7] and a clear post impression, and was associated with late first-early second century pottery sherds. Unfortunately, the full extent of these construction trenches could not be established due to later Roman and post-medieval

truncation, but it seems likely based on the alignment of two of the trenches [350 & *200] that they formed the outer walls of a *c.* 4.8m wide building (Building B), with the remaining trench forming a wall line for an adjacent building (Building C). It is also likely, based on the positioning of the trenches, that these buildings fronted a road running along, or close to, the line of Bridgewater Street.

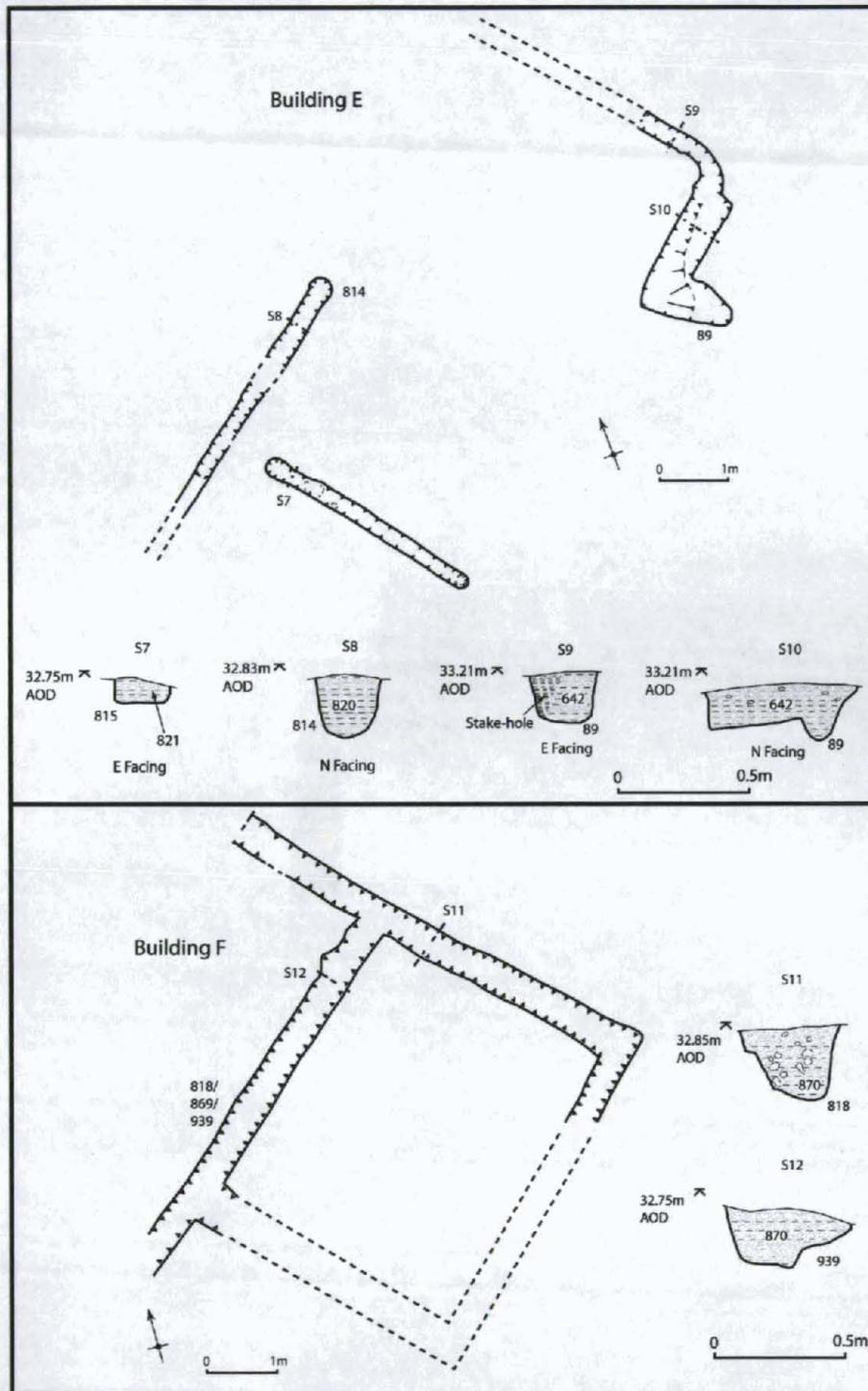


Illustration 13. Buildings E and F.

Located between Buildings E, B and C was a small ditch [457/978] whose position and size is characteristic of a property boundary, which was perhaps initially laid out prior to the construction of the first timber buildings in this part of the *vicus* (Illus 12). Another small, and probably contemporary, ditch [806] was also identified to the north of Building E and

again this might also form a property boundary. The more southerly of these boundaries [457/978] was located beneath the eighteenth century half-basements and had, in consequence, suffered a high level of truncation. Here the base of the property boundary truncated the Period I – phase 1 ditch [122/471/987] and had a U-shaped profile, which was *c.* 1.1m wide and *c.* 0.4m deep (Illus 8). At some point this ditch was backfilled with sand and sandy clay [472-5 & 977-8], which was associated with pottery dating to the late first-early second century. Similarly, the northern property boundary [806] was also truncated, although in this instance this was through a later re-cutting of the ditch during the Roman period. This boundary ditch had a shelving profile with a shallow U-shaped sump close to its southern edge, and was at least *c.* 2.2m wide and *c.* 0.4m deep (Illus 33 & 34). This boundary also appeared to have been naturally choked with silty sand [795] which, in turn, sealed a thin basal deposit of charcoal rich sandy silt [796]. This deposit extended along the complete profile of the ditch and was presumably formed through domestic activity within the vicinity of this boundary. When taken together these two ditches are significant as they clearly define a *c.* 16m wide plot, which contained Building E at its western end.

Phase 2 – Building F, A and associated property boundaries (AD120+)

With the demise of Building E a second timber building – Building F – was constructed close to the north-west corner of the site (Illus 13 & 14). This building truncated the earlier wall lines of Building E and was defined by a continuous, *c.* 0.5m wide, flat-bottomed construction trench [818/869/939], which was *c.* 0.2m deep. The trench contained a deposit of silty sand [870/940] that was associated with a sherd of samian, which places the construction of the building after AD120. The continuous form and profile of this construction trench is also significant as, in this instance, it probably indicates the use of a timber sleeper beam to secure the timber uprights for the wall of Building F (*cf.* Hanson 1982, 170-1). Although the mode of construction for the walling was clear, unfortunately due to the construction of a later Roman building in this area of the site it was only possible to identify a small portion of the building plan. The remains indicate that Building F consisted of a rectangular room, *c.* 4.6m by *c.* 3.8m, that formed one small element of a much larger building, which originally fronted the road exiting the north gate of the fort.

A number of other deposits were identified in the north-western corner of the site, which were related to the occupation of Building F. These included a layer of gravel [1022], which was dumped on top of the backfilled Period 1 phase 1 ditch [122/471/987] and pit [985] (Illus 8). This gravel was presumably deposited as a means of consolidating these backfilled features and may have formed a floor level within the interior of Building F. This act of consolidation was not particularly successful, however, as the gravel floor partially sunk into the top of the backfilled pit [985]. Sealing the gravel surface and the also the upper fills of the ditch a number of layers then accumulated [868 & 1011-3] and at least two of these [868 & 1013] were probably occupation deposits. These were composed of charcoal rich silty clay [1013] and silty loam [868], and were associated with coarse ware and a mortaria spout dating between *c.* AD130-150.

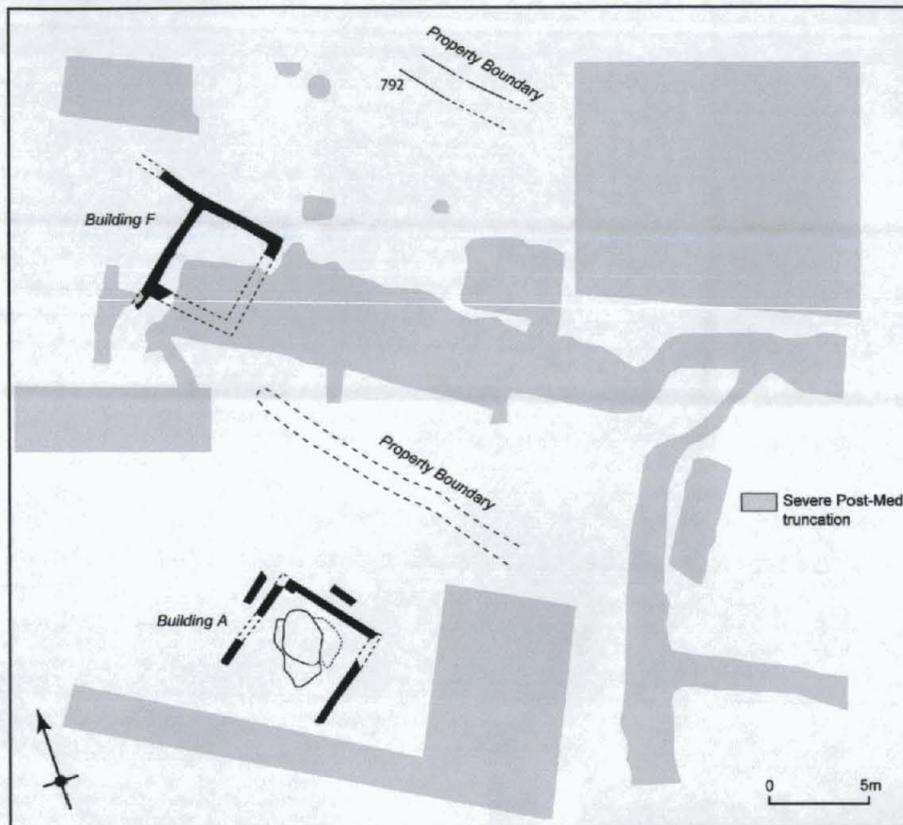


Illustration 14. Period 2 phase 2.

Either side of Building F were a number of other contemporary features (Illus 14). To the north of the building the earlier property boundary [806] was retained and, following some natural infilling, was re-cut during this phase (Illus 33 & 34). The re-cut ditch [792] had a minimum width of *c.* 2.2m, with a shallow V-shaped sump close to its southern edge. The ditch had a charcoal rich deposit [796] at its base and appears to have been naturally filled with silty sand [795] which was associated with late first-early second century pottery sherds, including sherds which date to after AD120. On the basis of the continued re-use of this boundary ditch it is also likely that the other earlier property boundary [457], to the south, was still in use during this phase, particularly as in the southern portion of the site another Roman building was present which appears contemporary with Building F.

This second Roman building – Building A – was defined by a *c.* 0.3m wide construction trench [302] forming three sides of a rectangular building (Illus 15). The western and northern sections of this construction trench were examined as part of Professor Jones' excavation at the site. However, the easterly stretch was excavated during the 2004 season and was *c.* 0.3m deep and contained a silty sand [302 & 368-9], associated with late first-mid-second century pottery sherds. The profile of the trench also indicated that the wall line of Building A was secured by posts placed directly within the construction trench, as opposed to a wooden sleeper beam (*cf.* Hanson 1982, 171). Professor Jones also identified a shallow drainage gully [*193], or eaves drip, running parallel with the north-west corner of the building.

The layout of the construction trench suggests that the building was rectangular and measured *c.* 4.8m north-west – south-east by at least *c.* 6m north-east – south-west and probably fronted a Roman road running along, or close to, Bridgewater Street. Within the interior of the building a number of features were excavated by Professor Jones' team which suggest that the building was of industrial character. In the northern half of the building, for example, were a number of bowl-shaped features, associated with burnt stone, clay and slag,

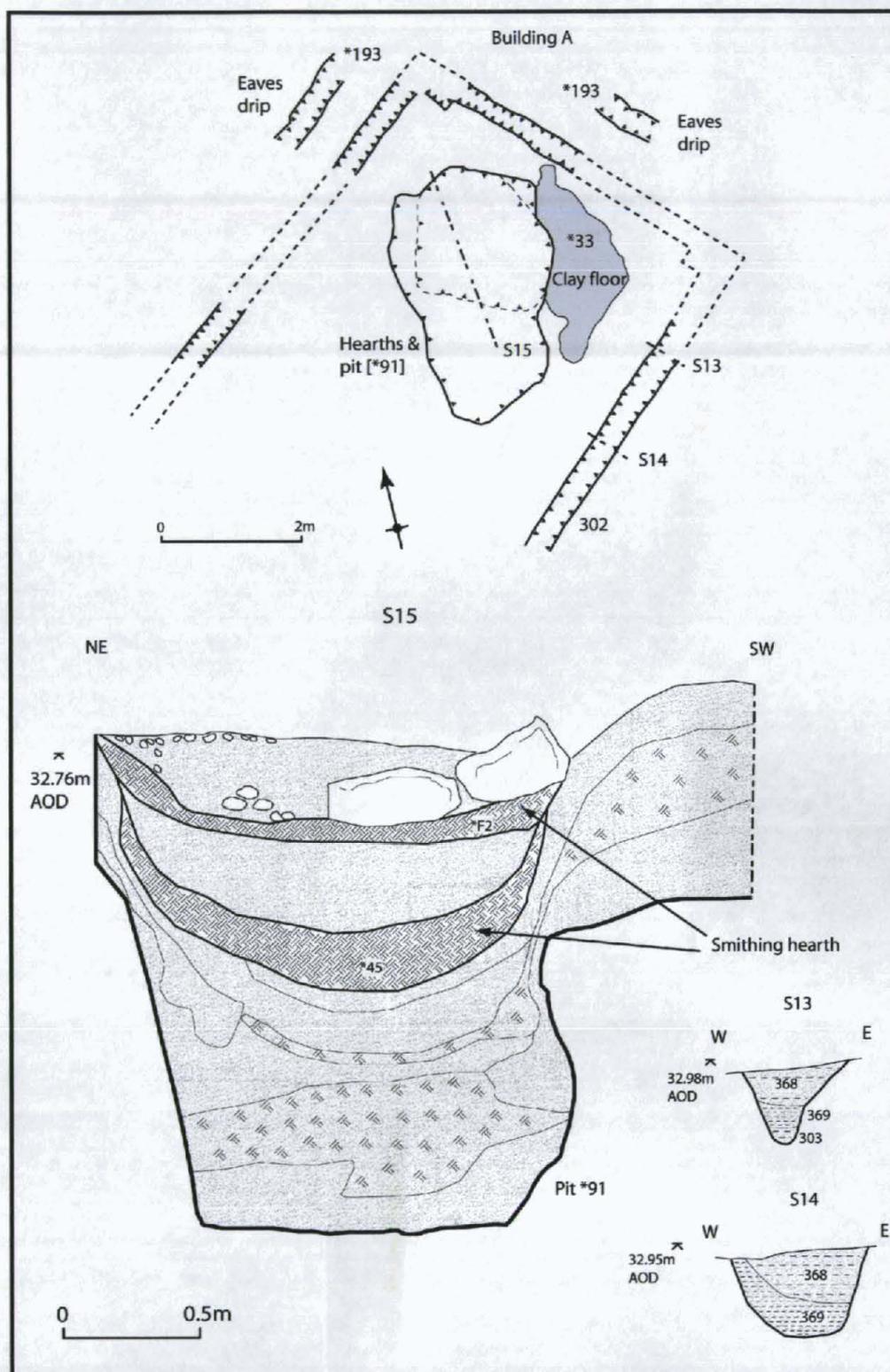


Illustration 15. Building A.

which were exposed and interpreted as smithing hearths [*45/*F2]. Two successive hearths were identified, with *c.* 1.5m diameters, which were composed of burnt clay and sandstone (Illus 15). These hearths were *c.* 0.2m thick, were associated with a clay working floor [*33], laid within the interior of the building, and were set within a large, *c.* 1.9m deep, pit [*91]. At its base this pit contained clay and silty sand, suggesting that it may have originally been left open for some time and used as a means of containing, or disposing of, domestic refuse. This

detritus appears to have included a number of sherds of samian ware, suggesting that it was filled by at least the Hadrianic period.

Phase 3 – Building D and the pit digging episode (c. AD120-160)

Following the demise of Building F, another timber building – Building D – was constructed in the north-western corner of the site and this, like its predecessors, probably fronted the road exiting the north gate of the fort (Illus 16). Within the confines of the excavated area the south-eastern corner of this building was exposed (Illus 17 & 18). This was initially defined by a c. 1m wide, right angled, construction trench [506], with a buttress like projection, which in one area truncated the backfilled ditch [122/471/987] and occupation layers [868 & 1011-3] associated with earlier Roman activity (Illus 9 & 17). With excavation the eastern length of this construction trench was c. 0.6m deep with a V-shaped profile whilst, in contrast, the southern extent was only c. 0.3m deep. Although no post impressions were identified at the base of the construction trench, the V-shaped profile and the change in depth of the construction trench implies that this wall line was formed from timber posts that were inserted directly into the construction trench. Following the insertion of these posts the trench was then backfilled with clay, sandy clay, silty clay and silty sand [507, 752, 765, 765, 822-5, 954-6, 969-71 & 1017-8] and these deposits contained late first-early second century, and possible Hadrianic, pottery sherds.

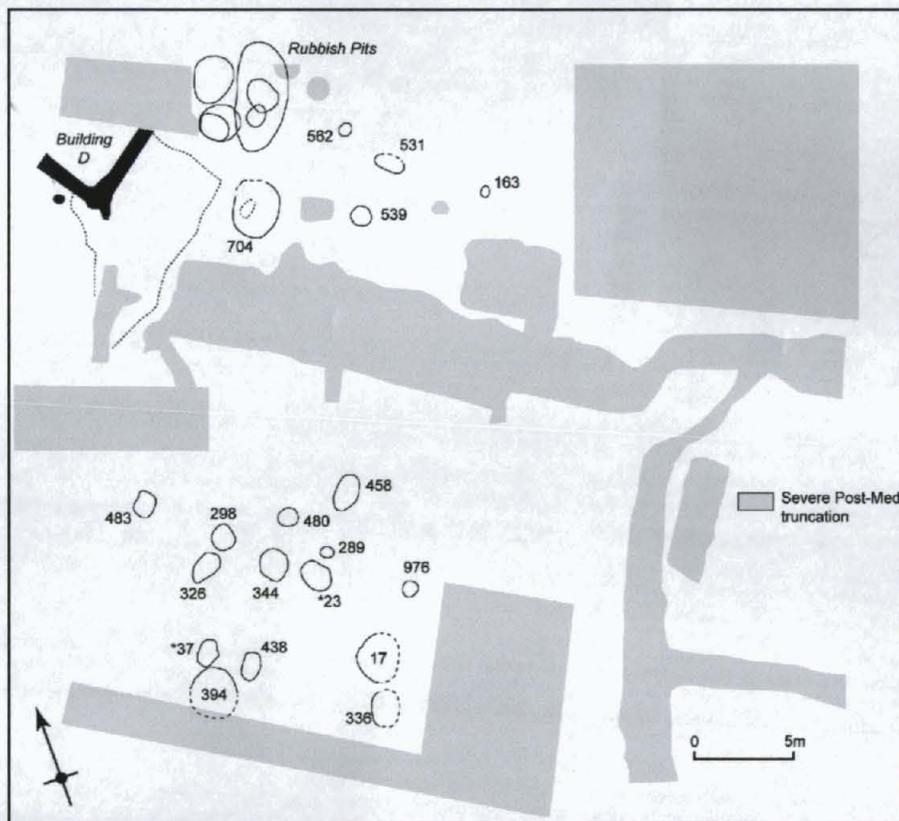


Illustration 16. Period 2 phase 3.

During the excavation of the construction trench it became clear that at some stage the initial wall line of Building D had been completely refurbished (phase 3B). This refurbishment was evident by the identification of a second construction trench [992], running along the entire length of the wall line, which had been cut into the upper fills contained within the earlier construction trench [506]. The form of this later construction trench [992] differed to the earlier construction trench [506] in a number of important ways (Illus 8 & 17). The later trench was much shallower with an average depth of c. 0.3m, and contained clay, sandy clay,

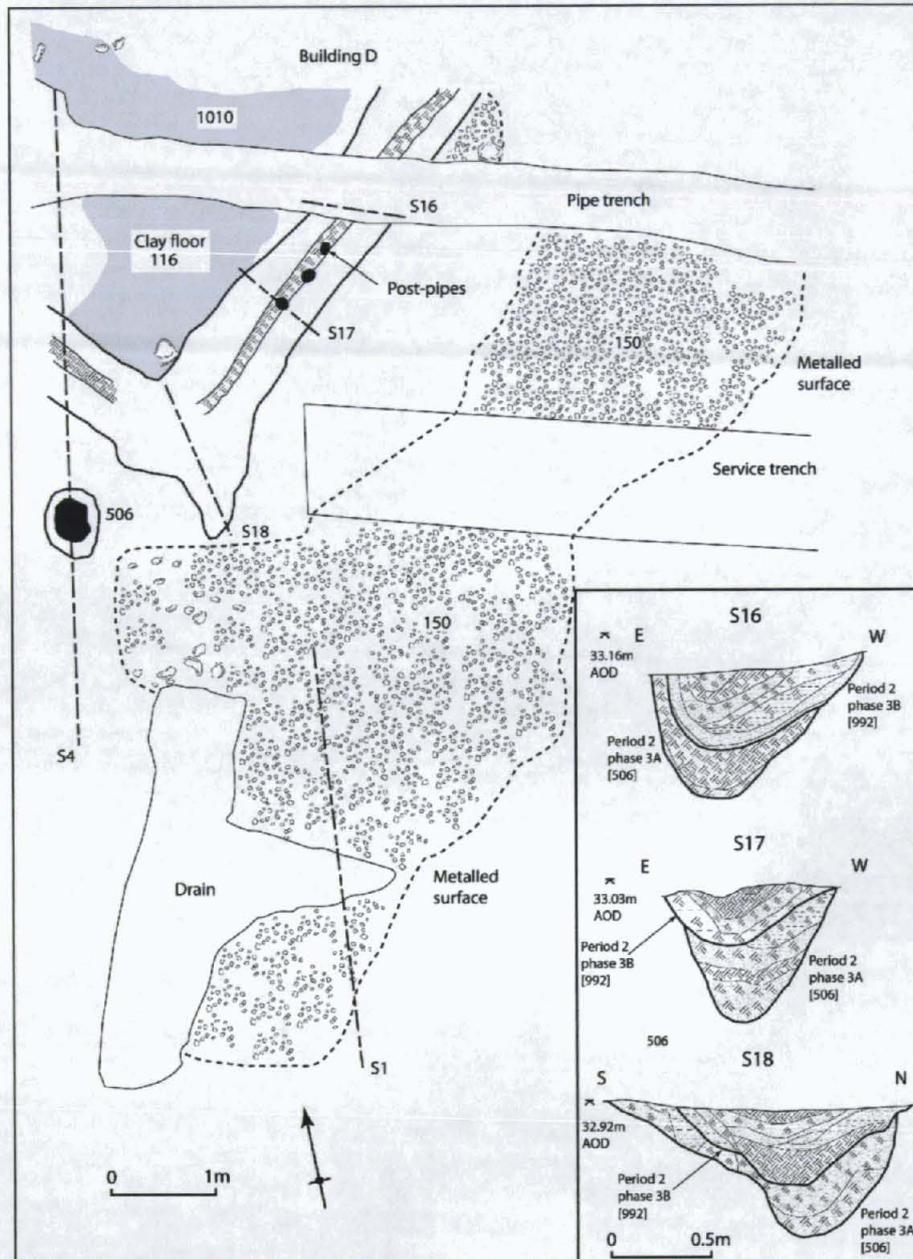


Illustration 17. Building D.



Illustration 18. Building D during excavation.

silty clay and silty sand [508, 753-9, 810, 826-8, 867, 957 & 993-5] that was associated with late first-second century coarse ware sherds and a sherd of Trajanic, or Hadrianic, samian ware. This construction trench also had a flat-bottomed profile, suggesting the use of a timber sleeper beam to secure the timber uprights associated with the refurbished wall line (*cf.* Hanson 1982, 170-1). Indeed, following the initial exposure of Building D, the position of three of these uprights was visible, in plan, as circular patches of clay that were associated with a band of clay [119/758] running along the entire length of the construction trench. The different forms of the two successive construction trenches is therefore informative as it indicates that during the refurbishment of Building D's wall line there was a shift from the 'post-trench' mode of construction to the use of a timber sleeper beam in order to secure the timber uprights, defining the outer wall of this building. Although this shift may merely indicate that two different builders, with different constructional preferences, were involved in the original construction and the subsequent refurbishment, it also is conceivable that it reflects a concerted attempt to improve the design and stability of Building D, by employing a more sophisticated building technique.

Within the interior of Building D a thin beaten layer of clay was identified [116/1010] forming a floor surface which, in a similar manner to the floor level of Building F, had suffered subsidence in an area located above a backfilled Period I pit [985] (Illus 9 & 17). Immediately to the east and south of Building D were also a number of other contemporary features. Close to the southern wall of the building these included a clay packed post-hole [516], with a *c.* 0.6m diameter, which contained a clear post-pipe [990] indicating that this feature held a wooden post with a *c.* 0.2m diameter (Illus 9). Although it is not clear whether this post was associated with the original or refurbished building, its position suggests that it formed part of a veranda which ran around the southern side of this building. Immediately to the east of the building were also two successive metallised surfaces [152/84 & 150], both composed of gravel that were presumably laid during the initial construction and subsequent refurbishment of Building D (Illus 8). Sandwiched between these two surfaces was a thin layer of occupation detritus [151], associated with late first-second century pottery sherds, whilst the lower metallised surface [152/84] had been laid upon a sandy silt layer [763] that sealed the remains of Building F. This layer was also associated with late first-early second century pottery sherds.

To the east of Building D, and probably contemporary with its construction and occupation, were a series of intercutting pits, which partially truncated a number of earlier Period I pits (Illus 11 & 19). The earliest of these pits [124/878] was probably dug as a means of extracting gravel, and it is quite possible that this gravel was then used to create one of the metallised surfaces located to the east of Building D (phase 3A). This pit was comparatively large, measuring *c.* 5.6m by *c.* 2.6m. At its southern end this pit had a depth of *c.* 0.5m and was cut into natural gravels, but at its northern end the pit was much shallower and truncated two earlier Period I pits [845 & 854]. This large extraction pit was subsequently backfilled with coarse sand, silty sand and sandy clay [775, 842-4 & 880], which was associated with late first-early second century and Hadrianic, or early Antonine pottery, sherds. Following the backfilling of this pit, three further pits [917, 529 & 836] were then dug in this area (phase 3B). The more northerly of these pits [917] was approximately circular in shape, with *c.* 2.1m diameter, and was *c.* 1m deep. Within this pit successive deposits of silty sands and mottled sandy clays [931, 926, 922 & 923] had accumulated, which were separated by layers of coarse and fine sand [930, 928, 929 & 925]. This sequence of filling appears to suggest that, over time, the pits were left open and filled with domestic detritus, which was then periodically capped with sand. A number of sherds of pottery were associated with these pit fills and these dated to the late first-early second century and to the Hadrianic and Antonine periods. Immediately to the south of this pit was a second circular shaped rubbish pit [529], with a *c.* 1.9m diameter, which was *c.* 1.1m deep. Similarly, this pit had also been filled with sandy and silty clay [777-9], which might have formed through the accumulation of cultural

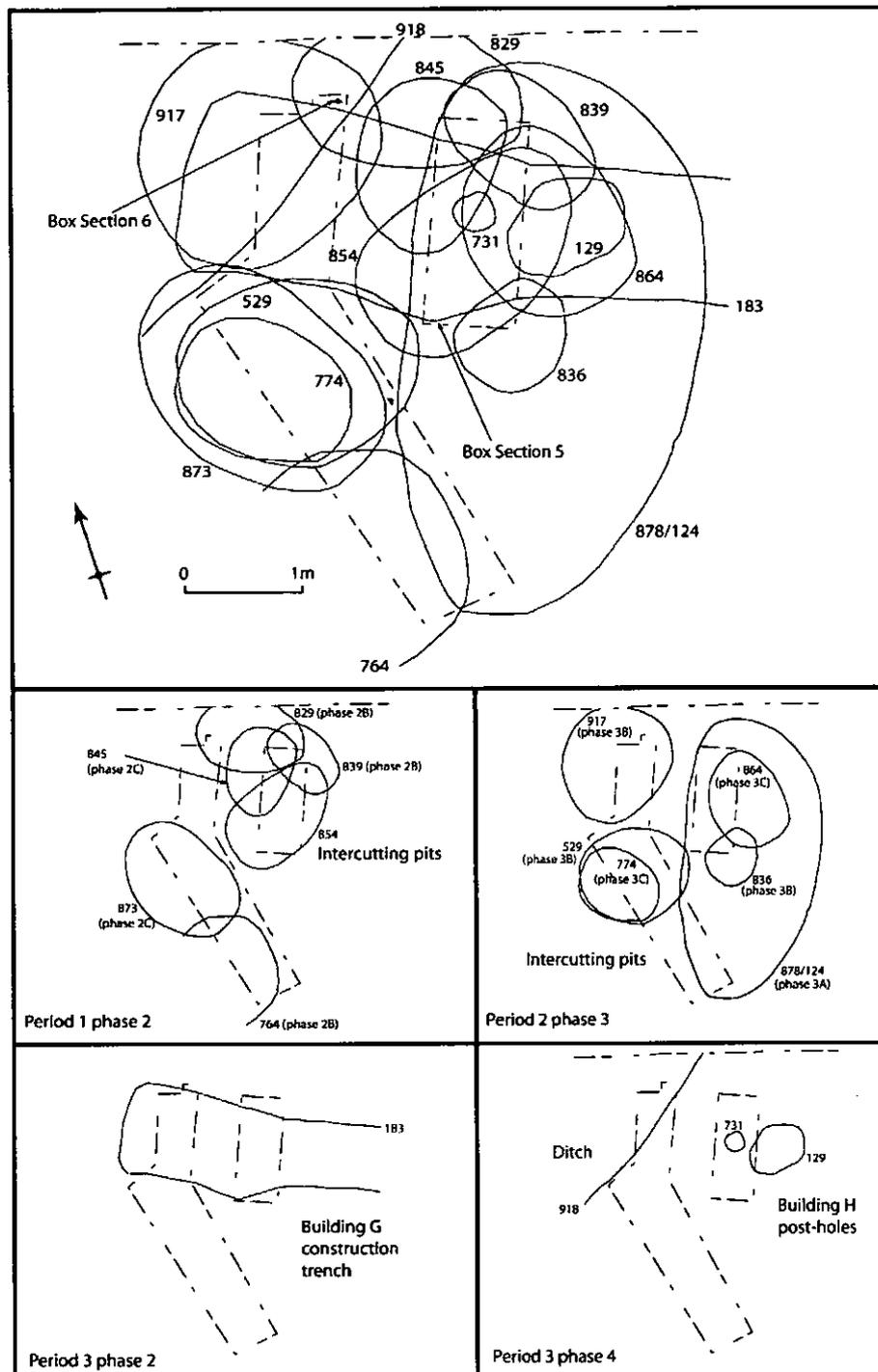


Illustration 19. Intercutting pits.

detritus, and these deposits had been capped, in one area, by a thick layer of coarse sand [776] (Illus 20). The lower sandy and silty clay fills were associated with a moderate sized assemblage of pottery sherds, suggesting that the pit had been backfilled by the early Antonine period. To the east was another circular pit [836]. This pit was, however smaller in size and had a *c.* 1m diameter and was *c.* 0.6m deep. Although the function of this pit is also not particularly clear, as it did not contain any pottery and had been filled entirely with sand [837-8], it might conceivably have been dug in order to extract a small quantity of gravel. After the backfilling of these three pits [917, 529 & 836], two oval shaped pits [774 & 864] were then dug in this area (phase 3C). One of these pits [774] measured *c.* 1.7m by *c.* 1.3m, was *c.* 0.75m deep and had been inserted directly into one of the earlier pits [529] (Illus 20). This pit was probably dug as a rubbish pit, as a number of deposits of silty sand, silty loam

and clay [269, 779-81, 783, 786-7] had accumulated within it, perhaps during the deposition of domestic material, and these were interspersed with layers of sand [784-5]. The artefacts associated with this pit included first-early second century pottery, interspersed with pottery sherds dating to the second half of the second century. The other oval shaped pit [864] measured *c.* 1.9m by *c.* 1.4m, was *c.* 0.6m deep, contained sand [862 & 863] and late first-early second century and Hadrianic-early Antonine pottery sherds.



Illustration 20. Rubbish pits 529 and 774 after sectioning.

Across the remainder of the site there were a number of other pits [17, *23, *37, 289, 298, 326, 336, 344, 394, 417, 438, 458, 480, 483, 531, 539, 562, 704 & 976], which appeared to be contemporary with Building D, and those pits found in the north-western corner of the site (**Illus 16**). Five of these pits [163, 531, 539, 562 & 704] were located in the northern half of the site (**Illus 21**). Of these, three were small circular pits [163, 562, & 539], with diameters ranging between *c.* 0.6-1m, whilst another was a small oval shaped pit [531] measuring *c.* 1.5m by *c.* 0.7m. These pits were between *c.* 0.3 and *c.* 0.6m deep and were filled with sandy clay and silty loam [531: 638 & 646; 539: 623; 562: 655 & 656]. One pit [562] was associated with Flavian/Trajanic and Hadrianic samian sherds, whilst another [539] contained pre-Hadrianic sherds. The function of these pits is not entirely clear, but it is possible that they acted as rubbish pits. To the west of these pits was also a large, shallow, oval shaped pit [704], which measured *c.* 3m by *c.* 2.4m and was *c.* 0.35m deep (**Illus 22**). Initially this pit was probably dug as a means of extracting gravel, which may have been used to create one of the metallised surfaces [150 & 152/84] associated with Building D. This pit contained a mottled sandy loam, which was associated with a moderate sized assemblage of artefacts, suggesting that it too functioned as a rubbish pit. These artefacts included an iron *pilum*, found at the base of the pit, a comparatively large quantity of ceramic building material and pottery sherds dating between the late first and early-mid second century. Two sherds of third century pottery were also recovered from this pit though these must, on stratigraphic grounds, be intrusive.

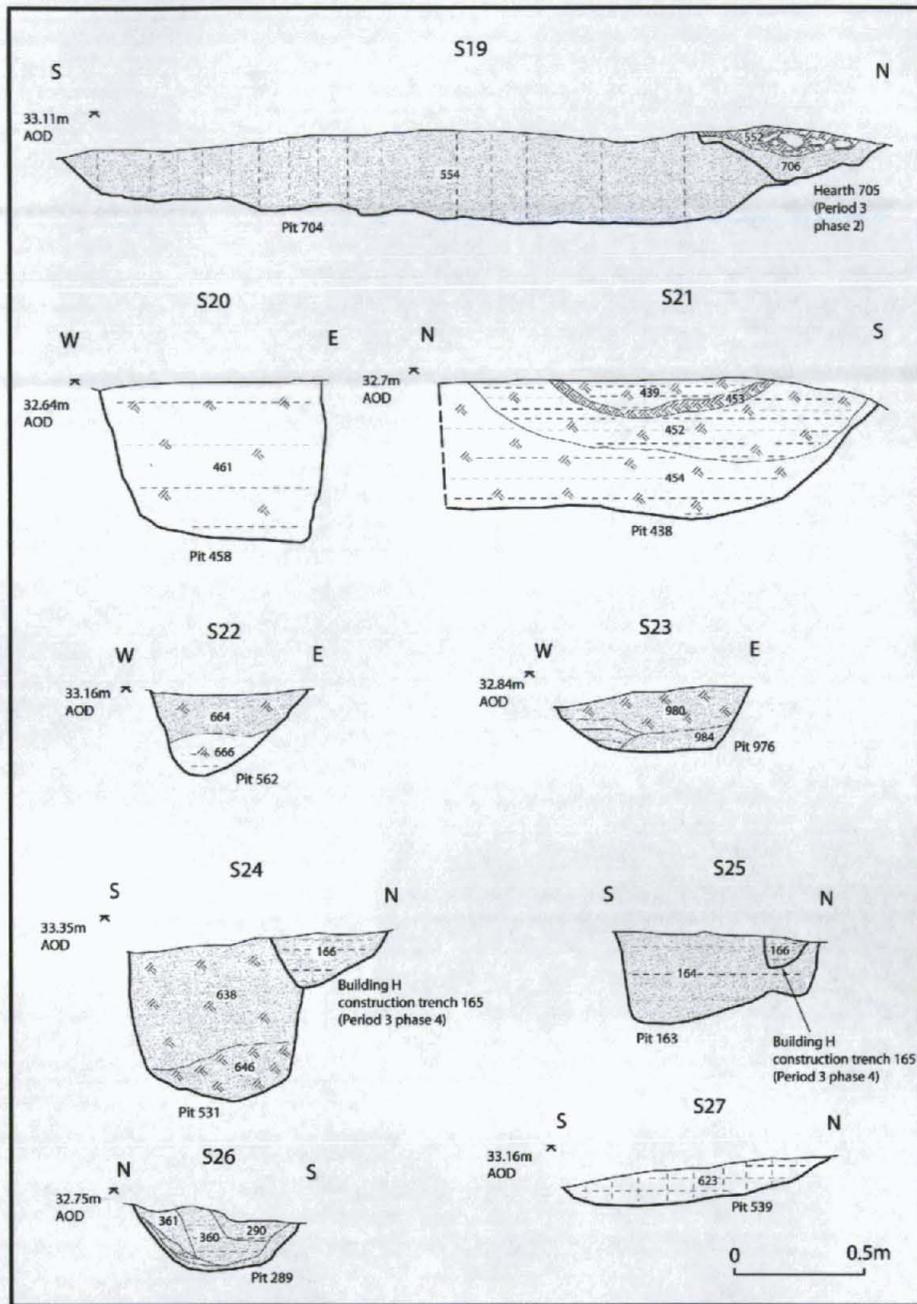


Illustration 21. Period 2 phase 3 pit sections.

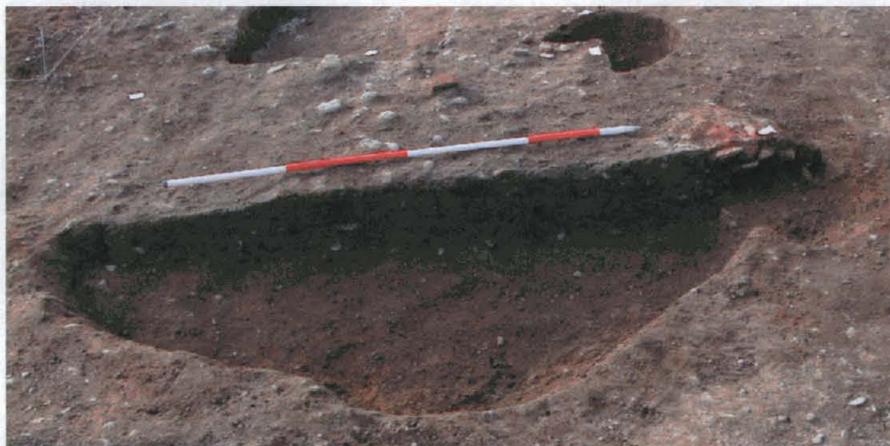


Illustration 22. Pit 704 and hearth 705 after half sectioning.

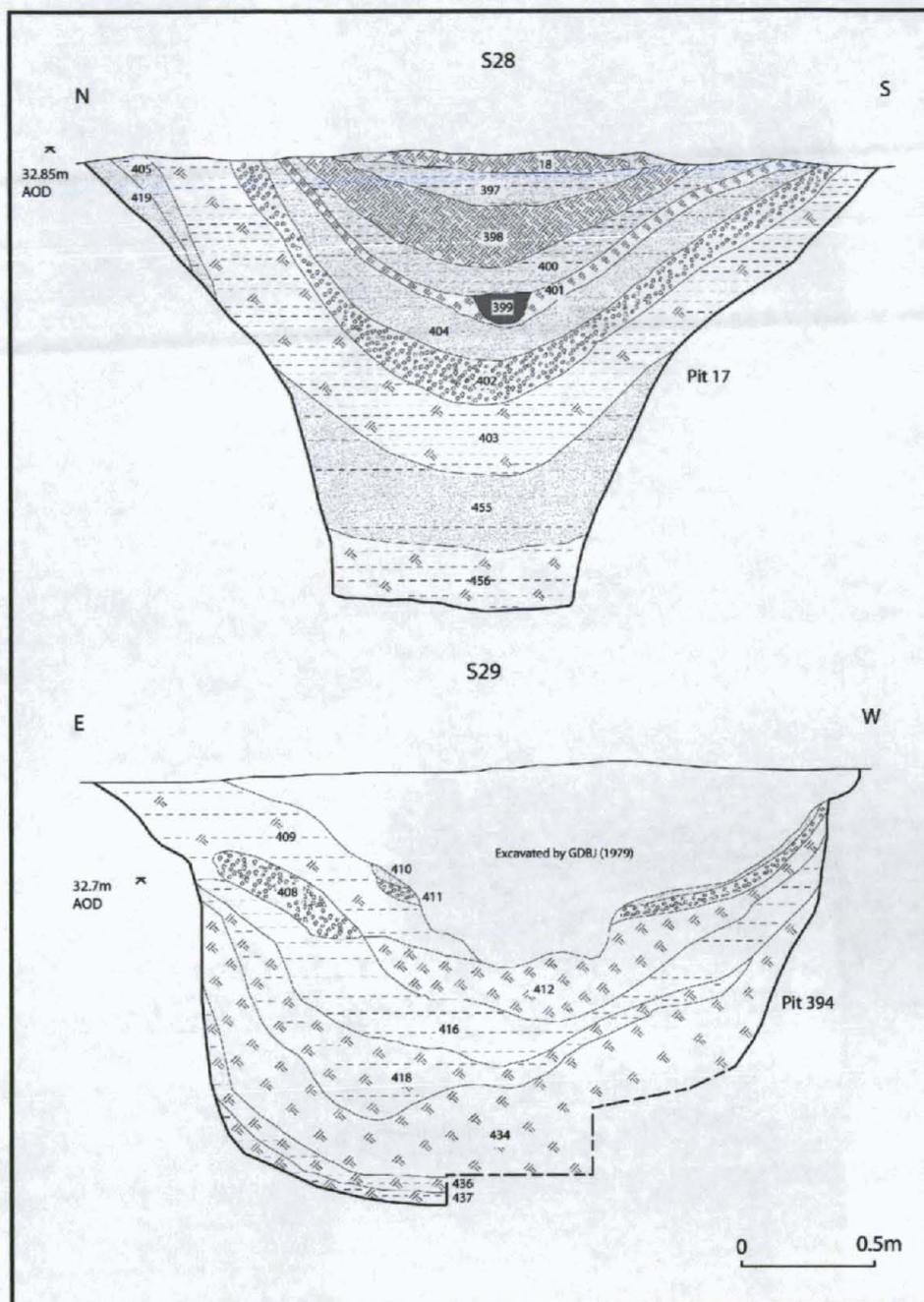


Illustration 23. Pit 17 and 394 sections.

In the southern half of the site a large group of pits was also identified that were dug at similar times and which truncated the remains of Building A (Illus 16). These pits ranged in size and depth, though all were roughly circular or oval in plan. The largest pits included pit 17 and pit 394, but it is probable that these two features performed different roles that were integral to the functioning and maintenance of the *vicus*. Pit 394, for example, whose upper fills were partially excavated by Professor Jones' team in 1979, appears to have acted as a large, circular, steep sided, flat-bottomed rubbish pit (Illus 23 & 24). Although this pit had been partially destroyed by nineteenth century cellars, it had a *c.* 2.9m diameter and was *c.* 1.7m deep. The majority of the pit contained clay and silty clay [436-7, 434, 418, 416, 412 & 409] and these deposits probably correspond with the accumulation of domestic waste, which was dumped into the pit over an unknown period of time. Where it could be discerned, it appeared that the lower pit fills were then partially sealed with re-deposited sand and gravel [408 & 410-1]. The artefacts contained within this pit included a first century pillar-moulded

glass bowl and a small assemblage of abraded pottery sherds dating to the late first-early second century and Hadrianic, or Antonine, periods.



Illustration 24. Rubbish pit 394 after half sectioning.

Pit 17 was also circular in shape with a *c.* 2.9m diameter and a depth of *c.* 1.65m and contained pottery sherds suggesting use during the Hadrianic or early Antonine periods (Illus 23). This pit differed, however, to pit 394, in that it had a V-shaped, flat-bottomed, profile and contained a number of intriguing deposits that might be connected to some form of industrial processes occurring within the *vicus*. The lower sections of this pit contained silty clay and sandy silt [455-6], indicating that the pit had been left open and filled with domestic material and other detritus. This material was sealed by a layer of silty clay [403] and a subsequent layer of gravel [402], and both these deposits were intentionally formed into a 'bowl' shaped feature. The gravel 'bowl' was then sealed by a layer of sandy silt [404], and on top of this was a mid-whitish-grey clay that also clearly formed a 'bowl' [401]. At the centre of this feature was a *c.* 0.2m wide rectangular slot that was filled with a charcoal deposit [399], suggesting that the clay 'bowl' may have had a small fire at its centre (Illus 25). Indeed, the shape of this bowl was similar to those 'smithing hearths' excavated by Professor Jones within the Period 2 phase 2 pit that was associated with Building A (Illus 15). It, therefore, seemed possible during its excavation that the clay bowl with a central fire, within pit 17, was also connected with an industrial process such as metalworking, although this was not proven by the subsequent soil tests (Rothwell & Shimwell this volume). Following the use of this feature it was covered with a layer of silty sand, which acted as the base for a second clay 'bowl' [398]. In contrast to the earlier 'bowl' this feature was composed of red oxidised clay and had no evidence for a rectangular depression at its centre. At some stage this clay 'bowl' was then sealed by a layer of sandy silt [397] onto which was placed a further deposit of red oxidised clay [18] and presumably this uppermost clay feature [18] performed a similar function to the underlying oxidised clay bowls [398].



Illustration 25. Charcoal filled slot [399] in pit 17.

The identification of clay ‘bowls’ or ‘linings’ within pit 17 was not unique as similar features were identified within other pits in the southern part of the site. Pit 336, for example, was located immediately south of pit 17, and although it was only possible to excavate a small portion of this pit, it too contained deposits of silty and sandy clay, clay and sand [334, 420, 429 & 431] and four clay ‘bowls’ [420, 425/427, 433/426 & 280] (**Illus 26**). The lower ‘bowl’ [420] was composed of mid-white grey clay and above this were two further ‘bowls’ [425/427 & 433/426] formed of blue/grey clay. In contrast, the uppermost ‘bowl’ [280] was composed of red, oxidised clay, and was associated with a charcoal filled slot [432]. This arrangement has obvious similarities with the clay ‘bowl’ and charcoal filled slot [399 & 401] identified in pit 17, and might suggest that both of these features shared a similar function. Pit 344 also contained a number of clay ‘bowls’, though in this instance there was no direct evidence for heating, or burning (**Illus 26**). This oval pit measured *c.* 1.6m by *c.* 1.2m and was *c.* 0.8m deep, though Professor Jones’ team had previously excavated its upper levels in the late 1970s. The majority of this pit was backfilled with sand and sandy silt [382-7], which was associated with late first-early second century pottery sherds. Following this backfilling three successive shallow clay ‘bowls’ [381 & 357-8] were then formed in the upper levels of the pit. The two lower ‘bowls’ [381 & 358] were composed of blue/grey clay, whilst the uppermost bowl [357] consisted of grey/white clay. Pit 438 was also oval-shaped, measuring *c.* 1.3m by *c.* 1m, with a *c.* 0.5m depth, and contained two lower deposits of silty clay [452 & 454] associated with pre-Flavian, Flavian and Hadrianic pottery sherds. Set into the upper silty clay deposit was a shallow clay ‘bowl’ [453] formed from blue/grey clay, which was similar to the bowls identified in pit 344 (**Illus 21**). As with the ‘bowls’ in pit 344, there was no clear evidence of heating, or burning, associated with this feature. A similar pattern was evident in pit 483. This pit, which was circular with a *c.* 0.9m diameter and was *c.* 0.45m deep, truncated an earlier Period I phase 1 pit [504] and was filled with a lower deposit of silty clay [497]. A shallow red/brown clay bowl [503/502], which was partially oxidised, was then set into this deposit. Pit 298, was located to the east of pit 483, and had a *c.* 1.8m diameter and was *c.* 0.65m deep (**Illus 26**). This pit had shelving sides, which dipped down to a flat-bottom, and close to the base was a thin layer of grey clay [442/449] that appeared very reminiscent to the clay ‘bowls’ lining a proportion of the Period II pits. Sealing this feature were backfilled deposits of sand and sandy clay [413, 448 & 450] that were associated with Severn Valley pottery suggesting a mid-second century date for this feature. Following backfilling this pit was re-cut by a second pit [447], which had a *c.* 1.2m diameter and was *c.*

0.5m deep. In contrast, this pit contained a lower deposit of silty clay [415/447] that was sealed with a layer of sand [414], suggesting that the pit was used in the disposal of domestic waste.

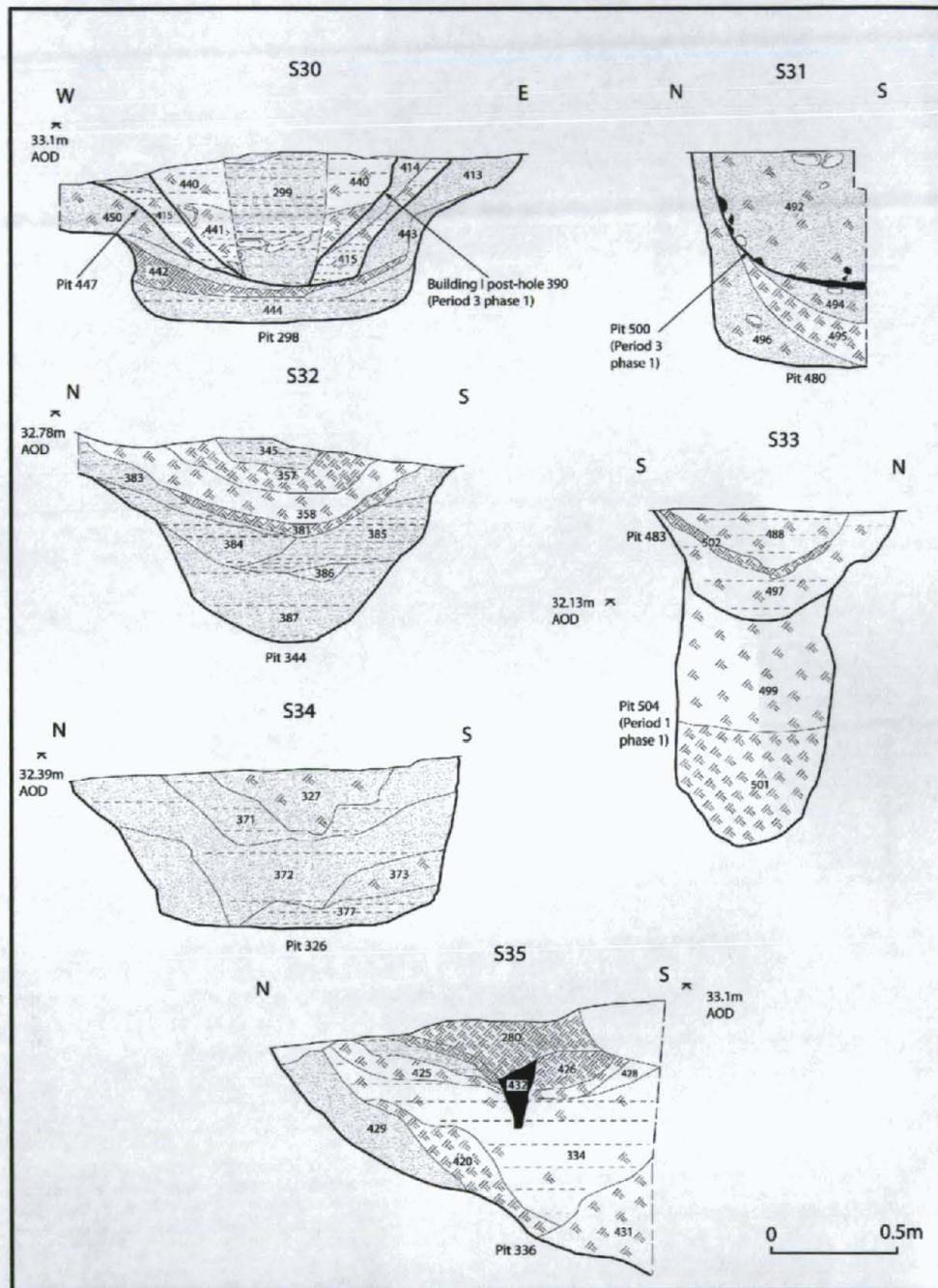


Illustration 26. Period 2 phase 3 pit sections.

The remaining pits [*23, *37, 289, 326, 480, 458 & 976] in the southern portion of the site may also functioned as rubbish pits (Illus 16). These oval or circular pits ranged in size with the largest, pit 458, measuring *c.* 3m by *c.* 1.2m, whilst the smallest, pit 289, had a diameter of *c.* 0.6m (Illus 21). However, all of these pits contained a mixture of sandy, silty and clay deposits and a number were associated with late first-second century and Hadrianic or early Antonine pottery sherds.

3.2.3. Period 3 – Late Second Century AD

The Period 3 remains date to the mid- to late second century and includes a post-defined building (Building I) in the southern portion of the site. It was during this period that the northern portion of the site was radically transformed, however, through the construction of two successive buildings (Buildings G & H). The earlier of these buildings (Building G) was constructed of timber, with an open westerly front, was associated with a number of unusual finds and probably only stood for a short period of time before it was demolished. As part of this demolition a large pit was dug over its northern wall line. Following the rapid backfilling of this pit another building (Building H) was constructed consisting of an 'inner' and 'outer' structure. This building was associated with an urned adult cremation burial.

Phase 1 – Building I and Pit 568

It appears that following the backfilling of the Period 2 pits a timber building – Building I – was constructed in the southern half of the site (Illus 27). Part of this building was identified during the 2004 excavations, when a post-pit [390] was identified which had been inserted into the top of a backfilled Period II pit [417]. This post-pit had a c. 1m diameter with a clearly defined, c. 0.5m deep, post-pipe at its centre (Illus 26 & 28). With consideration of the Worsley Street archive it became clear that this post was probably contemporary with a series of posts [*11, *14-16, *18, *20-22 & *33] identified and excavated by Professor Jones' team in 1979. When, for instance, the location of these posts is plotted, in relation to the post-pit identified in 2004, their arrangement and orientation suggests the existence of a post-defined building (Building I) in this area of the site. The presence of this building was also confirmed, in some measure, through the discovery by Professor Jones' team of a floor level, composed of sandstone slabs, degraded roof tile [*10] and gravel metalling [*3A], which was associated with Flavian through to Hadrianic or early Antonine pottery sherds. Although the present evidence is far from complete, it is quite possible, due to its size, that the post-hole [390] excavated in 2004 formed the rearward corner post for this building. If this is correct this post-defined building was c. 7.4m wide and probably fronted a presumed Roman road running along, or close to, Bridgewater Street.

Immediately to the north of Building I a small group of contemporary features were also identified (Illus 27). One of these features was a pit [500], with a c. 1.2m diameter, and a depth of c. 0.5m, that was dug into the top of an earlier Period II pit [480]. At the base of the pit was a thin layer of charcoal-rich material, suggesting that the pit was dug in order hold waste, which was perhaps ultimately derived from Building I (Illus 26). This layer was sealed by a deposit of sandy clay [492], which contained Hadrianic pottery sherds and a decorated sherd of samian ware dating between c. AD135-165. To the north of this pit were three severely truncated post, or stake-holes [460, 469 & 481]. These features were orientated east-west and they may form the remains of a fence line associated with Building I.

In the northern half of the site two features were also discovered which relate to this phase of activity, and it is quite possible that Building D, found in the north-west corner of the site, was also still in use. One of these features consisted of a small dump of water worn pebbles [42] that had been placed on an earlier metalled surface [150] (Illus 27). This dump was associated with a small assemblage of pottery, which ranged in date from the late first to the mid-second century. To the east of this feature was an oval-shaped pit [568]. The presence of this pit was extremely significant as it lay directly beneath, and was cut by, the later phases of Roman building found in this area and, therefore, provided a valuable *terminus post quem* for this later activity. This pit measured c. 1.5m by c. 1.2m and was c. 1.1m deep, with a steep sided and flat-bottomed profile (Illus 29 & 31). The pit contained a large water worn boulder close to its base and deposits of sandy and silty clay, suggesting that the pit had been intentionally backfilled. Associated with these pit fills was a moderate sized assemblage of coarse ware, including a sherd that may have been derived from a face pot, two sherds of

stamped samian dating between *c.* AD150-180 and *c.* AD160-190 and a little-worn coin, an *As*, which was minted between AD154-5.

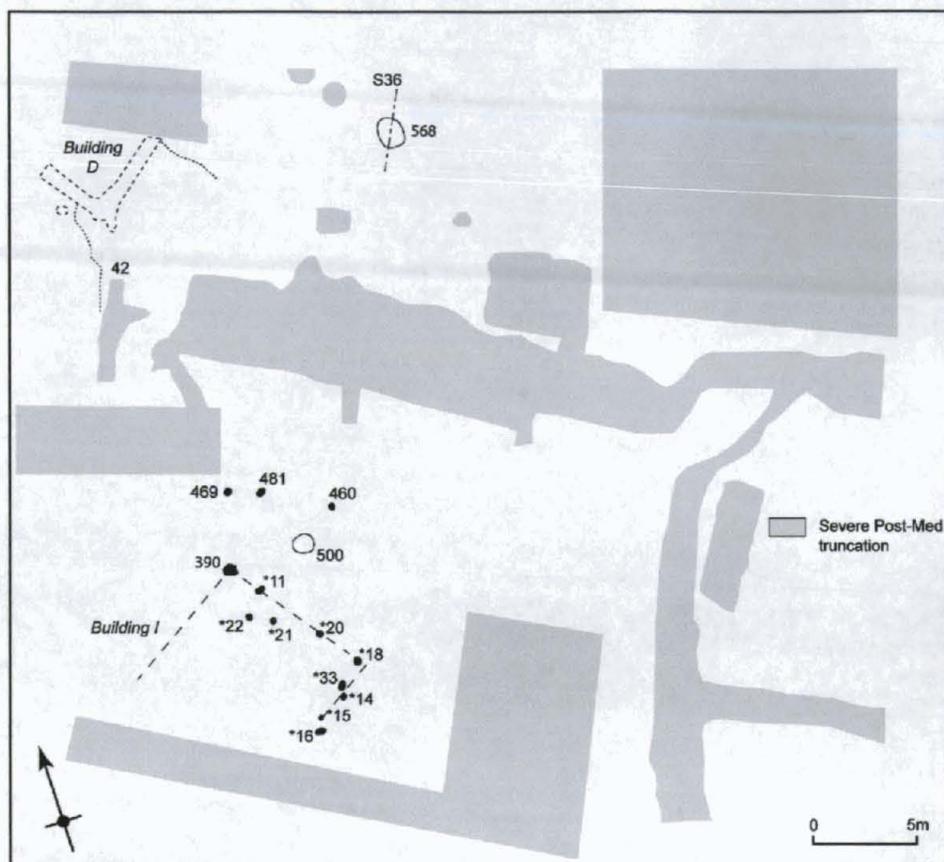


Illustration 27. Period 3 phase 1.



Illustration 28. Post-pit 390 after excavation. The post-pit was inserted into an earlier pit 417.



Illustration 29. Pit 568 (right) and construction trench 183 (left) after sectioning. Pit 568 is the earlier feature.

Phase 2 – Building G

Immediately after the backfilling of pit 568, the northern half of the site was transformed through the demolition of Building D and the construction of an unusual structure – Building G – on a naturally raised area of ground set back from the road exiting the north gate of the fort. Although this building had been heavily truncated by later phases of Roman and post-Roman activity, it is still possible to reconstruct its ground plan from the surviving evidence (Illus 30). The evidence suggests that this structure was constructed on a slightly different orientation to the earlier Roman buildings identified at the site, was rectangular in plan, with an open westerly end, and had an interior area that measured *c.* 24m by *c.* 9m. The wall line of the building was defined by a construction trench [183/264/586/692] that had a V-shaped profile with a maximum depth of *c.* 0.8m (Illus 11, 29, 31 & 38). Along its course this construction trench had been packed with clay [242/652] and based on the discovery two post impressions [268 & 634] it appears that this clay secured a series of timber posts, which defined the wall line of the structure (Illus 30). Due to the discovery of numerous fragments of roof tile from the wall line of a later building (Building H), it is also probable this building had a tiled roof. Contained within the construction trench of the building were also numerous pottery sherds and significantly, a number of these sherds joined with sherds recovered from a later pit [790] and the construction trench of a later building (Building H), to form near complete vessels. This suggests that the joining sherds, and perhaps a proportion of the remaining sherds recovered from the construction trench of Building G, were originally derived from vessels associated with its use, which became incorporated into the ‘construction’ trench, later pit and the foundation trench of the Building H during demolition and subsequent refurbishment (see below). Two coins, a very-worn *Sestertius* minted between AD96-97 and a moderately-worn *As* minted between AD138-161, were also recovered from the construction trench of Building G, and these along with a mortarium sherd, dating to AD180-230, suggest that Building G was constructed during the last two decades of the second century.

Within the interior of Building G a number of unusual discoveries were also made, which may have some bearing on the function of the building. The first of these was a small centrally placed hearth [705] located close to the threshold of the building. This hearth was composed of burnt clay [552/558] and sand [706], and was associated with fire cracked pebbles and a frit melon bead. Adjacent to the hearth a peculiar object had also been deposited. This object was a small, crudely made, lead figurine, which, had been deliberately

inserted in an upright position into a small divot found immediately south of the hearth. A second unusual piece of Roman metalwork – a copper alloy zoomorphic mount, perhaps, depicting a horse (Cool, this volume) – was also discovered close to the southern boundary of the building. Although this mount was unstratified and was recovered from the relict ploughsoil sealing the Roman levels, it is quite possible that it was originally deposited close to the margins of Building G.

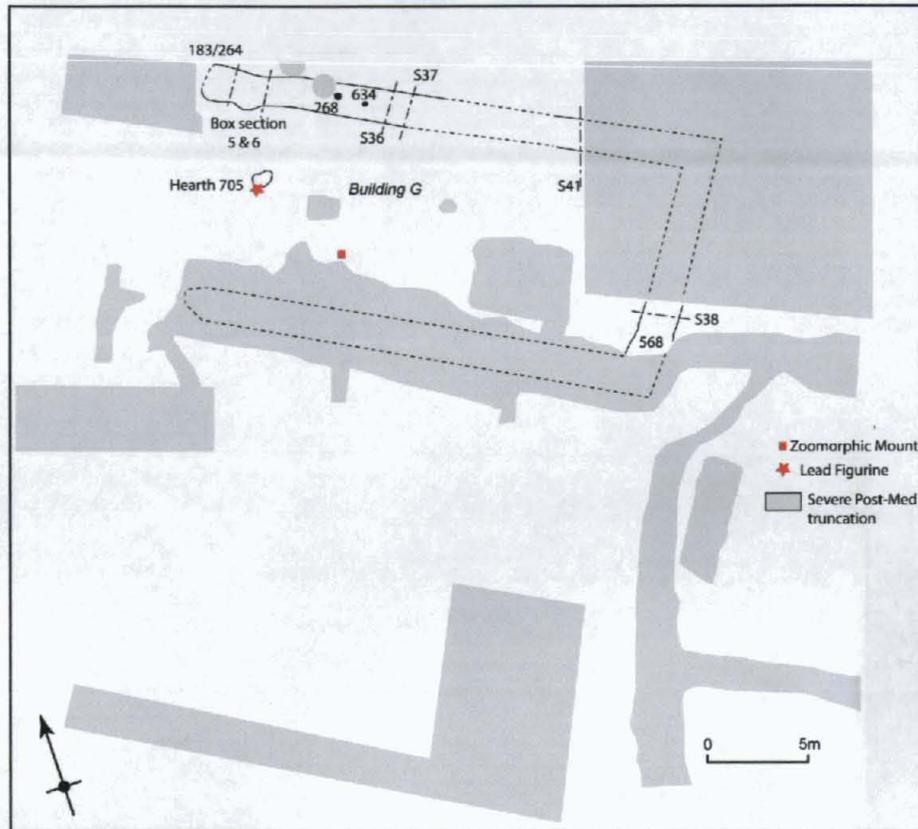


Illustration 30. Period 3 phase 2.

Phase 3 – Pit 790

It appears, based on the pottery evidence, that the life of Building G was relatively short and it is possible that it may have only stood for a decade, or less, before it was demolished. During, or following, this demolition a large oval shaped pit [790], which measured *c.* 7.4m by *c.* 2.4m and was *c.* 1.7m deep, was dug directly over Building G's northerly wall line (Illus 32, 33 & 34). Although the pit was truncated by the foundation trench for a later building (Building H) it contained deposits of silty clay and was filled with a moderate sized assemblage of pottery. Significantly, a proportion of this pottery was probably originally derived from activities which occurred within Building G and it was of identical date to the assemblage recovered from the wall line of the earlier structure. This pit also contained a lid from a copper alloy jug that probably formed part of a set of utensils used in the preparation of hot, possibly spiced, wine (see Cool this volume) and one sherd of mid-third century pottery. This sherd was certainly intrusive, however, and probably ultimately derived from a later robber trench that cut across the pit.

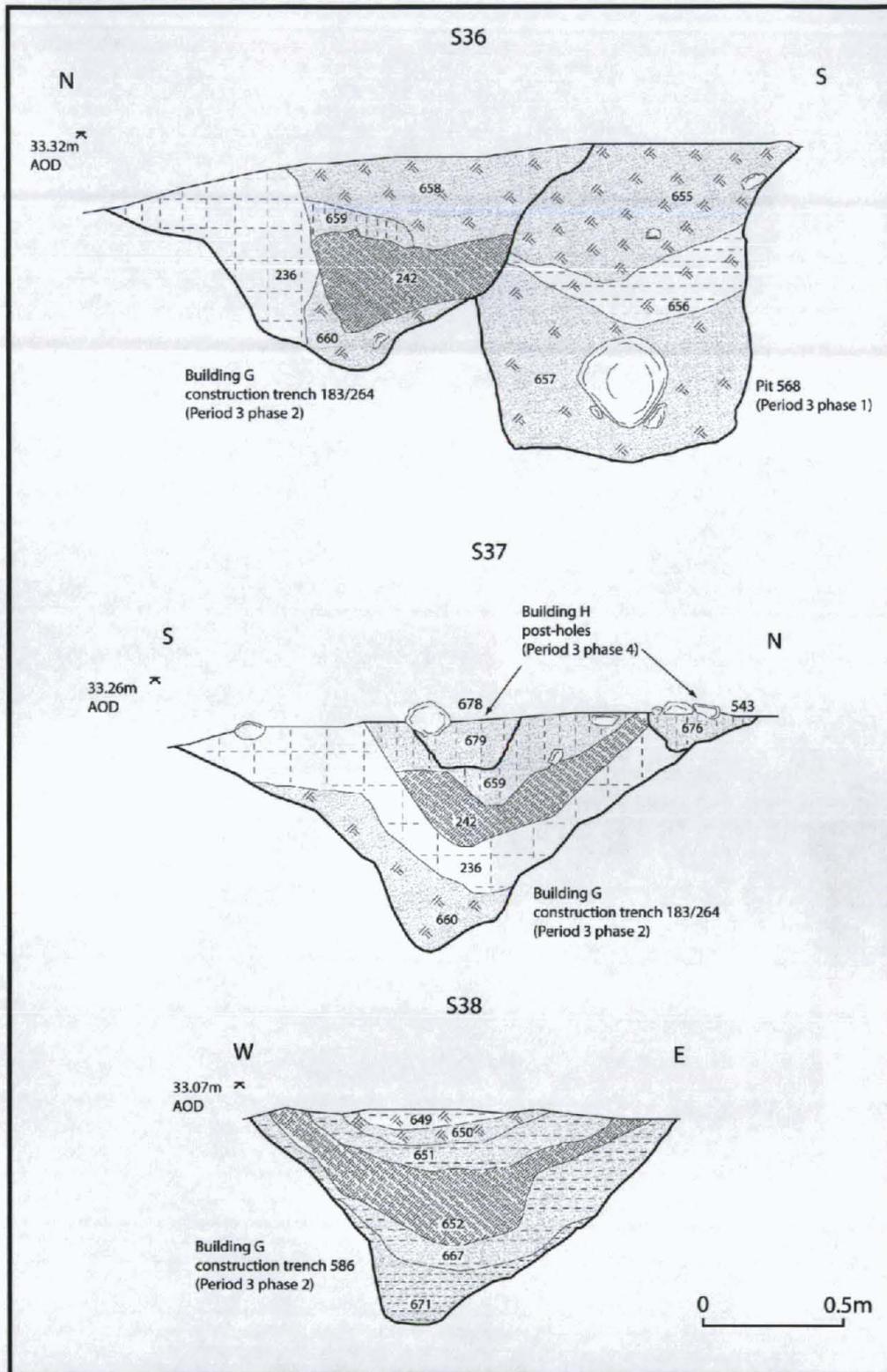


Illustration 31. Sections 36-38 (for location of sections refer to illus 30).

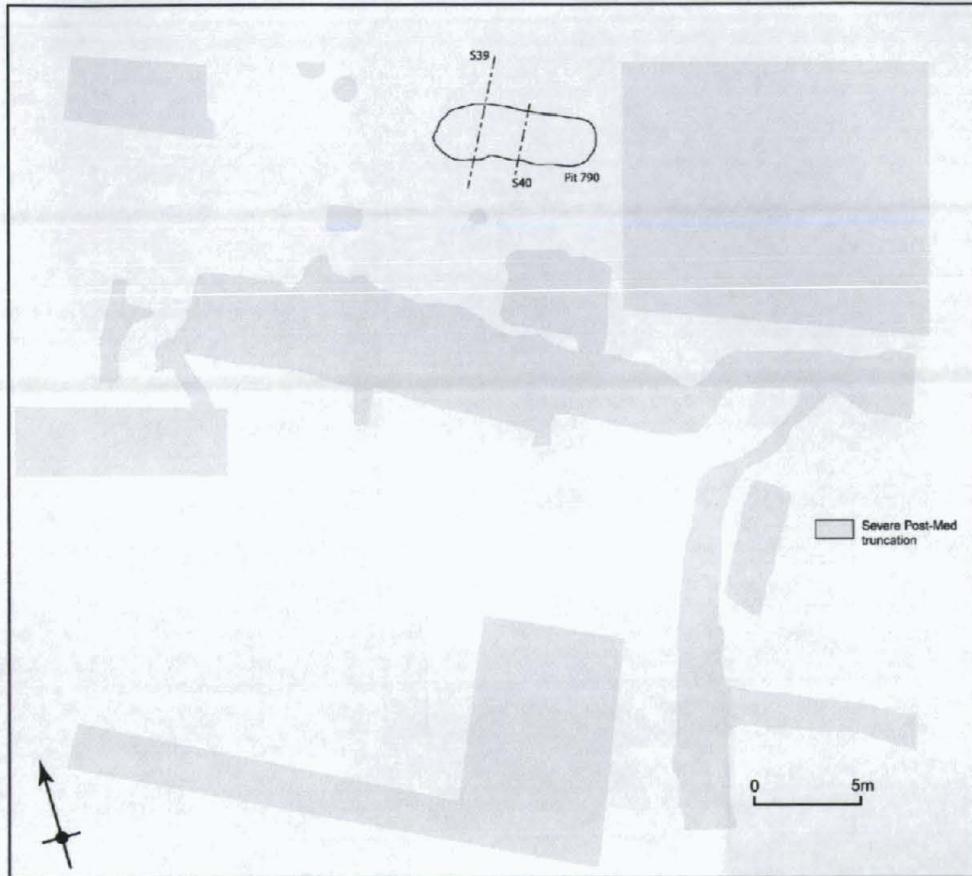


Illustration 32. Period 3 phase 3.

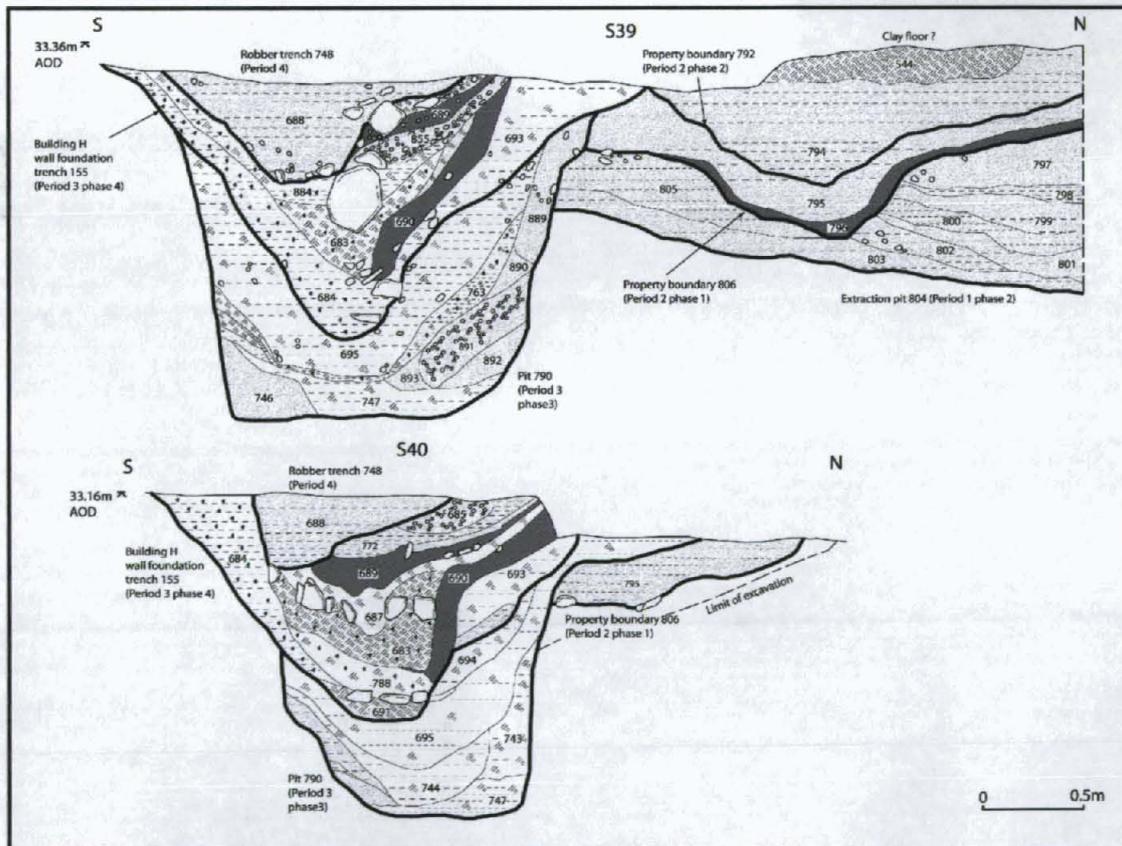


Illustration 33. Sections 39 & 40 (for location of sections refer to illus 32).



Illustration 34. Robber trench 748, pit 790, construction trench 155, extraction pit 804 and property boundary 806 during excavation.

Phase 4 – Building H

Immediately following the backfilling of pit 790 another unusual building – Building H – was constructed in exactly the same area of the site as the earlier structure – Building G. Although Building H was far more elaborate architecturally, was slightly smaller and was constructed on a slightly differing orientation, it appears to represent a direct functional successor to Building G. In certain areas, particularly at its north-eastern corner and along its southern side, Building H had been completely destroyed by the Worsley Street sewer trench and nineteenth century cellarge, but it is possible to use the surviving remains to reconstruct the complete ground plan of this building (**Illus 35**).

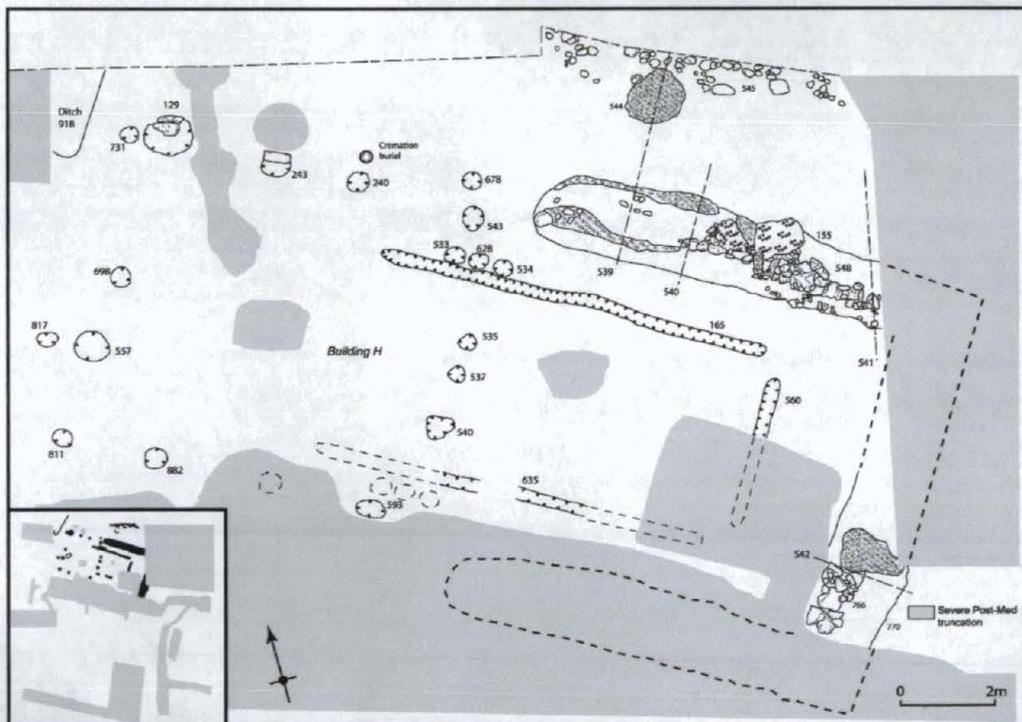


Illustration 35. Building H.

The surviving remains indicate that Building H was composed of two discrete, but complementary, architectural elements (**Illus 36**). The interior of the building consisted of an 'inner room' with an 8.8m by 4.4m internal area. This 'room' was defined on its northern, eastern and southern sides by three separate, *c.* 0.3m wide and *c.* 0.2m deep, construction trenches [165, 560 & 635], which contained a deposit of silty sand [166, 606 & 624] associated with a flake of Flavian or Trajanic samian ware and Hadrianic or Antonine coarse ware. The surviving evidence also indicates that the construction trenches [165 & 560] terminated to form a small gap at the north-eastern corner of the 'room', and it is likely that a similar gap was found at the south-eastern corner of the structure. The existence of a gap at the corners of the structure implies that the wall line was secured by a 'post-trench' mode of construction, as opposed to the use of a timber sleeper beam (*cf.* Hanson 1982, 171). Following excavation this was confirmed through the discovery of a number of post-impressions located at the base of the northerly construction trench [165]. In contrast, at the western end of the 'inner room' the construction trenches terminated and there was an absence of evidence for a westerly wall line. This, in turn, suggests that the western end of the 'inner room' was open, facilitating access into its interior. Three post-holes [535, 537 & 540] were, however, identified within its interior, which were set some *c.* 2.4m back from the front of the structure. These post-holes had *c.* 0.4m diameters, were *c.* 0.2m deep and were arranged in a line running parallel with the structure's rear wall. The position of these post-holes, whilst undoubtedly designed to hold timber posts, also appear to have formed a porch at the eastern end of the 'inner room'. On its northern side, immediately adjacent to the exterior of the wall, and perhaps architecturally associated with the 'porch', were also three further post-holes [533, 534 & 628]. These posts had *c.* 0.4m diameters, but were only *c.* 0.15m deep. Although truncated by episodes of post-Roman activity, it is also quite possible that a similar arrangement of post-holes was originally present on the southern side of the 'room'.



Illustration 36. Building H during excavation.

Surrounding this 'inner room' was a more elaborate external structure. This structure was clearly contemporary as it both respected the position of the 'inner room' and was constructed on exactly the same orientation; an orientation, which was not replicated in any of the other Roman buildings, identified at the site (**Illus 35 & 36**). This outer structure probably had an internal area measuring *c.* 16m by *c.* 7m and was constructed, in part, of a *c.* 1.8m wide sandstone wall [548/549/682/766]. The layout of this wall mimicked the rectangular plan of the inner 'room', and it was partially designed to provide a space, or gap, between these two separate architectural elements of the building. The architectural space,

that was subsequently created around the inner 'room' by the two parallel wall lines was not, however, uniform, as on the northern, and presumably the southern, side it was *c.* 1.2m wide, whilst at the eastern end of the building it was *c.* 2.5m wide. The actual form of the external wall was quite degraded and comprised fragments and undressed blocks of sandstone, which may have originally formed a rubble core to the wall (*Illus 37*). Although there was no direct evidence it is likely, based on the thickness of the stone wall, its constructional makeup and the evidence present within a later robber trench, that it was originally constructed to roof height, supported a tiled roof, and perhaps even an upper storey of the building, and was faced with dressed sandstone blocks which were subsequently robbed when the building was destroyed at some point in the mid-third century (see below).



Illustration 37. Sandstone rubble core of wall 548 (Building H).

Along its eastern, and for part of its northerly, extent this external wall was set within a comparatively shallow, *c.* 0.5m deep, foundation trench [770 & 155], which also contained clay and some silty sand [725-7, 614, 760, 767-9] (*Illus 38: S42*). Where the wall crossed the earlier backfilled pit [790] the foundation trench [155] was much deeper, however, with a maximum depth of *c.* 1.3m (*Illus 39*). Here, deposits of clay [685, 687 & 884], containing occasional pieces of sandstone, sand and gravel had been placed within the trench, and these appear to have acted as a foundation 'raft' for the sandstone wall. A number of other charcoal rich clay deposits [689 & 690] were also evident and these probably represent 'refuse' or 'midden' material derived from activities occurring within Building G, that had been deliberately incorporated into the foundation trench and, in turn, the makeup of the northerly wall line. In this respect, it may also be significant that the majority of burnt animal bone from the site was also recovered from the foundation trench [155] of this wall, as well as the possible remains of a cow's skull (Gidney this volume). This foundation trench also contained the largest assemblage of pottery and other Roman artefacts present at the site and these also related to the activities occurring within Building G. The highest proportion of these artefacts was recovered from the length of foundation trench, which had been dug into the backfilled pit [790]. Again, as with the material from pit 790, a proportion of these sherds were found to join with particular sherds recovered from the wall line of the Building H's

predecessor, Building G, suggesting that certain sherds had become incorporated into the wall line of the earlier building during its destruction and refurbishment.

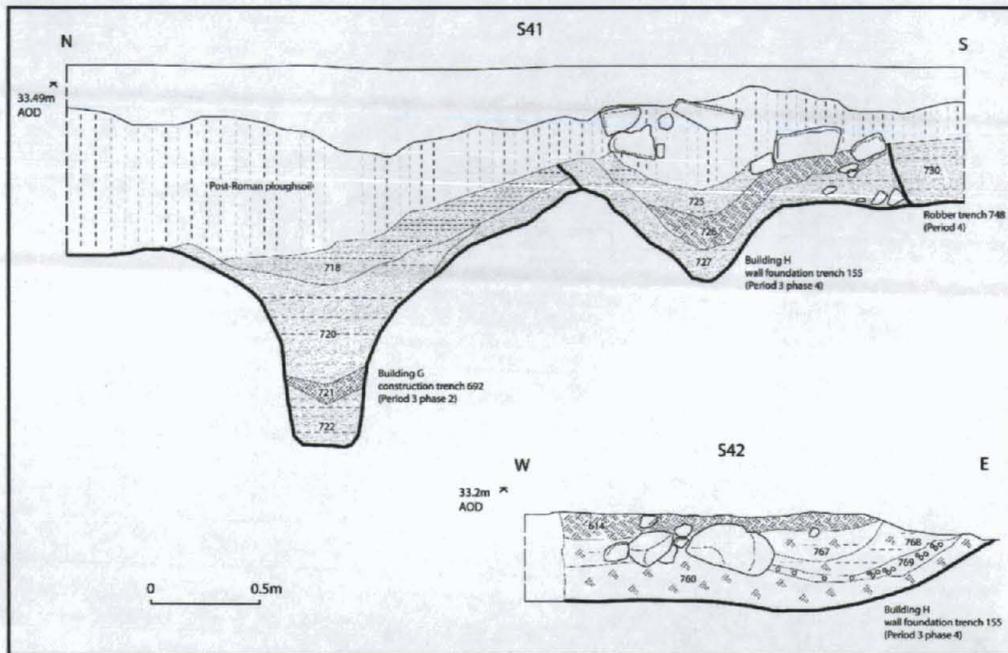


Illustration 38. Sections 41 and 42 (for location of section refer to illus 35).



Illustration 39. Robber trench 748 (latest feature), construction trench 155 and pit 790 (earliest feature).

The surviving length of walling [548] defining the northerly side of Building H did not entirely enclose the 'inner room' of this unusual building. Instead on its northern, and presumably its southern, side the sandstone wall only extended for *c.* 10m and terminated at a point that corresponded exactly with the line of posts [535, 537 & 540], which were

contained within, and formed an integral part of, the 'inner room' (Illus 35). Indeed, it seems likely that the termination of the stone wall at this point was a conscious attempt at architecturally enhancing, or reiterating, the spatial division, which had been created within the 'inner room' by the line of internal timber posts forming the inner 'porch'. Beyond the terminal of the sandstone wall a different form of architecture was then employed in order to define the western half of the outer structure of the building. In contrast to the evidence contained within the eastern half of Building H, a series of post-holes [543, 240, 243, 129, 601, 557, 811, 882 & 593] were identified in this area. These post-holes ranged in size and depth, though many contained deposits of silty sand, and one post [543] also contained a sherd of late second century pottery. Two of these posts [129 & 243] also truncated the earlier wall line of Building G and these had been packed with clay and were provisioned respectively with a large boulder and a reused dressed sandstone block, which acted as substantial post-packing stones (Illus 11). When considered in their entirety it seems likely that these posts never secured a continuous wall line, but instead formed an open-sided, roofed, extension to the outer structure that could be accessed from the west with relative ease, and which allowed movement into the 'inner room' encased within Building H. Indeed, the regular spacing of some of the posts may even suggest that architecturally they formed a type of timber colonnade, which defined a *c.* 7m sq. area at the front of the structure. Three of these posts [543, 129 & 557] were each associated with an additional post [678, 731 & 817], positioned on the exterior of the building. Although these posts appear contemporary with the outer structure of Building H their precise function is not particularly clear.



Illustration 40. In situ cremation burial 102.

Outside of the building, but immediately adjacent to one of the colonnade posts an unusual discovery [102] was also made. This comprised the cremated remains of an adult woman, intermixed with some cremated bird bone and burnt pottery sherds, which had been placed within a late second century vessel (Illus 35 & 40). This vessel had been inserted directly into the former wall line of Building G and it is likely that this interment occurred during the construction, or use, of Building H. The discovery of an adult cremation burial within the *vicus* is also unusual as it was normal, as dictated by Roman law, for adult burials to be interred within an extramural cemetery, which was often positioned close to a major arterial road (Merrifield 1987, 71; Watts 1991, 40). To the north of Building H were also a number of other features that were probably cotemporary with this structure (Illus 35). These included a small, shallow V-shaped ditch [918] and a layer of sandstone rubble [545]. This rubble layer contained a piece of carved sandstone, probably an architectural piece, and this might have been originally derived from the earlier structure, Building G (Illus 41). In one area a layer of

orange clay [544] also sealed this rubble, suggesting that a clay floor existed to the north of Building H.



Illustration 41. Rubble layer 545, with carved sandstone block in foreground.

3.2.4. Period 4 – Third Century AD

The evidence for activity dating to this period was sporadic suggesting that this area of the vicus had been largely abandoned by the mid-third century.

Activity, which could be confidently assigned to this period, included the digging of a circular pit [578] at the eastern margins of the site (**Illus 42**). Although this pit had been partially truncated by the Worsley Street sewer trench, it had a *c.* 2m diameter and was *c.* 0.85m deep with a flat-bottomed profile (**Illus 43 & 44**). The pit contained silty clay [627 & 631] and clay [645], some iron artefacts, a very-worn coin, a *Dupondius*, minted during the late first century, and sherds of pottery one of which was of third century date.

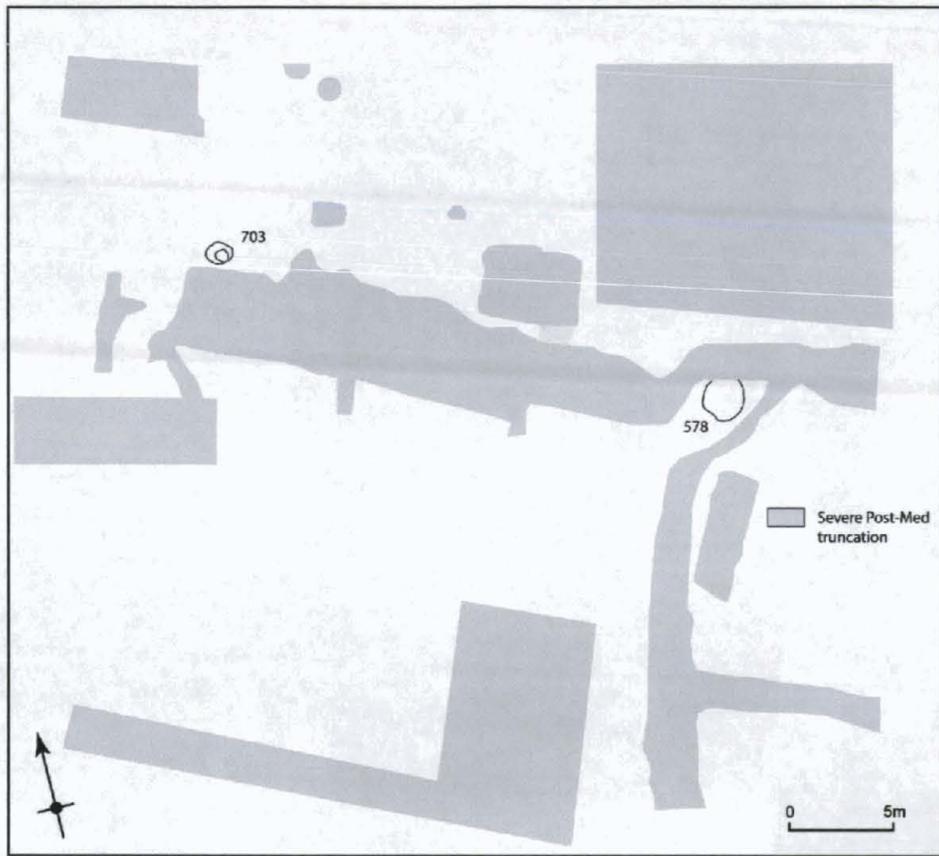


Illustration 42. Period 4.

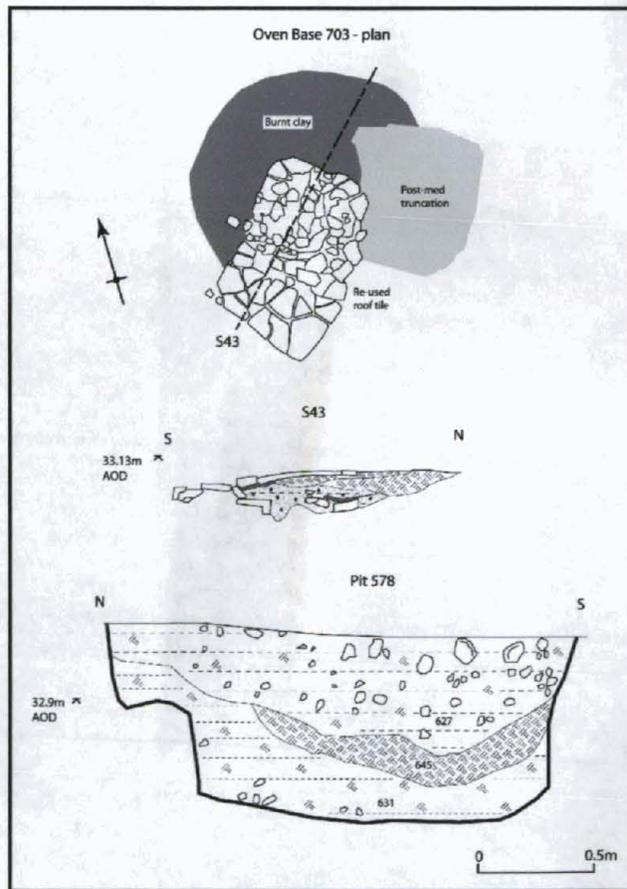


Illustration 43. Oven 703 and pit 578.



Illustration 44. Pit 578 after half-sectioning.

It also appears that by the mid-third century Building H had fallen into disuse. Following its abandonment a robber trench [748] was dug along the inner edge of the sandstone wall that defined the outer structure of this building, and this trench contained sherds of early and mid-late third century pottery, whilst an intrusive sherd of mid-third century pottery was recovered from an earlier pit [790] that had been truncated by this robber trench (Illus 33, 34 & 39). Significantly, this trench also contained three pieces of box-flu tile, that was probably derived from a nearby heated building, and numerous pieces of ceramic building material, suggesting that Building H had originally been provisioned with a tiled roof (Speakman this volume).

A final feature, which may also date to this period, was a small oven [703] (Illus 243 & 45). Although this feature was not associated with any dateable artefacts, its close proximity to two timber posts forming structural elements of Building H suggests that it was probably constructed after the demise of this building. The oven base also utilised roof tiles in its construction and it is possible that these were derived from the demolished roofing of Building H. This base was composed of two roof tiles surrounded by a circular area of burnt clay, suggesting that the oven might have originally been composed of a clay dome which was perhaps supported by a wattling framework (*cf.* Gregory 1993). Following excavation it became clear that the oven base had been set within a shallow clay packed pit [807], which also contained fragments of roof tile.



Illustration 45. Oven 703.

4. Pottery and Other Ceramic Artefacts

4.1. The Samian Ware

Felicity Wild

The soil conditions in Roman Manchester, as in North-West England as a whole, are not conducive to the preservation of samian ware. Although the samian is in a better condition than that on some North-Western sites, much of the ware is soft and abraded, making precise identification of the decorative detail difficult. Accompanying colour changes on the surface of the fabric make it hard to identify the source of plain ware vessels, particularly where sherds are small and abraded. The quantification below is based on a count of vessels, though clearly identification of sherds from the same vessels is easier in the case of decorated ware than with plain forms, particularly where sherds come from different context groups. Owing to these considerations, the vessels numbers given below are inevitably only approximate.

The site produced 858 sherds from about 678 vessels: 188 (28%) from South Gaul, 490 (72%) from Central Gaul. The total weight was *c.* 12.1kg. The South Gaulish ware was all likely to have come from La Graufesenque, apart from one second-century vessel (S4), which came from Montans. Of the Central Gaulish material, at least 27 vessels (4% of the total assemblage) were in the fabric of Les Martres-de-Veyre; the other 463 (68% of the total) presumably all came from Lezoux. There were no East Gaulish pieces among the stamps and decorated ware, and nothing recognisably East Gaulish among the plain ware.

Excluding scraps of uncertain form, forms were as follows:

South Gaulish: 29 (4), 30 (8), 37 (61), 29 or 37 (1), 67 (3), 37 or 30 (rims) (5), 27 (22), 15/17 (2), 18 (33), 15/17 or 18 (9), 18 or 18/31 (3), 18/31 (1, Montans), 18R (2), 18/31R (3), 18/31 or 18/31R (1), 35 (3), 36? (1), Curle 11 (5), Curle 11 or Ritt.12 (3), Ritt.13 (1).

Central Gaulish (Les Martres-de-Veyre): 37 (10), 27 (2), 18 (3), 18/31 (8), 18 or 18/31 etc. (3)

(Lezoux): 37 (162), beaker (2), 27 (28), 33 (31), 18/31 (47), 18/31 or 31 (28), 31 (6), 18/31R (23), 18/31 or 18/31R (1), 18/31R or 31R (3), 18/31, 31 or R variant (10), 35 (3), 36 (8), 35/36 (3), 38 (2), 80 (1?), 79 (3), 42 (1), 46 (2), Curle 15 (2), Curle 23? (1), Curle 11 (6): bowl rims (22), uncertain cups (2), bowls (5), cups or bowls (3), dishes (9).

Throughout the period of occupation, there was a high proportion of decorated ware reaching the site: 249 vessels (37% of the total assemblage). The proportion of decorated ware among the South Gaulish material, 41%, was slightly higher than that among the Central Gaulish material (35%).

As is only to be expected, most of the sherds were found in contexts considerably later than their period of manufacture. Taken as a whole, however, the assemblage can still shed light upon the dates of occupation of the fort and vicus. The earliest material is of Flavian date, though the quantity here is small by comparison with that of the later Flavian-Trajanic period. The pre- to early-Flavian forms 29 and 15/17 are present, though there are only four examples of the former (as against 61 examples of South Gaulish form 37) and two certain examples of the latter.

Of the Central Gaulish material, the bulk is of Hadrianic-early Antonine date, with comparatively little that can be attributed to the later second century AD. With the exception of Cinnamus ii, the later Antonine makers of decorated ware are, for some reason, all but absent from the site. Later Antonine forms are also scarce, with only 6 bowls that could certainly be classified as form 31, as opposed to 75 of form 18/31 or 31, two examples of form 38, one probable form 80 and three examples of form 79. There were no examples of the fully developed form 31R or of the samian mortaria. The shortage of later second-century wares may also account for the absence of East Gaulish ware. It is interesting that the scarcity of later second-century material was also noticeable in the samian ware from both fort and vicus areas of the Northgate excavations (Wild 1986), though it was pointed out that this was probably due to no more than chance or efficient rubbish disposal. The present site was clearly occupied during the second half of the second century: as noted below, one of the earliest features of Period 3 (pit [568]) contained form 79 stamped by Tituro, *c.* AD160-190 (S16). Examples of later second-century decorated ware have been recorded from other excavations in Manchester (Bruton 1909, pls. 56-59; Jones & Grealey 1974, figs. 32-33, nos. 66-81; the Beetham Tower site, Deansgate), so clearly samian, including decorated ware, was reaching Manchester during the later second century AD. Its scarcity in the present area and at the North gate must, therefore, be fortuitous. Perhaps rubbish at this time was being dumped elsewhere. It does, however, seem curious that the relict ploughsoil sealing the Roman levels of the present site (Period 5) should contain so little material of this date.

A further question, raised by Eric Birley (Jones & Grealey 1974, 87), is whether there was a gap in occupation at Manchester during the early Antonine period, or, in terms of the present site, between Periods 2 and 3. The present writer, in the Northgate report, argued that there was no evidence for a gap (Wild 1986, 121). The current site has produced not just a large group of decorated ware by predominantly Hadrianic potters, conventionally dated *c.* AD120 or 125-145 or 150 (Butrio, the Sacer i-Attianus ii group, the Quintilianus i group, X.5, X.6, Secundinus ii and iii, Acaunissa), but also early Antonine pieces datable to the period *c.* AD135 or 140-160 or 165 (Cerialis ii-Cinnamus ii, Paternus iv, Docilis). A case might be made for a gap by pushing the dates of these pieces to their extremities, but a median date in each case would argue for continuity. It may or may not be significant that none of the early Antonine pieces occur in Period 2. However, as so much of the decorated ware from Period 3 (and later) is also datable to the period *c.* AD120-145 and must have arrived on site and been in use during Period 2, it is impossible to know whether the early Antonine pieces also arrived at this time, or not until Period 3, after *c.* AD160. The continuation in use on site of earlier material from Period 2 to Period 3 would argue against a gap in occupation.

A brief summary of the dating evidence for the various periods is given below based on the material retrieved from the 2003/4 whilst a catalogue of the sherds from the both the 1979-81 and 2003/4 excavation is contained in Appendix 1.

Period 1

Period 1 produced very little samian ware from either phase. All was South Gaulish and Flavian or Trajanic. Decorated sherd D1, *c.* AD90-110 came from phase 1. A fill of pit [504] contained sherds of form 18 joining the stamp of Crestus, *c.* AD80-95 (S6). A sherd in the fabric of Les Martres-de-Veyre came from an occupation layer [868] sealing the annexe ditch indicating that the ditch was backfilled by the early years of the second century.

Period 2

The samian ware from phase 1 was all South Gaulish and Flavian or Trajanic and included two Flavian bowls (D3 & D4). One of these bowls (D3) was from the construction trench

[814/937] of Building E, whilst the other bowl (D4) was recovered from a possible property boundary [457].

The samian ware from phase 2 included a sherd of Central Gaulish form 35, dating to after *c.* AD120, contained in the construction trench for Building F [870]. The other material attributed to phase 2 was all South Gaulish and Flavian or Trajanic.

Phase 3 contained a significant group of Hadrianic-early Antonine material as well as residual South Gaulish ware. The re-cut construction trench [992] of Building D contained form 18/31 from Les Martres-de-Veyre, of Trajanic-Hadrianic date. The various pits associated with this phase produced material ranging from the Flavian to the Hadrianic-early Antonine period. Stamps from these contexts included *Frontinus*, *c.* AD70-90 (S8), *Reginus ii*, *c.* AD115-135 (S13) and *Bonoxus*, *c.* AD125-145 (S2), and the decorated pieces D5-D13, of which the latest material dates *c.* AD125-145.

Period 3

The date of Period 3 is put firmly after *c.* AD160 by the presence in the fills of pit 568 (phase 1) of stamps of *Tauricus i*, *c.* AD150-180 (S15) and *Tituro*, *c.* AD160-190 (S16), the latter on form 79. It is clear, therefore, that most of the samian ware from this period is 'residual' in context, including all the decorated ware (D14-D27). The early Antonine stamps S18 and S19 come from phase 2 features and those of *Diogenes*, *c.* AD100-120 (S7), *Macrinus*, *c.* AD125-150 (S9), *Vertecissa*, *c.* AD140-160 (S17), *Albucius ii*, *c.* AD150-180 (S1) and *Peculiaris*, *c.* AD155-170 (S12) from phase 4.

Later Periods

The third-century Period 4 produced little samian ware. The relict ploughsoil deposited after the abandonment of the site (Period 5) produced a large group of samian ware, including decorated ware and stamps (S4, S5, S10, S11, S14 & S20). The decorated ware (D29-40), although not significantly stratified, has been included below to illustrate further the range of wares reaching the site. Of the pieces listed, only D39-D40, in the style of *Cinnamus ii*, date to the second half of the second century AD. There were, in addition, one or two scraps of ovolo of the types used by the *Paternus v* group and some, often abraded, sherds of unassignable, but stylistically Antonine, scroll and panel bowls. None were worthy of publication.

4.1.2. Decorated ware (Illus 46-55)

In the following report, figure types are quoted from Oswald 1936-37 (O.), Central Gaulish decorative details from Rogers 1974 (Rogers) and parallels from *Stanfield and Simpson* 1958 (S&S). Hartley and Dickinson's system of potter numbers has been followed (to appear in their *Index of Potters' Stamps on Samian Ware*), using lower case Roman numerals to denote potters of the same name. All potters stamping samian ware are included. This differs from Rogers' system (Rogers 1999) using upper case Roman numerals, which includes only potters making decorated ware. Where reference is made to illustrations from Rogers 1999, Rogers' potter numbers have also been noted for clarity.

Period 2 phase 1

D3. Form 29, South Gaulish. Three non-joining sherds, showing scrolls in the upper and lower zones. The motifs were all used by *Calvus i*, to whose style the bowl may be attributed. Signed bowls show a similar scroll to that in the upper zone (*Dannell et al* 2003, *Calvus i*, Taf. A1, 3036), though the bud there may be slightly larger; the tuft (*ibid*, Taf. D4, 3039) and bud (*ibid*, Taf. G2, 0255; Taf. G5, 0260) in the lower zone, and the trifold bud (*ibid*, Taf. F1,

0250a) used in the wreath. Bowl 0255 also shows a scroll with leaftips in the lower concavities. The trifold bud was used as a horizontal wreath on form 37 from the Museum of London (Mus. no. 5931G). The bud in the lower zone (Nieto & Puig 2001, fig. 135, Ed.17) occurs on bowls of form 29 and 37 from the shipwreck, Cala Culip IV, dated *c.* AD78-82. *c.* AD65-85. Fill 938 in construction trench 814/937 (Building E).

D4. Form 37, South Gaulish. Two joining sherds, showing a distinctive, but anonymous, ovolo with narrow core and four-pronged tongue, over a series of diagonal wavy lines. The ovolo has been recorded on first-century sites in Scotland such as Camelon and Elginhaugh, and in North West England at Melandra (Wild 1971, fig. 8, 8). Panels of leaf-tips and diagonal wavy lines occur with this ovolo on bowls from Verulamium (Hartley 1972, fig. 90, 72) and Elginhaugh (unpublished), in both cases in zonal decoration, though not directly beneath the ovolo, as here. *c.* AD70-95. Fill 474 in ditch 457.

Period 2 phase 3

D5. Form 37, South Gaulish, showing scroll containing a deer (O.1808a) in the lower concavity, above two impressions of Frontinus' mould stamp (S8). The deer is attested for Frontinus (Mees 1995, Taf. 60, 5; Taf. 63, 1). *c.* AD70-90. Fill 403 in pit 17.

D6. Form 37, South Gaulish. Small scrap showing the ovolo with large rosette tongue which was used by Frontinus and occurs on first century sites in Scotland. *c.* AD70-90. Fill 416 in pit 394. Not illustrated.

D7. Form 67, South Gaulish. Small fragment of beaker, with hound (O.2004) over grass tuft, over a zone of festoons. Form 67 was rarely signed, but the hound and general style of decoration is typical of the Flavian period. Fill 416 in pit 394

D8. Form 37, South Gaulish. Two non-joining fragments, showing a scroll with a seated animal above a bush motif in the lower concavity, with a basal wreath of the same trifold bud as is used in the bush. The basal wreath was used by potters such as Mercator and Masculus. Mercator used it with scroll decoration of this general type (Mees 1995, Taf. 128; Taf. 133, 3-6), though his animals are generally running. The type here seems slightly smaller than his seated stag (O.1699), and he does not seem to have used a seated hare (O.2054-6). The general date, however, is not in doubt. *c.* AD80-110. Fills 922 and 929 in pit 917.

D9. Form 37, South Gaulish, showing, in the upper zone, a wide triple festoon containing a spiral ending in a blob-like rosette. Similar festoons, though with a clearer rosette, appear on a bowl with the trident-tongued ovolo used by M. Crestio from London (Museum of London no. 4441G). The present bowl may have had the same ovolo, but too little survives to be certain. *c.* AD80-100. Fill 757 in construction trench 992 (Building D).

D10. Form 37, South Gaulish, with rivet-hole in the rim. The ovolo is a well-known, but anonymous, one, in use in the Flavian-Trajanic period (Dannell *et al* 1998, TU). The boar (O.1671) occurs on a bowl with a different ovolo linked to the same group of mould-makers, signed by G. At- Pas-, who was clearly one of the potters using these ovolos. *c.* AD85-110. Fill 461 in pit 458.

D11. Form 37, Central Gaulish, in the fabric of Les Martres-de-Veyre. The fine-beaded borders are characteristic of Rogers' potters X.11 and X.13. Panels with multiple fine-beaded diagonal lines across the corner appear on a bowl in the style of X.13 (S&S, pl. 47, 549), which also shows his dot rosette (Rogers C280) at panel junctions, as here. The ovolo, however, appears more similar to Rogers B16, used by his later associates Sacer i and Attianus ii at Lezoux, than to those generally associated with X.13 style. *c.* AD100-120. Fill 461 in pit 458.

D12. Form 37, Central Gaulish. Five fragments, two joining, showing ovolo (Rogers B7) and panels containing a saltire with trifold bud (Rogers G76), festoon with bird (O.2252, though with one leg rather than two, as drawn by O.) and probably Pan (O.709). The style is that of the Sacer i-Attianus ii group. The ovolo was used by X.14 and Attianus, the trifold by both Sacer and Attianus, who used it similarly in a saltire (S&S, pl. 86, 10). Both used the bird (e.g. Sacer, S&S, pl. 82, 6, also with one leg), though the Pan, used by Libertus and Butrio, does not appear to be one of their standard types. *c.* AD125-145. Fill 400 in pit 17.

D13. Form 37, Central Gaulish, showing the ovolo (Rogers B7) used by X.13, X.14 and Attianus ii, over a festoon, of which too little survives to be certain of the type. The fabric is probably that of Lezoux rather than Les Martres-de-Veyre, suggesting a Hadrianic-early Antonine date. *c.* AD120-145. Fill 862 in pit 864.

Period 3 phase 1

D14. Form 37, Central Gaulish. Fragment showing a wide panel containing a leaf (Rogers J50), vase (Rogers T32) and mask (Rogers 1999, R3096) in medallion. The style is that of Rogers' potter X-6B. A bowl illustrated by Rogers (1999, pl. 135, 10) shows all the same details and could be from the same mould. *c.* AD125-150. Fill 655 in pit 568.

D15. Form 37, Central Gaulish. One sherd, drilled for a lead rivet, showing panels with bead-row borders ending in a rosette, a motif made up from two trifold buds (Rogers G67, G173) and a cornucopia (Rogers U262) across the beadrow. Another sherd, almost certainly from the same bowl, shows similar borders with the rosette and cornucopia, with a hare (O.2063a). A bowl from Lezoux (Rogers 1999, pl. 130, 1) attributed by Rogers to his potter P.23, shows a virtually identical motif with the two trifolds and borders with rosette junctions and cornucopiae, though Rogers describes P.23's rosette as his C53, slightly larger than the rosette here, which is closer in size to C56. Panels with C56 at the junctions occur on a bowl with the mould signature of Geminus iv (Rogers 1999, pl. 44, 12), which shows one of the same trifolds (Rogers G173), though with an astragalus across the border rather than a cornucopia. The hare is attested for neither potter. The similarity between the two bowls (Rogers 1999, pl. 130, 1 and pl. 44, 12) suggest that the potters must surely have been connected, if not the same. Rogers suggests a date of *c.* AD140-170 for P.23, though on little firm evidence. The connection with Geminus iv suggests a slightly earlier date, perhaps *c.* AD120-145. Fill 656 in pit 568 and sherd from the same vessel from the relict ploughsoil [054].

D16. Form 37, Central Gaulish, showing panels with the twist (Rogers U103), stag (O.1704) and part of the trifold (Rogers G67). The style is that of Paternus iv, Rogers' Paternus III, of whose style the twist is a particular characteristic (Rogers 1999, pl. 80). The stag is found on a signed bowl (*ibid*, pl. 80, 6), the trifold on bowls in his style (*ibid*, pl. 80, 8, 9). The potter's work is well represented in North West England, with several bowls occurring at Watercrock (Wild 1979, fig. 116, 32; fig. 121, 76) and Walton-le-Dale (unpublished). *c.* AD135-165. Fill 492 in pit 500.

Period 3 phase 3

D17. Form 37, Central Gaulish. Five joining sherds. Panels show Victory (O.809), Venus (O.322), small festoon (Rogers F70) over erotic group (smaller version of O.F) and Venus (O.293a). The wavy-line borders and distinctive 'pinecone' junction motif suggests the work of X.5 (Rogers' Silvio II), who used the Victory and F70 containing a small, indistinct type, as here (S&S, pl. 67, 3; Rogers 1999, pl. 133, 20). He used the ovolo (Rogers B18), though Rogers does not list the other types for him. *c.* AD120-145. Fill 694 in pit 790 and fill 684 in foundation trench 155 (Building H).

D18. Form 37, Central Gaulish. Three joining fragments in the style of *Cerialis ii-Cinnamus ii*, with their ovolo (Rogers B144) and leaf-tip space filler. Panels show small medallions, one containing the centaur (O.735) separated by a vertical row of circles over a panther (O.1520) with a row of circles to each side, and a wide single festoon with the stag (O.1781) and hound (?) over a running panther (larger version of O.1507?). *c.* AD135-160. Fill 694 in pit 790 with joining sherds from relict ploughsoil (054).

Period 3 phase 4

D19. Form 37, South Gaulish, with leaf-scroll decoration over a basal wreath of overlapping impressions of a trifold motif with feathered central projection and plain outer 'leaves' (Hermet 1934, pl. 14, 30). Similar trifolds occur on bowls from the Cala Culip IV wreck, datable to *c.* AD78-82. The closest is probably that used in a saltire on form 29 stamped by *Primus iii* (Nieto & Puig 2001, 187, no.76), though this is as a single impression rather than as a wreath. Too little survives of the leaf or figure in the lower concavity to be identifiable, but the general scheme and stylised grass tufts are typical of the Flavian-Trajanic period. *c.* AD75-100. Fill 684 in foundation trench 155 (Building H).

D20. Form 37, Central Gaulish, showing the ovolo (Rogers B31), leaf (Rogers J33), wavy-line border and junction motif characteristic of X.5 (Silvio II). The type, Venus (O.322), also occurs on D17 above. *c.* AD120-145. Fill 691 in foundation trench 155 (Building H).

D21. Form 37, Central Gaulish. Three non-joining fragments, one slightly burnt, of a panel-style bowl with a small bifid motif (Rogers G290) at the junctions and across the fine-beaded borders, as used by *Secundinus iii*, Rogers' *Secundinus II*, (Rogers 1999, pl. 106, 28, etc.). The ovolo (Rogers B114) was used by him. A bowl in his style (Rogers 1999, pl. 106, 16) shows the same combination of fine- and coarsely-beaded borders with the bifid, the leaf spray (Rogers J160) and probably the same rosette (Rogers C54) in the field. Panels show Hercules (O.751), cupid with basket (O.498), Venus (O.305) and a small goat (O.1868?, Rogers 1999, pl. 105, 3), all attested on *Secundinus'* style. The other object in the field is probably his bud (Rogers J143). *Secundinus iii* shows links with *Austrus*. Rogers assigns him on style to the Hadrianic period. *c.* AD120-140. Fills 683 and 691 in foundation trench 155 (Building H).

D22. Form 37, Central Gaulish. Two non-joining fragments with freestyle decoration in the style of the *Quintilianus i* group. The ovolo is probably Rogers B208 and the other motifs, the diamond (Rogers U28), dot rosette (Rogers C280) used as both basal wreath and space filler, acanthus (Rogers K11) and circles, all occur on their work. A bowl with the signature of *Paterclus ii*, a member of the group, cut into the mould after firing, shows the diamond and rosette as space filler (S&S, pl. 72, 33). Other motifs include the festoon (probably Rogers F32) containing an erotic group (O.K), the same festoon used as an arcade over a smudged, uncertain type, and a tripod (Rogers Q7). Similar, unstructured decoration with the festoon occurs on a bowl from London (S&S, pl. 69, 13). *c.* AD125-145. Fills 684 and 691 in foundation trench 155 (Building H).

D23. Form 37, Central Gaulish. Lower part of the decoration, with a heavy basal ridge and a wavy-line panel border ending in a leaf (Rogers J93). One panel contains an Amazon (O.241) and rosette (Rogers U9), the other, an uncertain (seated?) type and a squirrel (not in O.). The prominent basal ridge suggests the work of X.6, who also used U9 (S&S, pl. 74, 6). The Amazon occurs on a bowl in X.6 style from Blackfriars Street, Carlisle (Dickinson 1990, fig. 178, 33). It also appears on two bowls with the cursive signature of *Sissus ii* (Rogers 1999, pl. 114, 8, 12) and the squirrel occurs on a bowl in *Sissus ii's* style from the Walbrook, London (Dickinson, pers comm.). Neither X.6 nor *Sissus ii* is known to have used the leaf. *c.* AD130-150. Fill 693 in foundation trench 155 (Building H).

D24. Form 37, Central Gaulish, showing single festoon with bull (O.1886). The ovolo is probably that of Docilis (Rogers B24) and the abraded motif beside the medallion may be his bud (Rogers G145). The bull, although not listed as one of his types, was a common type of the later Antonine potter Casurius ii, who shows links with Docilis. *c.* AD135-155. Fill 683 in foundation trench 155 (Building H).

D25. Form 37, Central Gaulish, showing panels with a medallion, Venus (O.281) over twist (Rogers U103) and small medallion with goat (O.1836) over stork (O.2214a). The style is that of Paternus iv (see D16 above). A bowl in his style shows the Venus over twists, small medallions, circles and borders with rosette junctions (Rogers 1999, pl. 80, 3). *c.* AD135-160. Fill 690 in foundation trench 155 (Building H).

D26. Form 37, Central Gaulish. One fragment, slightly burnt, showing panels with the composite motif (Rogers Q2) and seated Apollo (O.83). The style is that of Cerialis ii-Cinnamus ii, who used both types. Their stamp of Apollo was broken, with the back leg of the chair missing (*cf.* Rogers 1999, pl. 30, 18). Here it has been replaced with an inverted chevron. On another bowl recently excavated from Manchester, from the Beetham Tower site, Deansgate, it has been replaced with their pair of dolphins (O.2407a), which appear here as part of the ornament Q2. *c.* AD135-160. Fill 683 in foundation trench 155 (Building H).

D27. Form 37, Central Gaulish. Fragment of small bowl lacking an ovolo, with panels containing Apollo (O.83) and a motif with the large trifold (probably Rogers G76) placed end to end vertically. In the absence of an ovolo it is difficult to suggest a potter. Attianus ii used the trifold similarly (S&S, pl. 86, 10) and a similar astragalus (Rogers R12), though is not recorded as using the Apollo, used by Cerialis ii-Cinnamus ii among others (see D26 above). Hadrianic-early Antonine. Fill 691 in foundation trench 155 (Building H).

Period 4

D28. Form 37, Central Gaulish. Two non-joining fragments showing panel decoration. The ovolo (Rogers B17) was sometimes used on Cinnamus ii's later style (Rogers 1999, pl. 32, 52). Panels show his wide festoon (containing a sea creature?) over his stag (O.1720), and a medallion with the dolphins (O.2407a) in the corner of the panel. A bowl in Cinnamus' style shows similar use of the dolphins as space filler (Rogers 1999, pl. 33, 58). *c.* AD150-180. Fill 688 in robber trench 748.

Period 5

D29. Form 37, South Gaulish. Two joining fragments, with festoons in the upper zone above panels with leaf-tips and wavy lines and the lion (O.1400). The features were all used by M.Crestio. The trident-tongued ovolo, although poorly preserved, is probably his. A stamped bowl shows the lion, basal wreath of S-shaped gadroons and a similar leaf-tip panel (Mees 1995, Taf. 39, 6); another shows similar festoons (*ibid.*, Taf. 40, 4). The pendant terminal here is damaged, but may have been the same tuft. Bowls with his ovolo from London show the stirrup leaves in festoons (Museum of London nos. 4436G, 4403G) *c.* AD80-100. Relict ploughsoil (10).

D30. Form 37, South Gaulish. Small bowl showing the ovolo with four-pronged tongue used by M.Crestio and Crucuro. The motifs here all occur on bowls stamped by M.Crestio: the basal wreath and leaf in the scroll (Mees 1995, pl. 42, 2), and a similar scroll with same motif in the centre of the lower concavity (*ibid.*, Taf. 49, 1). *c.* AD80-100. Relict ploughsoil (54).

D31. Form 37, Central Gaulish, showing leaf-tips over a bear (O.1627) in the lower concavity of a scroll. A composite motif, including an acanthus (Rogers K10) and pedestal

(Rogers Q65) overlies the scroll and extends into the upper concavity. There is a basal bead row. Scrolls of this general type, with leaf-tips, were used by X.13 (S&S, pl. 45, 517, 527) as were the basal bead row and acanthus (S&S, pl. 45, 528) and the pedestal. The bear was used by Drusus ii and, later, by Cinnamus ii. The fabric is that of Lezoux rather than Les Martres-de-Veyre, suggesting a date *c.* AD120-130. Relict ploughsoil (10).

D32. Form 37, Central Gaulish. Sherd of small bowl with a small, neat, though abraded, ovolo (Rogers B14) with wavy-line border, over a scroll with the leaf (Rogers J89) and bud (probably Rogers G203). The ovolo was used by X.13 and Sacer i, though Sacer did not normally use a wavy-line border. His associate Attianus ii used such a border and both types, but is not known to have used the ovolo. The leaf and an almost identical bud (Rogers G200) were used by X.13, who used both ovolo and border. The fabric, however, is that of Lezoux, not Les Martres-de-Veyre. *c.* AD120-145. Relict ploughsoil (10).

D33. Form 37, Central Gaulish. Two sherds, possibly, though not certainly, from the same bowl. One (unstratified) shows the mould stamp (S2) and ovolo (Rogers B82) of Butrio; the other, the same ovolo with his characteristic leaf (Rogers J160) and horseman (O.258). A bowl from the Auvergne (S&S, pl. 58, 656) shows all these features. *c.* AD120-145. Relict ploughsoil (54) and U/S.

D34. Form 37, Central Gaulish. Three joining fragments of a bowl showing the ovolo (Rogers B18) and panels with the distinctive 'pine-cone' junction motif used by X.5 (Silvio II). Panels show: man in tunic (O.543) over urn with broken handle (Rogers T1), erotic group (O.M) in festoon over lion, repeat of O.543 over T1, Hercules (O.784). O.543 and the T1 are attested on his style. The corded bar in the festoon and the lion (not in O.) appear on a bowl in his style illustrated by Rogers (1999, pl. 132, 1). Rogers does not note the Hercules, used by his contemporary Drusus ii, or the erotic group among his types. *c.* AD 125-145. Relict ploughsoil (54).

D35. Form 37, Central Gaulish, showing a festoon (Rogers F41) ending in an acanthus and containing a vine-scroll (Rogers M27), above two straight wreaths of a trifold bud with very thin, corded, central tongue (probably Rogers G169). The trifold wreath and vine scroll, inside a different festoon, occur on work in the style of X.11 (S&S, pl. 37, 430). The festoon with acanthus occurs on a bowl from Ravenglass in the style of Secundinus ii, Rogers' Secundinus I, (Wild 1979, fig. 48, 8). Secundinus also commonly used vine-scrolls and straight wreaths of trifolds. Bowls in his style show the vine-scroll used here and possibly the same trifold (Dickinson, pers comm.). The bowl is in the micaceous fabric of Lezoux rather than that of Les Martres-de-Veyre, suggesting a Hadrianic date. If associated with Secundinus ii, probably *c.* AD125-145. Relict ploughsoil (54).

D36. Form 37, Central Gaulish. Two joining fragments of panel-style bowl with four-petalled rosette (Rogers C23) at the junctions. Panels show a saltire with leaf (Rogers J89) and trifold bud (Rogers G67 or G76?), a caryatid (not quite identical in detail to either O.1205 or O.1206 and smaller than O.1207a) and a panel with a vinescroll (Rogers M10) beneath one with a festoon. The piece shows connections with Attianus ii, who used the junction rosette (S&S, pl. 86, 17, 19), the leaf in the saltire and the trifold G76. The ovolo appears to be a poor impression of his ovolo (Rogers B204). A bowl from Wroxeter (Rogers 1999, pl. 130, 4) is a close parallel to this piece, showing C23 at panel junctions and the same caryatid and vinescroll in a panel beneath a festoon. Rogers attributes this piece to his potter P23, although the general style is rather different from that of the other pieces attributed to P23 and a different junction rosette used: C23, shared with Attianus ii, in place of C56, shared with Geminus iv. D15 above, in the style closer to Geminus iv, shows the trifold G67, with a slightly more rounded central projection than G76. It is uncertain which of the two is on the present piece. The pieces Rogers attributes to P23 style may include the work of more than one potter, and their precise relationship to other potters is as yet unclear. There seems little

reason not to attribute the present piece (and probably Rogers 1999, pl. 130, 4) to the style of Attianus ii. *c.* AD125-145. Relict ploughsoil (54).

D37. Form 37, Central Gaulish. Fragment of bowl with rivet hole in the rim, showing panel decoration with Diana and hind (O.107) and a double festoon. The ovolo (Rogers B204), a clearer impression of that on D36 above, was used by Attianus ii and Criciro v. Neither appears to have used the Diana, which was used by potters such as Austrus. The double festoon does not appear to have been used by Austrus, though parallels can be found on the work of Attianus. *c.* AD125-145. Relict ploughsoil (54).

D38. Form 37, Central Gaulish. Two non-joining fragments, showing a panel with small figure (O.648) and one with a medallion containing a sphinx (O.853) and pigmy (O.703), surrounded by impressions of a pointed leaf (Rogers J121), pelta (Rogers U129) and rosette (Rogers C30). The three motifs all occur on bowls in Acaunissa's style, as do the pigmy and a similar sphinx. His bowls also show the leaf (Rogers J121) similarly arranged around a medallion (Rogers 1999, fig. 1, 2, which also shows the rosette and pigmy; S&S. pl. 79, 3). *c.* AD125-150. Relict ploughsoil (54) and U/S.

D39. Form 37, Central Gaulish, with rivet-hole. The ovolo (Rogers B223) was used on Cinnamus ii's mature style. Panels show Cinnamus' horseman (O.245) in a medallion and an arcade (probably Rogers F40) containing the head of a type (possibly O.638, which, although not one of Cinnamus' common types, appears on a bowl in his style (Rogers 1999, pl. 33, 54). The use of the arcade is not a typical feature of Cinnamus, either, but the connections with his work suggest a date *c.* AD150-180. Relict ploughsoil (54).

D40. Form 37, Central Gaulish. Fragments of two different bowls in the mature style of Cinnamus ii. One shows scroll decoration with a double medallion containing Venus (O.322) and an owl (O.2331) over a motif with the trifold (Rogers G66) in the lower concavity. A stamped bowl (S&S, pl. 162, 59) shows a medallion with the same two types within a scroll. The other, badly abraded, shows panel decoration with Cinnamus' ovolo (Rogers B223) and a double medallion containing the sea bull (O.42) and probably the sea horse (O.52). *c.* AD150-180. Relict ploughsoil (54). Not illustrated.

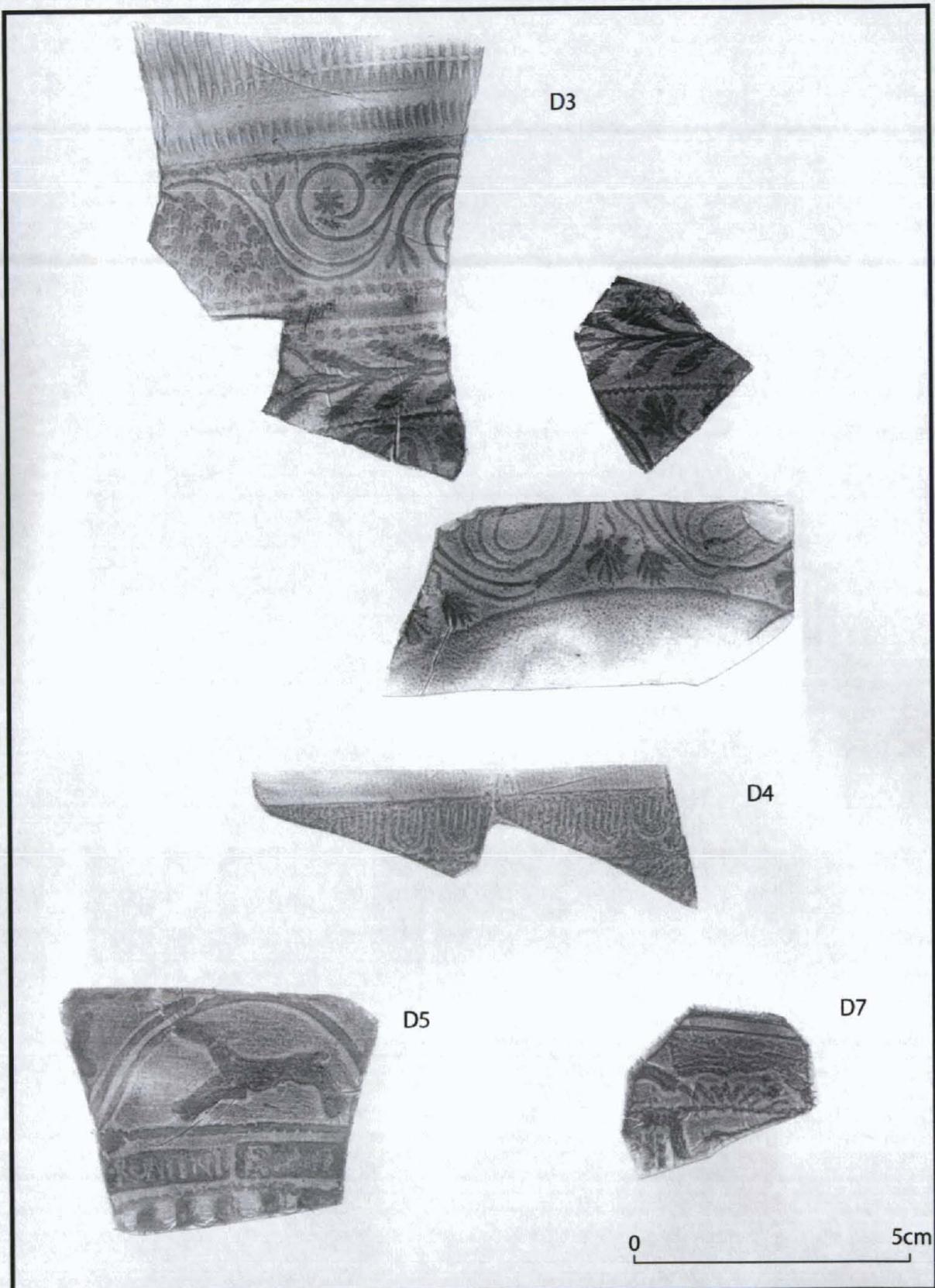


Illustration 46. Decorated samian ware.

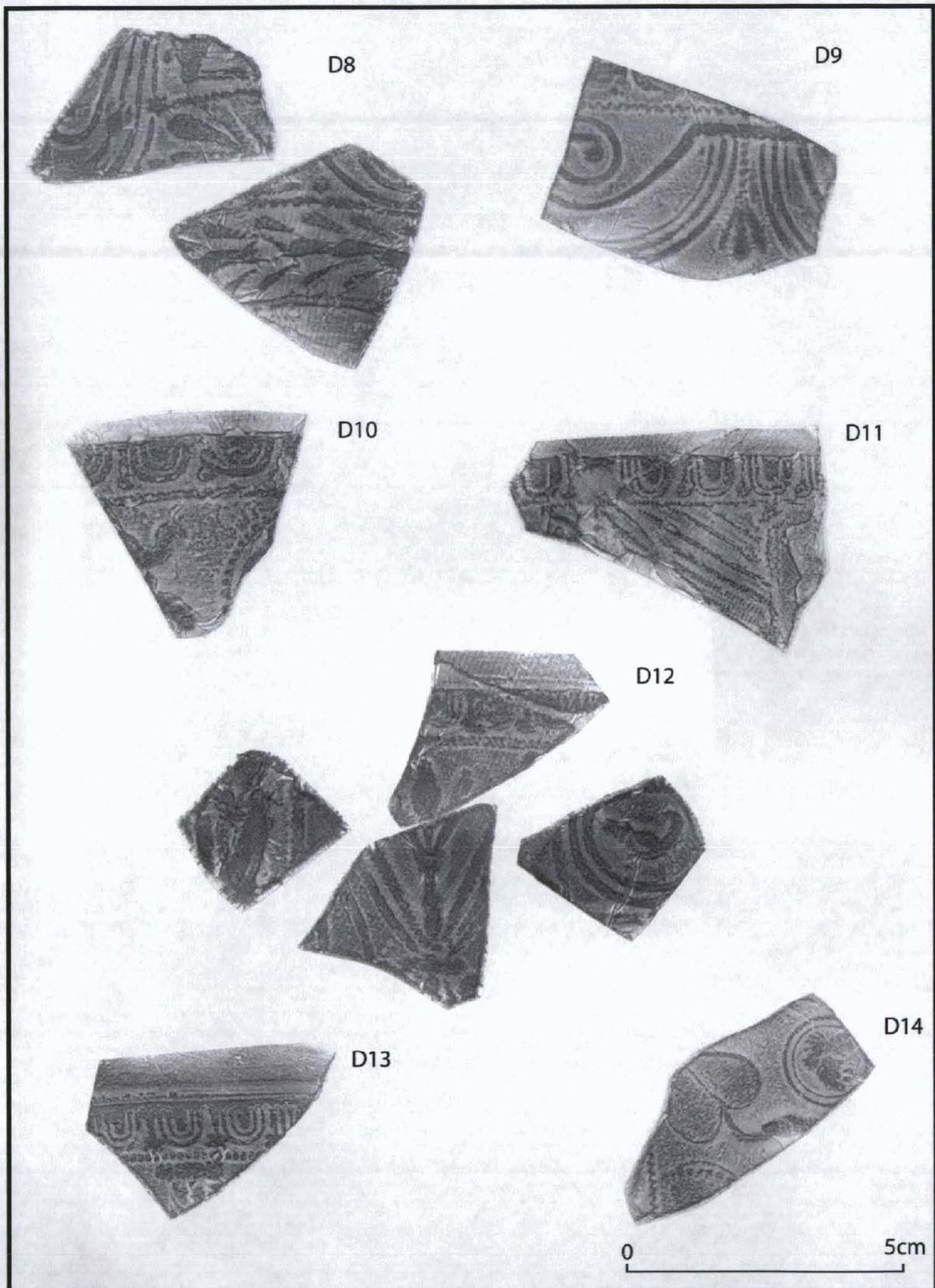


Illustration 47. Decorated samian ware.

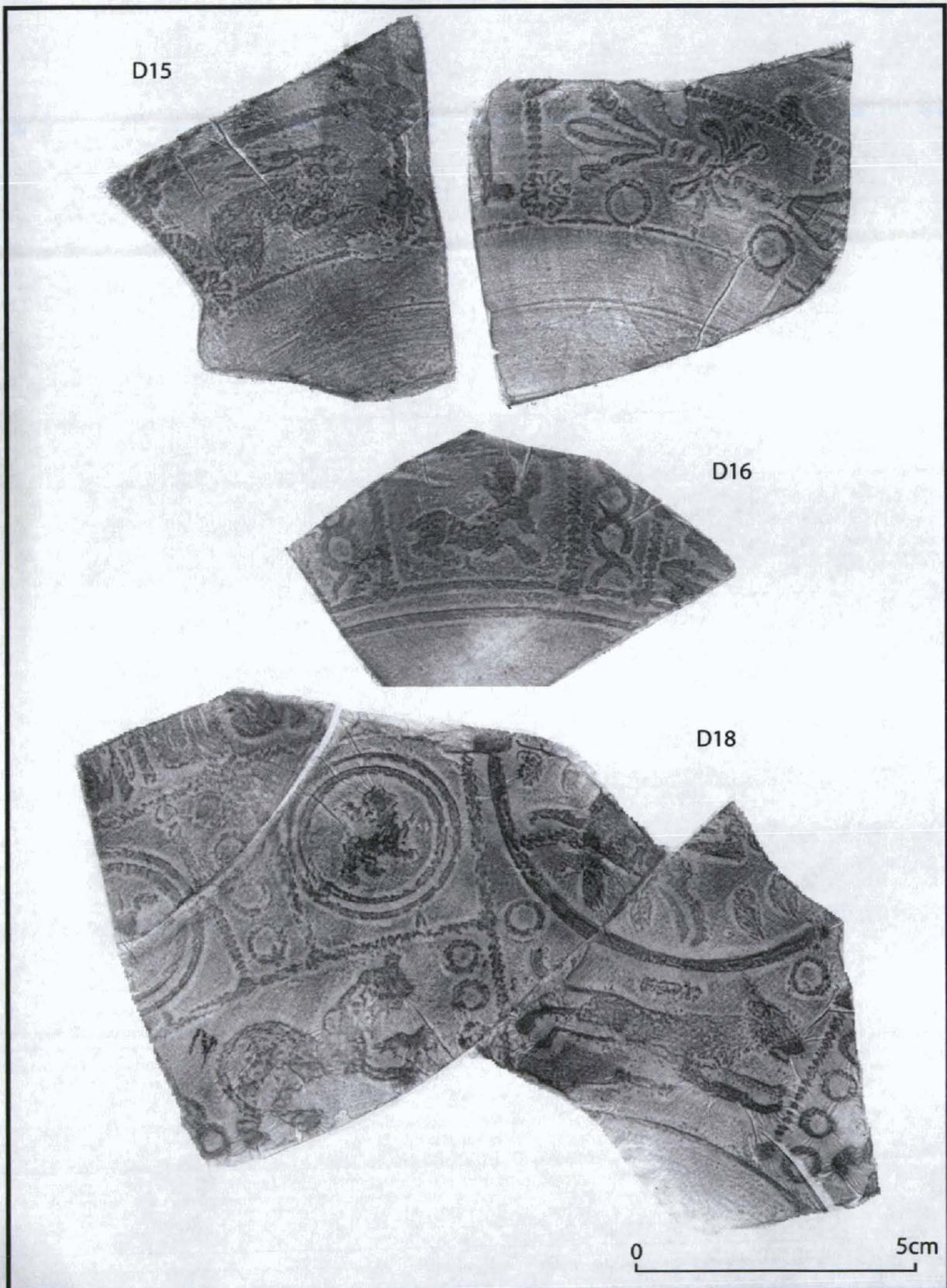


Illustration 48. Decorated samian ware.



Illustration 49. Decorated samian ware.

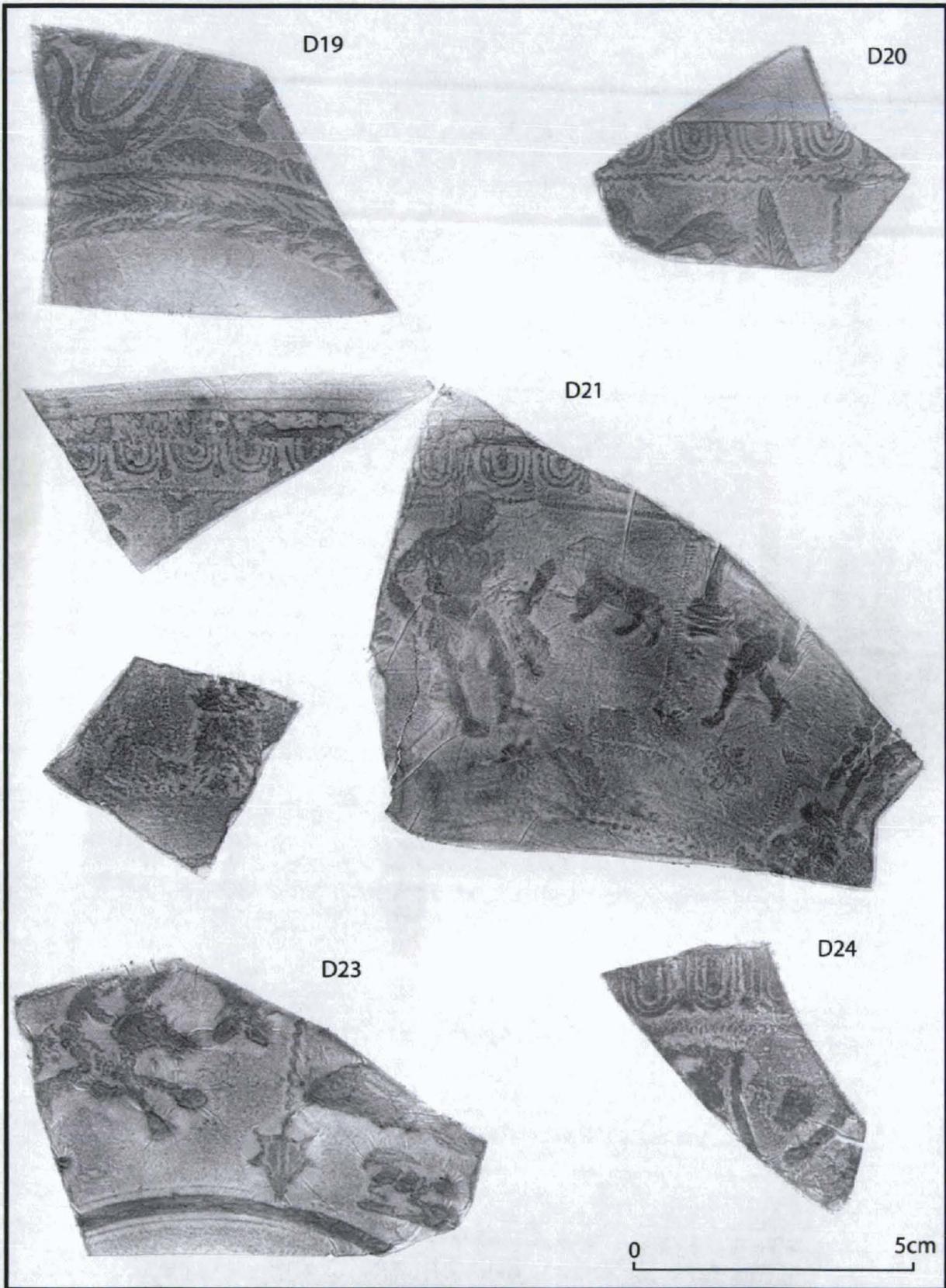


Illustration 50. Decorated samian ware.

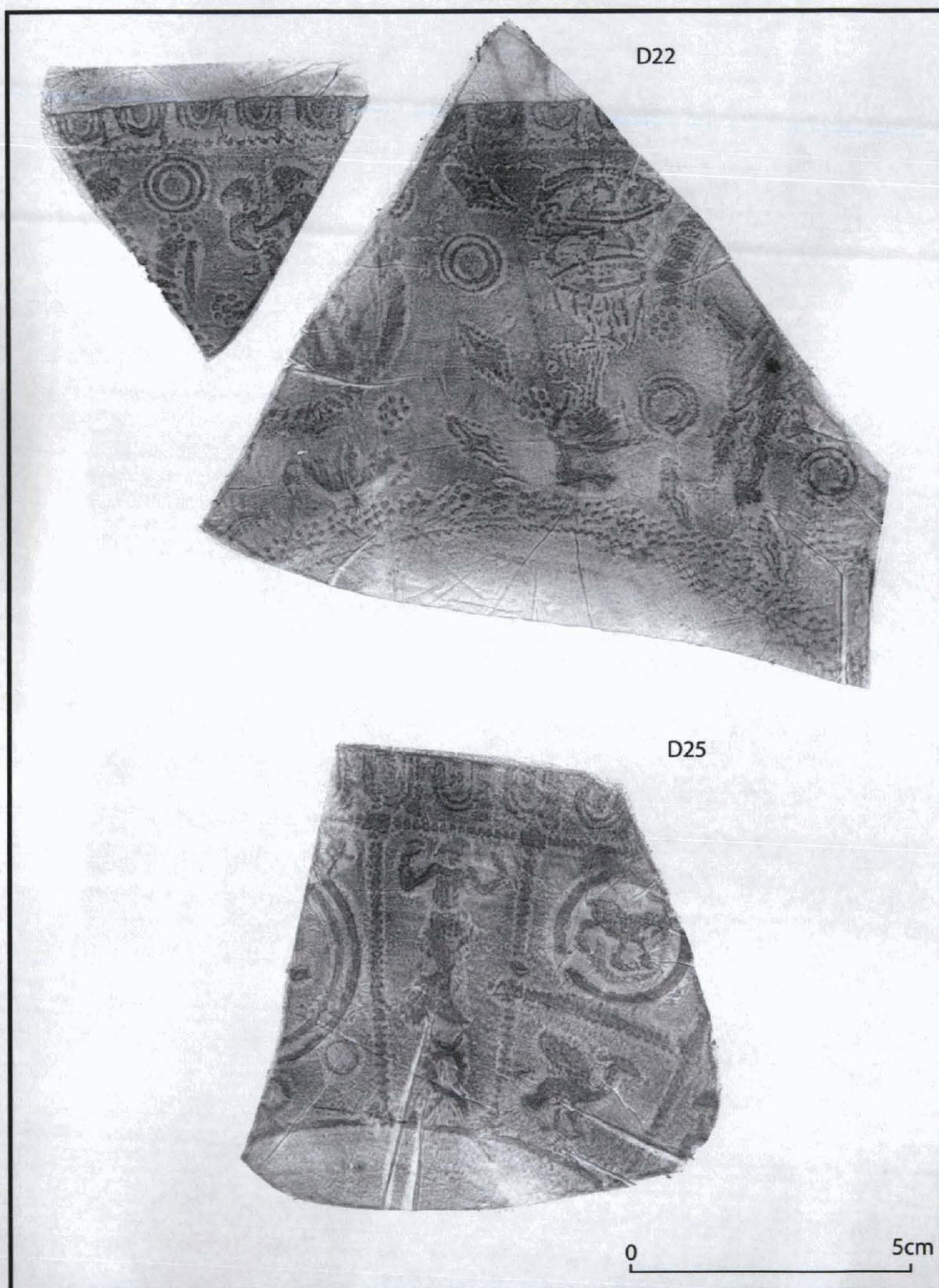


Illustration 51. Decorated samian ware.

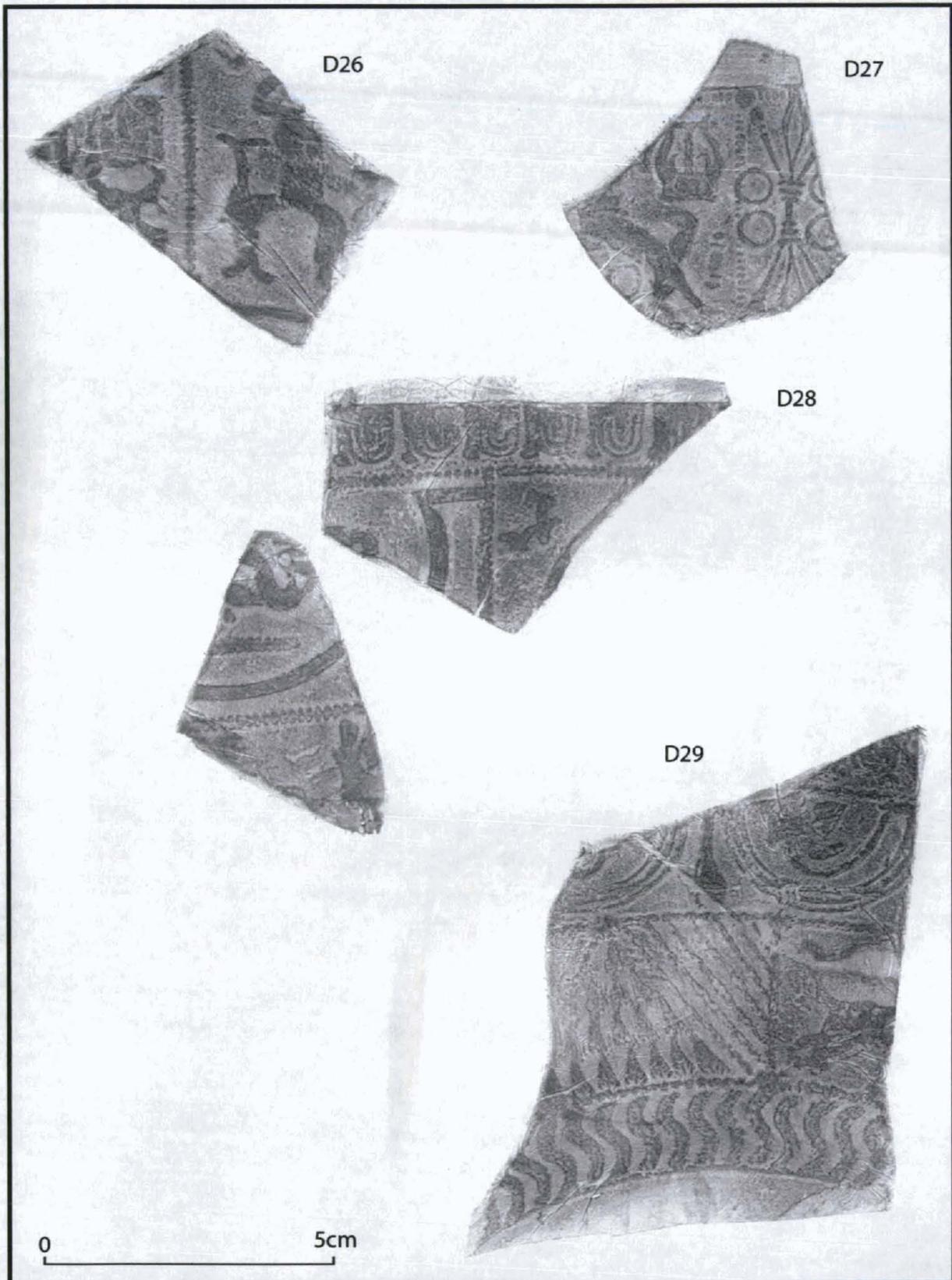


Illustration 52. Decorated samian ware.

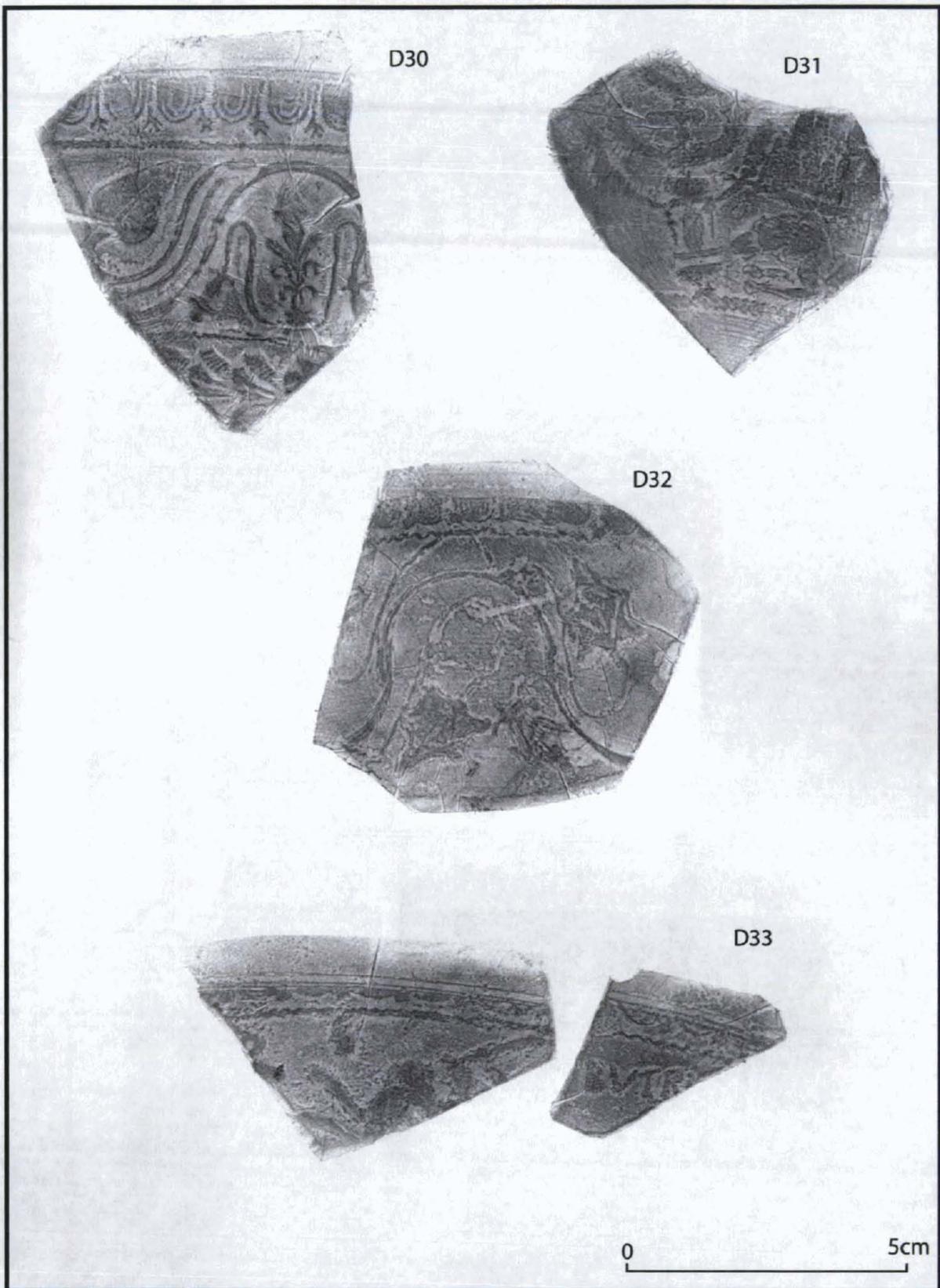


Illustration 53. Decorated samian ware.

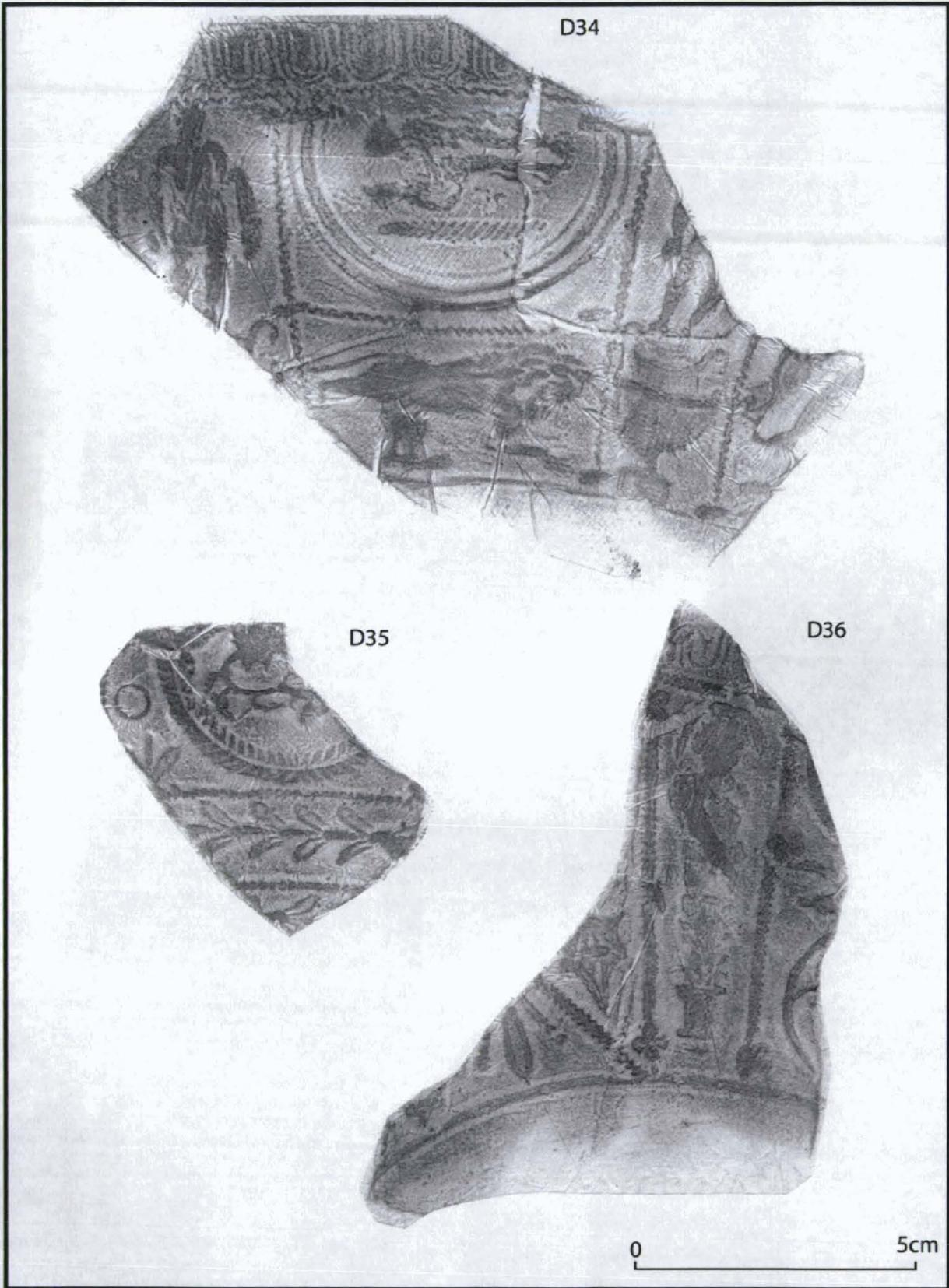


Illustration 54. Decorated samian ware.

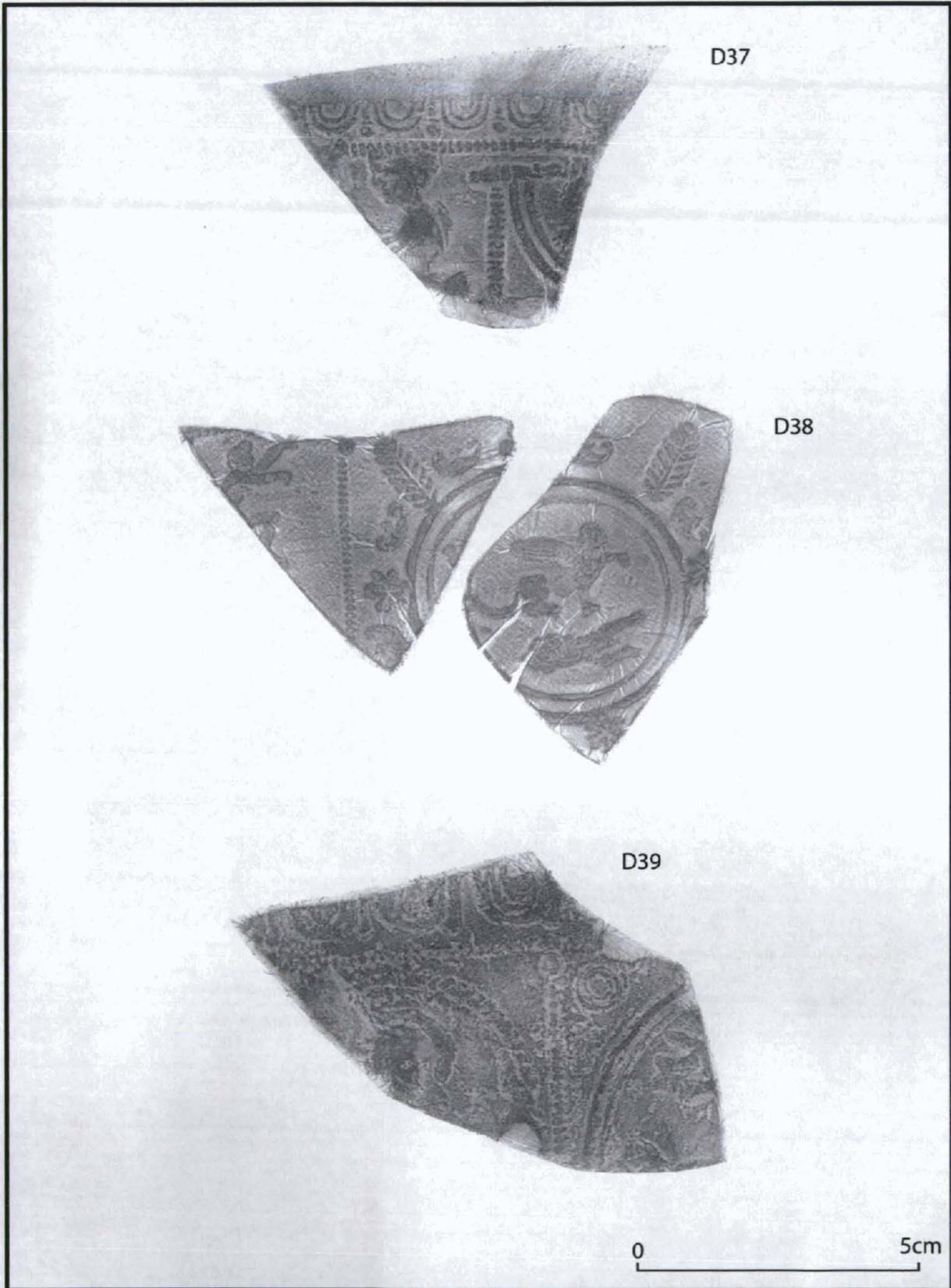


Illustration 55. Decorated samian ware.

4.2. Samian Potters' Stamps

Brenda Dickinson

Each entry gives: excavation number, potter (i, ii etc, where homonyms are involved), die, form, reading, reference to published drawing (where available), pottery of origin, date.

Superscript a and b indicate:

a A stamp attested at the pottery in question.

b Not attested at the pottery, but other stamps of the same potter used there.

Ligatured letters are underlined>.

- 1 Fill 693 in foundation trench 155 (Building H). Albucius ii 5b 33 ALBVCIVSF Lezoux^a. c. AD150-180.
- 2 Fill 554 in pit 704. Bonoxus 1a 18/31 or 31 [·B]ONOXVS[t ·] Lezoux^a. c. AD125-145.
- 3 Area 6 U/S. Butrio 1a 37 BVTRI[O] (Walke 1965, Taf. 39, 8) Lezoux^a. c. AD120-145.
- 4 Relict ploughsoil 54. Chresimus 4f [C-]RESIMI Montans^b. c. AD125-150.
- 5 Relict ploughsoil 54. L. Cosius Virilis 13a or 13a' 27 La Graufesenque^a. c. AD85-110. This stamp comes from a die which, in its original form, gave OFLCVIRIL in a panel with dots in triangular *ansae* (Polak 2000, pl. 25, V39). When the (bone?) die split horizontally the frame became virtually rectangular, leaving some of the dots (*ibid*, V39*). This cup is too eroded for the exact shape of the frame to be obvious.
- 6 Fill 497 in pit 483. Crestus 3a' 15/17 or 18 OF·CRE<S> (Polak 2000, pl. 8, C165*) La Graufesenque^b. c. AD80-95.
- 7 Fill 686 in foundation trench 155 (Building H). Diogenes 1a 27 DIOCIINCIS retr. (Romeuf 2001, pl. 35, 69) Les Martres-de-Veyre^a. c. AD100-120.
- 8 Fill 403 in pit 17. Frontinus 23a 37 stamped twice, side-by-side FRONTIN[I] FRONTI[NI] (Mees 1995, Taf. 60, 1) La Graufesenque^a. c. AD70-90.
- 9 Fill 254 in foundation trench 155 (Building H). Macrinus ii 2b 18/31 [MC]RIN·I (Ludowici 1927, 213) Lezoux^b. c. AD125-150.
- 10 Relict ploughsoil 54. Martinus ii 2a 33 [M]ARTINI·M Lezoux^a. c. AD125-150.
- 11 Relict ploughsoil 54. Mercator i 1a' 18 OFMER[C] La Graufesenque^a. c. AD85-110.
- 12 Fill 727 in foundation trench 155 (Building H). Peculiaris i 5a 18/31 [9ECVL]IAR·F (Curle 1911, 238, 72) Lezoux^a. c. AD155-170.
- 13 Fill 143 in pit 774. Reginus ii 2a 18/31 REGINVS·F (Romeuf 2001, pl. 35, 135-6) Les Martres-de-Veyre^a, Lezoux^b. c. AD115-135.
- 14 Relict ploughsoil 54. Severus iii 9c or 9c' 27 OFSEVER (9c' Polak 2000, pl. 22, S139) La Graufesenque^b. c. AD70-90. The differences between 9c and 9c' lie in the ends of the frame, which are eroded on this example.
- 15 Fill 657 in pit 568. Tauricus i 4a 18/31R or 31R TAVRICI·M Lezoux^b. c. AD150-180.
- 16 Fill 655 in pit 568. Tituro 1a 79(?) TITVRONISQF (Dickinson 1986b, 196, 3.209) Lezoux^a. c. AD160-190.
- 17 Fill 683 in foundation trench 155 (Building H). Vertecissa 1a form? [V]ERTEC[ISSA·F] Lezoux^b. c. AD140-160.
- 18 Fill 242 in construction trench 183 (Building G).]DIO? on form 18/31-31, Central Gaulish. Late-Hadrianic or early-Antonine.
- 19 Fill 242 in construction trench 183 (Building G). M[.....]ACI on form 18/31R, Central Gaulish. Almost certainly a stamp of Malliacus of Lezoux. Early-Antonine.
- 20 Fill 688 in robber trench 748.]AI/IA\ on form 33, heavily burnt. Probably Central Gaulish and Antonine.

4.3. Amphorae

David Williams

The vast majority of the amphorae sherds that were recovered belong to the Baetican olive-oil amphora Dressel 20 (Peacock & Williams 1986, Class 250). The remaining amphora sherds are made up of a few which belong to vessels which carried fish products and only one sherd which probably comes from a wine amphora. It is clear that in terms of amphora-born products, olive-oil dominated the assemblage and, if wine found its way to the site in any quantity, then it must have been carried in other containers.

The globular-shaped Dressel 20 amphora with its short, thick, oval handles and basal foot is the most commonly found amphora form imported into Roman Britain (Williams & Peacock 1983). They were made specifically to transport by sea the large surplus of olive-oil produced by the many estates situated in the valley of the River Guadalquivir and its tributaries between Seville and Cordoba in the southern Spanish Roman province of *Baetica*, and some 150 kiln sites are presently known (Ponsich 1974; 1979; 1991; Remesal 1986; Peacock & Williams 1986, Class 25). This region of Spain was famous in antiquity for its fertility (Columella *De Re Rustica* 5, 85; Pliny *Naturalis Historia* 17.93) and especially for the intensive cultivation of the olive, which produced an abundance of good quality olive-oil for exportation (Pliny *Naturalis Historia* 15.3.8; Strabo iii.2.6). Most of this appears to have been used to supply the city of Rome and the army, with a lesser amount earmarked for the civilian market (Haley 2003). Dressel 20 amphora were occasionally stamped on the handle and sometime bear a complex arrangement of *tituli picti* which are variously interpreted as fiscal controls, or information, to enable traders and shippers to claim benefits for supplying the state with Baetican olive-oil (Rodriguez-Almeida 1989; Haley 2003). The latest *titulus pictus* found on a Dressel 20 vessel is from Rome and dated to AD 255, during the reign of Gallienus (Rodriguez-Almeida 1989). The globular Dressel 20 form was made over a long period, from the reign of Claudius until shortly after the middle of the third century AD. Baetican olive-oil was still exported after this date though on a much reduced scale and in a smaller, thinner-walled version of Dressel 20 known as Dressel 23 (Carreras & Williams 2003).

The majority of the Dressel 20 assemblage from Barton Street are bodysherds, many of them small and friable. However, there are also eight rims present which can be approximately dated by comparison with Martin-Kilcher's (1987) Dressel 20 rim typology from the well-dated sites of Augst and Kaiseraugst. Four of the Barton Street rims seem to date to the late first century AD/early second century AD, while the other four all appear to belong to the first half of the second century AD (Appendix 2).

Three of the handles bear stamps (Appendix 2). One of the unstamped handles has a crudely made cross formed of two cut marks which have been scratched into the surface sometime after firing [54]. In addition, one of the rims [u/s] has an incised W on the upper section. These seem to resemble the graffiti noted on Dressel 20 rims and handles from De Horden (van der Werff 1987) and Augst (Martin-Kilcher 1987), where they were taken for an indication of the re-use of the amphora once the original olive-oil contents had been disposed of. This view receives support from a small neck sherd [54] which seems to have been deliberately smoothed over. Presumably the rim and handles were cut off to allow greater access for re-use of the vessel and the sharp edges removed. If both these suggestions are true, then some Dressel 20 forms may have had a longer active life than the suggested dates mentioned above.

The non-Dressel 20 material is made up of a Camulodunum 186C/Beltran IIA rim, a little 'southern Spanish' material, a small sherd in a reddish-buff fabric, most probably from a

Dressel 2-4 wine amphora, and sherds from the flat-bottomed Gauloise 4 form (Peacock & Williams 1986, Classes 18 and 27). From the *tituli picti* associated with them, the Camulodunum 186C vessel and the southern Spanish predominantly carried fish-based products such as *muria*, *liquamen* and *garum*. They come from around the coastal areas of southern Spain and in general span from the late first century BC to the mid second century AD, according to the form (Peacock & Williams 1986, Classes 16-19; Martin-Kilcher 1990). The sherds of Gauloise 4, the most common wine amphora imported into Roman Britain during the second century AD and predominantly from Narbonensis, should date from the period after the Boudiccan revolt to the first decades of the third century AD (Laubenheimer 1985). In addition, there are two undesignated body sherds in the assemblage.

Unusually, there are also seven fragments from amphora lids/stoppers present. These are all rather thin and disc-shaped and were meant to be wedged in the neck of the amphora as one of the precautions against spillage. One of the lids appears to have a fabric similar to that associated with Dressel 20 [no.1].

Type	Count	Weight in g
Dressel 20	385	46663
Camulodunum 186C	2	302
Southern Spanish	5	581
Gauloise 4	5	1136
Undesignated	2	63
<i>Total</i>	<i>399</i>	<i>48745</i>

Table 1. Types, frequency and weight of amphorae sherds recovered from Barton Street.

4.4. Romano-British Coarse Pottery

Ruth S Leary

Nearly 5000 sherds of Romano-British coarse pottery, excluding samian, mortaria and amphora sherds, (c. 8.3kg.) were recovered in the course of excavation. An archive catalogue was compiled for all the pottery according to the standard laid down by the Study Group for Romano-British Pottery (Darling 1994) with the addition of sherd weights and rim % values. These latter were added to promote compatibility with other site archives in the region and to allow an assessment of the relative proportions of different vessel types (Evans 1993; 2001b). Stratified pottery was recorded detailing specific fabrics and forms, decorative treatment, condition, cross-joins/same vessel. Unstratified pottery and topsoil pottery were recorded using the minimum archive standards of the Study Group for Romano-British Pottery (Darling 1994). Pottery from excavations by Barri Jones at Worsley St were scanned (c. 1000 sherds) and an assessment report was compiled in the form of a catalogue listing the quantities of pottery by ware group and diagnostic form (Appendix 1).

All the pottery from the site was catalogued in the archive and the stratified pottery was examined in order to date the features and stratigraphic phases. Key groups are catalogued below.

4.4.1. Fabrics

The fabrics codes are hierarchical in character. The first one or two letters denotes the general fabric group, as in GR = grey ware, the second coarseness, as in GRA = fine grey ware, whilst the numbers indicate further subdivisions based on characteristics of the fabrics. Reference is made to the National Fabric Collection where relevant (Tomber & Dore 1998) and common ware names are given where known. The range of forms in each fabric group is indicated by listing the illustrated examples and describing any additional forms not illustrated.

The various Cheshire Plains fabrics have not yet been characterised to a satisfactory level and it is often difficult to attribute vessels to individual kilns. Much of the work on the pottery of this area has been carried out by Webster (1971; 1982; 1992) and was published before fabric analysis and quantification of pottery was commonplace. Although of a high standard, this work depends on selective catalogues with sherd fabrics described individually. Whilst general trends in the acquisition of wares within the region have also been identified (Webster, 1982), these are overwhelmingly based on fort and associated civilian assemblages and are not illustrated with quantified data. Webster (1971) did, however, compare quantities of vessel types in the stream and *mansio* deposits at Melandra, and both vessel types and fabrics from the 1966-9 and 1976 excavations at Warrington (Webster 1992). In his published works Webster (1971; 1982; 1992) groups all the Cheshire Plains wares together only distinguishing between oxidised and reduced wares. Indeed it appears that in many instances the condition of the pottery did not permit more detailed classification.

The work carried out on fabrics from Chester is fundamental for the Cheshire Plains region and with publication much of the uncertainty presently attached to coarse ware analysis will be reduced. With regard to Manchester none of the previous publications give fabric descriptions which comply with currently accepted standards. There are, however, several pottery reports with full fabric descriptions and quantified groups within some unpublished grey reports such as Jones 2001. An unpublished kiln group, dated from the late first to early second century was excavated by Professor G D B Jones at Severn Street, Deansgate, Manchester (Jones & Reynolds nd), and access was gained to an unpublished report of this material (Clarke nd). An attempt was also made to examine the 81 sherds derived from this kiln. Unfortunately, only 14 of these sherds were found even though a concerted effort was made to locate the material within the Manchester Museum store by the author, with assistance from the museum staff. Although these sherds permitted the limited study of the principal fabric groups identified by Clarke (nd), despite great effort, a mica-dusted cup copying samian form Dr 27 was not located, and so particulars of the fabric could not be compared with the Dr 27 copies from the Barton Street excavations. The kiln assemblage examined by the author did, however, include a mica-dusted grey ware lid, which resembled fabric GMG1, and wasters in a medium quartz-tempered grey ware, with a rather brownish grey core, which compared well, in broad terms, with the fabric GRB1. Other fabric represented included sherds of GRA1, a small, very abraded, rim sherd from an OAB1 upright ring necked flagon, which may have been white slipped, and a very fine grey ware carinated beaker of late first to early second century type, similar to *Terra Nigra* (Marsh 1978, type 17.2). This last vessel is much finer than the normal Cheshire Plains reduced wares and is likely to be a traded item

More recent work in the Cheshire Plains has attempted to define local fabrics in broad ware groups with detailed fabric descriptions within those groups (Fairbairn 2002; Leary 2004; Martin 2004). In the present study fabrics have been defined and described according to the guidelines of the Study Group for Romano-British pottery (Darling 2004 & Peacock 1977) independently of other sites. Detailed reference has been made, however, to the material excavated by Pre-Construct Archaeology at the Beetham Tower site, Deansgate, Manchester. This assemblage has been analysed by Scott Martin who kindly made the pottery available to the author. The date range of this material differs from the Barton Street assemblage and the fabric range is not identical. Although identical codes are not used, cross-references to Martin's codes are included so that comparison is possible between the two sites. Similarly, the material from Birch Heath, Tarporley (Fairbairn 2002), was catalogued in ware groups allowing comparisons to be made at this level rather than that of detailed fabric divisions. It must be accepted that fabric divisions in Roman quartz-tempered pottery, particularly local wares, can be subjective and differences may be the direct result of the number of sherds present. What appear to be two distinct fabrics in a small group may, for example, be seen as part of a broad continuum in a larger group. The divisions made in the present analysis,

particularly of the local wares, may need, therefore, to be modified in the future as the fabrics of more pottery from Manchester are analysed, and different techniques of analysis are explored.

The issue of the source of the pottery has not been satisfactorily explained. Comparisons, for instance, of the pottery fabrics, forms, and decorative motifs present are made with those found at the Severn Street kiln, and elsewhere in the region, but ultimately a programme of scientific analysis will be necessary in order to clarify the sources of the pottery. Moreover, because of the very similar sand deposited in both fluvioglacial and alluvial deposits across the Cheshire Plains, attributions to specific kilns may never be possible. The Severn Street kiln group was of early second century date and only the early wares are likely to come from it. In the wider area, Roman period kilns of a later date have not been found and this has led to the suggestion, by several authors, that manufacture may have been confined to small local kilns during the late first and early second century, but by the Hadrianic period pottery needs were met through larger kilns complexes established near a clay source, and also by the importation of large amounts of BB1 ware (Hartley & Webster 1973, 89; Webster 1982, 14-16; Williams & Hinchliffe 1992, 171; Hanson 1971, 50-1)

Reduced wares

Black burnished wares

BB1 As Tomber & Dore 1998 South-East Dorset BB1 (DOR BB1). This group principally comprised flat-rim bowls and dishes, necked jars and neckless jars and beakers of the Hadrianic to early Antonine period, with small numbers of grooved-rim bowls and plain-rim dishes of the mid- to late second century and four, third century jars. No incipient or bead and flange bowls were present. 885 sherds.

Fine grey wares

GRA1 Dark grey/black. Very fine, hard, smooth with smooth fracture. Sparse, fine subrounded quartz. Reeded-rim bowl, carinated bowl, hemi-spherical bowl with bead rim and rouletted decoration, hemispherical bowl with large curved flange grooved at tip and plain rim, jar with rebated neck, lids, Flavian-Trajanic neckless jar type with short everted rim, flat rim bowl or dish, thin walled beaker with almost upright rim, flask and flat-rim dish with lattice decoration. A near complete jar from 504 was flaked and spalled all over, in a similar way to certain wasters, suggesting the possibility of on-site production. The forms made in this fabric suggest a date range concentrated in the late first to early second century. 64 sherds.

GRA1B as GRA1 but with grey surfaces and brown core. Lids, rebated neck jars, neckless, everted rim jars, flat-rim dish with lattice burnish and a carinated and cordoned bowl of first century type. The forms made in this fabric suggests a date range concentrated in the late first to early second century. 47 sherds.

GRA2 Grey with paler core. Hard. smooth feel and fracture. Moderate very fine, subvisible quartz (at x30). Carinated bowl, reeded-rim bowl, flanged hemi-spherical bowl, beaker with barbotine dots, rouletted beaker, roughcast beaker, flask body, lids, everted rim jar of Hadrianic-Antonine type, rebated neck jar, and narrow necked jar typical of first-second century. The vessel types suggested this fabric was probably used throughout the first and second centuries. 146 sherds.

GRA3 Grey with black surface. Smooth feel and finely irregular fracture. Moderate, well-sorted, fine subangular quartz like a very fine BB1. Carinated bowl. Three sherds.

GRA4 Severn Valley reduced ware with vesicles and black inclusions – charcoal. Grey with reddish brown core. Fairly hard and smooth fracture and feel, moderate very fine quartz and sparse fine red/brown and black inclusions. Similar to SV reduced ware, but probably not fine enough. Webster (1976, 94) suggested that Severn Valley

wares did not appear at Manchester until the mid- to late second century, but an earlier date is indicated at Chester and in the contexts from Barton Street. Six jar sherds.

GRA5 Grey with black surfaces. Soft very fine, smooth feel and fracture. Sparse very fine quartz. Two sherds.

Medium grey wares

GRB1 As Martin 2004 GW1 Hard with fairly smooth feel if surface unabraded. Sandy if surface abraded. Sparse-moderate, well-sorted medium subangular quartz as OAB1, sparse ill-sorted medium-fine rounded grey inclusions. Darker grey slip. Cheshire Plains reduced ware. Bowl with triangular shaped rim and flange, flat-rim bowl, bead-rim bowl or dish, grooved-rim dish, reeded-rim bowl, bead-rim hemi-spherical bowl, flanged hemi-spherical bowl with grooved flange tip, copy of Dr 81, everted-rim bowl with body (no. 9), everted-rim beaker, roughcast beaker, flagon with simple neck and short everted rim, flask with everted rim and rather flat slightly dished internal rim surface, honey pot with everted rim, neckless jar with short everted rim, rebated neck jar, jars with everted rims copying BB1 types, miniature vessel base, narrow-necked jars with everted rims, and lids. The forms present include late first-early second century neckless jars and rebated neck jars, as well as the common Antonine jar and bowl forms suggesting this fabric was used commonly throughout the occupation of the site. A slightly distorted rim of a Dr 44 copy suggests the possibility of manufacture in the neighbourhood. 652 sherds.

GRB2 Grey without obvious slip. Sandy, hard with irregular fracture and moderate-abundant well-sorted, medium, subangular quartz. Tends to feel coarser than GRB1. Sometimes with brown core or margins. Grooved-rim dish, rebated neck jar, neckless everted rim jar, jars with everted rims copying BB1 types, narrow-necked jar with everted rim. Date range as GRB1. 52 sherds.

GRB3 Reddish brown with darker grey-brown surfaces. Slip or self slip. Inclusions as GRB2. Flanged vessel - ?sagger (no. 229).

GRB4 Dark grey surfaces with slightly lighter grey/brown core. Hard, brittle fabric with smooth feel and fairly smooth fracture. Sparse to moderate, well-sorted, medium, subangular quartz and sparse ill-sorted fine to medium rounded black and brown inclusions (soft). Four sherds.

Coarse grey wares

GRC1 Grey hard with gritty feel and hackly fracture. Abundant, well-sorted, medium-coarse subrounded quartz. Dish with inturned rim and jar with rather triangular shaped rim. 14 sherds.

GRC2 Dark grey with light grey core. Hard with sandy feel and hackly fracture. Abundant well-sorted medium subangular quartz. Like GRC1 but finer quartz and fracture looks similar to BB1 in texture. One sherd

Mica-dusted wares

MG1 White with yellowish cream slip with traces of ?gold mica gilt. Smooth feel and fracture. Hard. Sparse, well-sorted fine quartz, sparse ill-sorted medium-fine rounded red/brown inclusions and rare coarse rounded black inclusions. Everted-rim beaker. Possibly a white ware with unusual surface effect. Three sherds.

MG2 Orange with traces of mica gilt, some areas of fused mica slip. Fairly soft and smooth irregular fracture common, well-sorted, fine quartz and sparse ill-sorted fine to medium, rounded red brown inclusions. Same as OAA2 and RSA1. Curved walled platters, with plain and slightly inturned rims, platter with cordon at internal junction

of wall and base, grooved rim dish or platter, hemi-spherical bowl with flat flange, and bead rim, bowl with bead rim and short flange, several Dr 27 copy cups, flanged cup with upright rim, folded beakers, beakers with multiple grooves on shoulder, beaker with barbotine dots, beaker with multiple bosses and bowl with carination outside lower body. The carination on this last vessel compares better with earlier forms rather than the Dr 81 copies and the vessel has been red slipped externally and is mica-dusted internally. 69 sherds.

- MG3 Orange with traces of mica gilt. Fairly hard with slightly sandy feel. Orange with grey core. Moderate, ill-sorted fine to medium subrounded quartz and sparse rounded red/brown inclusions. Micaceous. Coarser than MG2 but similar. Like OAB1. Tazze and platter with inturned rim. 23 sherds.
- MG4 Buff with grey core. Very hard and smooth with conchoidal fracture. Sparse, fine well-sorted subangular quartz. Two sherds.
- MG5 Reddish brown with reddish brown slip/self-slip and mica dusting. Hard with smooth feel and fracture. Rare fine subrounded quartz. Similar to RSA1. One sherd.
- MG6 Pale orange with brownish surface and grey core. Hard with slightly sandy feel and irregular fracture. Sparse-moderate, well-sorted, medium subangular quartz and sparse, medium, ill-sorted, rounded fine to medium red/brown inclusions. Mica dusting. Like quite a fine OAB1. Platter with inturned rim. Two sherds.

There are no distorted sherds in fabrics MG2-6 and these may all come from the Chester area where parallels to the forms can be found. The forms indicate a date range in the late first-early second century with an early second century focus coinciding with a dip in the samian supply to Britain.

GMG1 as GRA1B with mica gilt. As fabric from Severn Street kiln. One lid sherd.

White wares

- FLA1 White or off white, probably with darker cream slip. Fairly hard with smooth feel and fracture. Very few inclusions, rare quartz and rounded red/brown. Flagons sherds, everted rim beaker and flanged bowl fragment. 210 sherds.
- FLA1C As FLA1 but off white/cream and sometimes powdery soft. Flagon sherds and small lid. 26 sherds.
- FLA2 White hard, smooth with irregular fracture. Common, well-sorted fine, subrounded quartz and sparse, ill-sorted medium to fine red/brown inclusions. Ring-necked flagons with upright and splayed neck, flagons with rebated rims and flagon with simple everted rim. A sherd with purple inside surface may conceivably be part of a waster but is far more likely to be burnt since there is no other evidence for the production of white wares at Manchester. 307 sherds.
- FLA3 Yellowish cream with darker slip firing yellow-buff. Hard and smooth, slightly grainy on inside. Irregular fracture. Abundant, well-sorted, fine, subrounded quartz and sparse to moderate, ill-sorted, rounded medium to fine red inclusions. Holt flagon. Holt Grimes 1930 nos 124-5. 65 sherds.
- FLA4 Brockley Hill flagon ware. Flagon bodysherds and an everted rim from a flagon type vessel. 29 sherds.
- FLA5 Yellowish buff ware. Soft, smooth and powdery with smooth fracture. Moderate, well-sorted subangular, fine/medium quartz and sparse medium rounded red/brown and white inclusions. Flagon sherds and unguent pot. 38 sherds.
- FLA6 Off white/cream. Hard with fairly smooth feel and irregular fracture. Moderate ill-sorted fine to coarse subangular quartz and rounded red/brown inclusions. One sherd.
- FLA7 Cream with grey core. Thin. Hard with sandy feel and irregular fracture. Sparse ill-sorted, medium to fine crystalline quartz and moderate, ill-sorted fine-medium rounded grey and brown inclusions. Five sherds.

- FLA8 Pinkish buff. Hard with sandy feel and irregular fracture. Moderate ill-sorted fine to medium subrounded quartz and sparse, fine rounded grey inclusions. Flagon with plain neck and everted rim.
- FLA9 Cream with darker dirty cream surfaces. Very hard and bumpy feel. Irregular fracture. Moderate medium fairly well-sorted subangular quartz and moderate ill-sorted fine to medium rounded red/brown inclusions. There also seems to be sparse to moderate large angular inclusions either reddish brown, or the same colour as matrix, which seem to be either grog or irregular cognates caused by inadequate wedging. These can be seen protruding out of the surface and are up to 1mm across. Narrow-necked jar with rilling outside the upper body. Seven sherds.

Some of these wares came from the Verulamium area and a small number probably came from the Holt kilns. The rest are also likely to have come from kilns outside the area, perhaps along with the mortaria, from Mancetter-Hartshill, Wroxeter and Derby Racecourse.

White-slipped oxidised wares

- FLB1 Orange, quite pale with white slip. Soft with smooth or sandy/powdery feel and slightly irregular fracture. Sparse well-sorted subangular quartz and rare rounded grey inclusions. Reeded-rim bowl, everted rim beaker, rough cast beaker, miniature vessel base, triple vase, narrow-necked jar with everted rim, ring-necked flagon with upright neck, honey pots, flagon with splayed rebated rim, flagon with plain splayed rim, flagon with flanged neck and heavy angular rim and flagon with bifid rebated rim. 215 sherds and three more FLB 1 or 2.
- FLB2 Red-orange. R - indicates red O indicates orange. Hard with sandy feel and irregular fracture. White slip. Moderate well-sorted medium subangular quartz, sparse, coarse rounded grey inclusions. Ring necked flagons with fairly upright and more splayed rims, flagons with bifid, rebated rim, bifid rim, flanged neck and heavy squared rim, trefoil mouthed flagon with bifid rim, honey pots, neckless jar with short everted rim, narrow-necked jar, plain-rimmed cup and tazze. 191 sherds.

The FLB forms span the late first to mid-second century and many are amply paralleled in the Wilderspool kiln repertoire. The presence of an FLB ring necked flagon in the Severn Street kiln assemblage raises the possibility of the production of this fabric group close to the site. However, no distorted sherds were identified and the incidence of very burnt and discoloured sherds was low.

Oxidised wares

- OAA1 Cheshire plains fine ware, orange to pale orange. Soft with powdery/sandy feel and smooth fracture. Sparse, well-sorted, fine quartz and sparse ill-sorted fine to medium, rounded red brown inclusions. Micaceous. Reeded-rim bowls, bowl with bead rim and short flange, bead and flange hemi-spherical bowl, bowl or dish with flat rim grooved near wall, Dr 27 copy, colander, folded beaker, roughcast beaker, trefoil mouthed plain rim flagon, narrow-necked jar with everted rim, neckless jar with everted rim, miniature vessel base and lids. Some vessels may have originally been mica-dusted (e.g. the Dr 27 copies). 227 sherds, nine of which may have been MG1 and nine of which may have been Severn Valley ware.

This group included a narrow-necked jar with extensive surface flaking and spalling and a crack which is almost certainly a waster.

- OAA2 Medium orange to pale orange/buff. Soft with powdery/sandy feel and irregular fracture. Common, well-sorted, fine quartz and sparse ill-sorted fine to medium,

rounded red brown inclusions. As OAA1 but more quartz. Roughcast beakers with cornice and grooved cornice rims, bowl or dish with flat rim grooved near wall, bead and flange hemi-spherical bowl with flat flange, wide-mouthed jars with hooked rim and rim with outbent tip (these two vessels may be Severn Valley ware), wine-strainer, disc-mouthed flagon and lids. 123 sherds.

A roughcast beaker in this fabric is distorted suggesting local manufacture of this fabric group.

OAA3 Reddish orange, smooth with very smooth fracture. Sparse, ill-sorted fine to medium, subrounded quartz. Micaceous. Finer matrix than OAA1. Possibly Severn Valley but colour is similar to Cheshire Plains wares. Everted rim from wide-mouthed jar. The form and small number of sherds strengthens the likelihood that this is a Severn Valley ware fabric. Six sherds.

OAB1 Cheshire Plains medium orange, hard to soft with rather sandy feel and quite smooth fracture. Sparse-moderate, ill-sorted medium to coarse subangular quartz, sparse, ill-sorted, rounded red/brown and grey inclusions. Platters with plain rims, inturned rims and platters with cordon at internal junction of wall and base, dish/bowl with flat rim, reeded-rim bowls, Dr 44/81 copy, straight walled dish with bead and flange rim, bowl with grooved flange rim, wide-mouthed jars with stubby everted rim and thinner everted rims, beakers with short everted rims, rouletted beakers, roughcast beakers with everted and cornice rims, flagons with outcurved rims, and outcurved bead rims with rebated tips, neckless jars with short everted rims, everted rim jars similar to BB1 forms, miniature vessels, probably triple vases and narrow-necked jars with everted rims and cordons outside the neck and/or upper body. Several vessels may have been originally white slipped fabric FLB2 - a flagon with a plain splayed rim and small neck cordon, a plain rim cup and a neckless everted rim jar. An everted-rim beaker and a narrow necked jar may have originally been mica-dusted. 840 sherds, five of which may have been MG2 originally.

OBA1 As OAA1 but buff. Reeded-rim bowl, everted rim and barbotine dot beaker. 25 sherds.

OBA2 As OAA2 but buff. Plain rim cup, lid and everted rim beaker. 11 sherds.

OBA3 Pale yellowish orange with darker slip. Hard, smooth with smooth fracture. Moderate fine quartz, sparse rounded coarse white and red brown inclusions. Six sherds.

OBB1 As OAB1 but buff. Reeded-rim bowls, roughcast beaker, narrow-necked jar and lids. 48 sherds.

OBB2 Buff with rough feel and irregular fracture. Vesicles visible. Sparse-moderate ill-sorted medium subangular quartz, sparse, ill-sorted, angular and elongated vesicles, some partially with black fill, rare ill-sorted fine to medium angular and long thin black inclusions (organics), rare ill-sorted rounded brown inclusions. Two sherds.

SV1 Severn Valley ware. Reddish brown with virtually inclusionless matrix. Sparse fine quartz. Micaceous. One sherd.

SV2 Severn Valley ware with voids. Orange with grey core. Soft but fairly smooth. Irregular fracture. Moderate ill-sorted elongated voids, fine to coarse, visible on surface. Sparse mica and black inclusions. Texture suggests subvisible quartz. Narrow-necked jar. Five sherds.

SV3 Severn Valley ware with charcoal. Narrow-necked jar with curving rim and neck cordon. Six sherds.

OAC1/OBC1 Orange/buff hard with gritty feel and hackly fracture. Abundant, well-sorted, medium-coarse subrounded quartz. Reeded-rim bowl in OAC1. 11 sherds (OAC1) and four sherds (OBC1).

Red-slipped wares

- RSA1 Red-brown slip orange ware Soft and powdery with irregular fracture. Moderate, well-sorted, fine quartz and sparse ill-sorted fine to medium, rounded red brown inclusions. AS OAA2. Dr 81 copy, roughcast ware and lid. 24 sherds.
- RSB1 Red slip. Sandy, fairly hard and sandy. Same as CP from Mellor with traces of red slip. Sparse-moderate, ill-sorted medium to coarse subangular quartz, sparse, ill-sorted, rounded red/brown and grey inclusions. Dr 81 copy and roughcast ware. 26 sherds.

Colour-coated wares

- CC1 As OBA1 with brown slip rough cast ware. Rough cast ware beakers with simple everted rims, cornice rims and grooved cornice rims. The fabrics compare to locally made Cheshire Plains oxidised wares. The Wilderspool kilns produced similar beaker types (Hartley & Webster 1974 nos 23-34). 187 sherds.
- CC2 Argonne or locally produced roughcast ware Orange with brown coat. Hard, smooth fabric with fairly smooth fracture. Sparse, ill-sorted fine quartz and ill-sorted, medium to fine red brown inclusions. These may be imported (Tomber & Dore 1998 ARG CC) or a finer local roughcast ware. 10 sherds.
- CC3 Cream with pale orange/brown colour coat. Smooth feel and fracture. Hard. Rare, fine subangular quartz, Sparse ill-sorted fine to medium, rounded red brown and white/cream inclusions. There were eight sherds probably from a single beaker with a sharply everted rim. Possibly Central Gaulish colour coated ware 2 Tomber and Dore 1998 CG CC2.
- CC4 Cream with brown CC. As CC2 but cream-buff. Hard, smooth fabric with fairly smooth fracture. Sparse, ill-sorted fine quartz and ill-sorted, medium to fine red brown inclusions. Four sherds, all roughcast beakers including a cornice rim. These are probably imports, perhaps from the Argonne. Tomber and Dore 1998 ARG CC.
- NV NV1 Five sherds, NV2 six sherds.

Glazed ware

- GLZ1 Grey with buff/glazed surface. Hard, smooth feel and fracture. Very fine, virtually inclusionless. The glaze on the sherd from 143 was not successful. Most of the slip/glaze is buff with some part partially fused to form crackled glaze of a golden yellowish colour. In this region Roman glazed wares are present at the kilns at Holt (Arthur 1978, 334, Greene 1977, 117 no. 1) and this fabric may have come from there. Only one sherd, a plain rim probably from a beaker, was identified.

Coarse gritty wares

- GTA Hard grey/brown fabric with uneven surface and irregular fracture. Sparse, ill sorted coarse angular grey and buff inclusions - grog, moderate ill-sorted coarse to fine black inclusions. Some long possibly charcoal. Six sherds, all undiagnostic bodysherds from closed vessels.

4.4.2. Key groups (Illus 56-66)

The key groups are selected from the stratified sequence on the basis of their undisturbed nature and significant numbers of diagnostic sherds. Identical vessels from different contexts are cross-referenced and both sherds have not been illustrated to avoid costly duplication. An impression of the relative quantities of different vessel types and groups can be gained from

tables 2, 3 & 5. The date ranges of all pottery in the assemblage are listed in table 4 with references to further published data relating to them in individual specialist reports.

Period 1 phase 1

Ditch 122

1. White ware beaker with short everted rim and traces of barbotine decoration, linear or dot. The fabric has darker slip. 988
2. GRA1B lid. 1006
3. GRB1 knobbed lid. 464
4. Not illustrated. Amphora lid 464
5. GRA2 reeded-rim bowl 464
6. SV3 necked jar with cordon at base of neck and outside upper body. The rim of this vessel is not present but the extant neck is smooth and rounded as if deliberately smoothed off. If this is the case, the vessel could still have been used. 464.
7. OAA1 reeded-rim bowl 478.
8. FLA3 neck and handle of wide-mouthed flagon. *Cf.* Grimes 1930 nos 124-5. The size is similar to the Gallic wine amphorae but the fabric would be atypical. Possibly graffito mark on bodysherd. 153

A Verulamium type mortarium was recovered from this ditch (mortarium no. 1) dating between AD60-90.

Pit 504

9. OAA1 hemi-spherical cup with plain rim and stubby flange outside lower body.
10. GRA1 near complete globular jar with shoulder groove and everted rim. Flaked and spalled over much body.
11. GRA1? Slightly coarser grey ware jar with everted rim.

The spout of a mortarium from Northern France dated AD AD65-100 was present.

The samian pottery from the Period 1 phase 1 ditch dated to the Flavian or Flavian-Trajanic period, whilst the occupation layer [868] sealing the ditch included a samian sherd of Hadrianic or Antonine date (form 33), and one Les Martres le Veyre sherd dating to *c.* AD100. These latter sherd might suggest that the infilling of the ditch had taken place by the end of the first century, and this was confirmed by the coarse pottery assemblage. Although no BB1 was present in the sealing layer 868 a grey ware copy of a BB1 flat-rim bowl implies a Hadrianic *terminus post quem* and the form is consistent with such a date. The pottery from the ditch itself was of limited range. It included a Holt flagon body and handle. Although the rim form is not present, the body and handle sherds indicate a vessel in the form of a two handled flagon and a date in the late first-early second century. Most related examples are of pre-Flavian, or Flavian date (at Usk, Greene 1993, 18; Wroxeter, Evans 2000, type F8; Mancetter, Scott 1981, figs. 13-14). The reeded-rim bowls are typical of the Flavian-Trajanic period and the other vessels from the ditch include two reeded-rim bowls and neck fragments from white-slipped flagons (FLB 1 & 2), which are also likely to belong to this period. The white ware beaker is unique from the site. This vessel has an everted rim with shoulder groove and has the edge of what appears to be linear barbotine decoration. The general form compares with late first-early second century jars and beakers. A footring base in a reddish orange fabric with red slip may also be of Holt origin. An OBA3 body and base sherd may belong to an early jar or flagon. A related bodysherd bore a superficial surface crack suggesting local manufacture. Two undiagnostic lids are not closely datable and a scrap of everted rim from a small jar, or beaker, compares with types common in the Flavian period.

A cordoned jar in a fabric similar to Severn Valley charcoal-tempered ware was also associated with this group, but is somewhat out of place, since Severn Valley ware did not generally appear in the region before the mid-second century. The fabric has the typically vesicular appearance of organic Severn Valley ware with clear charcoal inclusions in the break. The form, a fairly narrow-necked jar with neck and upper body cordons compares with Webster's (1976) type 1 dated between the mid-first to fourth century. Evans' type JNM2 is also given the same date range (Evans *et al* 2000). This vessel may, therefore, be later than all the other material from the ditch and it is possibly intrusive. However, an early importation of Severn Valley ware in the Flavian period is known at Chester (Carrington 1977; Tyers 1996, 197).

The cordoned and carinated bowl from the occupation layer [868] sealing the ditch also strongly suggests an early date for the ditch group. This form is unparalleled in the published pottery types from Manchester and is a Romanised form of Late La Tene vessels. It is likely to be derived from the underlying ditch [122] and belongs to the early years of occupation. This form is uncommon on other military sites in the Cheshire Plain region and had, in all probability, been brought with the soldiers from elsewhere in Britain, since it is not a local late Iron Age form. Also present in the sealing layer [868], and of later date, was a GRB1 flat-rim bowl with burnished acute lattice decoration. This apes the BB1 bowls and dishes common in the Hadrianic-Antonine period. A sherd from a folded rough cast beaker probably imported from the Argonne area is of late first-early second century date and the cup, copying a samian Dr 27, and bead and flange bowl are likely to date to a similar period. The cup form Dr 27 went out of use by the mid-second century and mica-dusted copies are dated to time of the Trajanic fall in samian supplies. The bowl is likely to belong to a similar period and both vessels can be paralleled by forms at Wilderspool (Hartley & Webster 1973, nos. 64 & 67) and the cup at Holt (Grimes, no. 166).

Pit 504 was assigned to this phase and contained a large fragment from a mortarium (mortaria no.8) made in Northern France between AD65-100, a near complete GRA1 jar of typical Flavian-Trajanic form and a second jar of similar form in GRA variant fabric, possibly a different fabric. There was also an oxidised hemi-spherical flanged bowl similar to a type made at Holt (Grimes 1930, no. 161), an orange ware sherd with white barbotine dots and another amphora lid. The barbotine dot sherd and the GRA1 jar both show signs of misfiring. The jar has extensive surface spalling while the barbotine dot sherd has very fine surface cracking suggesting local manufacture. The use of white barbotine dots can be paralleled at Holt (Grimes 1930, no. 49) in grey ware and the cracking and slightly greyish brown colour of this sherd may indicate that a reduced finish was intended and that this vessel was misfired. The flanged cup is unusual and is similar to a bowl form from Holt (Grimes 1930, no. 161), which is compared with samian form 38 dating to the late second-third century. However, the small diameter of this vessel indicates a cup, which can be compared with those cups copying pre-Flavian samian form 24/25 from the military phases at Wroxeter and Usk (Darling 1977a, fig. 6.5 no. 23 & fig. 6.7 no. 34). Marsh (1978) identified related vessels in the early fine wares from London (type 14) dating to the late first to early second centuries and suggests that, as it is a form missing from the Continental legionary wares and the samian form is pre-Flavian in date, a *Terra Nigra* type may have preserved the production of this form. Darling (1984, 87 fig. No. 67, see also Petch 1960 fig. 6 no. 21 where a pre-Flavian date is given) notes that this form is also quite common at Lincoln and was made at Longthorpe. The wall curvature of no. 9 indicates a rather a shallower cup than the London examples and rather more like those from Lincoln, Usk and Wroxeter. All the sherds, therefore, point to a date in the Flavian period, and a date early in the Flavian period would account for the cup form (no.9).

The ditch, therefore, contains early Flavian pottery and was filled in at the end of the first century. The pottery from pit 504 belongs to a similar period.

Period 1 phase 2

Extractions pits

Only six sherds were recovered from these pits.

12. OAB1 oval-sectioned sherd, probably a handle of a double handled flagon. 803

An unusual sandy oxidised sherd from pit 804 compares with the rod handles of double handled flagons of late first-early second century date rather than the ribbed or strap handles of later flagons and jugs. A scrap of FLB1 also came from pit 804. A GRA2 bodysherd from a beaker with barbotine dots of late first-early second century type came from pit 854 and also a GRB1 jar base.

Period 2 phase 1

One hundred and twenty eight sherds (1533g) were recovered from the construction trenches of the buildings B, C and E and property boundary ditches 457 and 806.

Building B

13. FLA1 flange, probably from a bowl. 351
 14. GRC1 neckless jar with rather triangular rim. 351
 15. GRB1 jar with outcurving rim and rebated neck. 351
 16. OAB1 everted-rim jar. 351

The globular form of no. 16 and the rebated neck and rim form of no 15 compares well with jars in Flavian-Trajanic groups at Caerleon (Greep 1986, 1.9), coarse ware jars from Usk (Manning 1981, type 11), the military phase of Wroxeter (Evans 2000, type JM6.3), the Melandra stream deposit, dated predominantly to the Flavian-Trajanic period (Webster 1971, nos 61-3; similar form and nos 131 and 133 are closer), and at Manchester previously (Walker 1986, no. 3.2.1.1 from fort 2 dated late first to early second century). Illustrated examples of the form only occurs in any quantity at Usk. The neckless jar is similar to one previously discovered in Manchester, during the north gate excavations, from the *vicus* phase 2c, which was dated to the Trajanic-Hadrianic period (Walker 1986, no. 41.5.1.1). Taken together this evidence suggests a date range for this vessel type in the Flavian-Trajanic period and this might, on the evidence derived from the north gate excavations (Walker 1986), fall in the later part of this period.

Building E

Only undiagnostic sherds of fabrics GRB1, GRC and FLA1 were recovered from the construction trench of this building. However, the GRC sherd appeared overfired and encrusted with burnt material. It was similar to BB1, towards the fine end of the spectrum, but its condition precluded certain identification. Excepting this doubtful identification, none of the material need be later than the late first-early second century. The samian ware was of Flavian-Trajanic date.

Boundary ditch 457

A relatively large group of 96 sherds was recovered and the diagnostic sherds suggested a date in the late first or early second century. The bowls with reeded or grooved rims are common Flavian-Trajanic forms. Two fragments from MG2 platters, a vessel with a grooved rim and a base fragment, possibly the same vessel, with a groove towards the base suggests a

Trajanic-Hadrianic date (Davies *et al* 1994 no. 751). Sherds from a Lyons ware roughcast beaker date from early in the Flavian period (Willis 2003) and a small lid of the type used for amphorae confirms an early date. A scrap of a Verulamium flagon also belongs to this early period. The absence of BB1 and other Hadrianic-Antonine types indicates a pre-Hadrianic date and the Flavian-Trajanic date of the samian ware supports this date range.

17. OAA1 reeded-rim bowl 457 + 471
18. GRA1 wide-mouthed vessel with triangular rim. Wide-mouthed jar or bowl. 457 + 471
19. MG1 grooved rim dish or platter. 457+471
20. OAA1 neck and thickened rim of rather wide-mouthed jar. 457+471
21. FLB1 neck of flagon in fine orange ware with traces of white slip at junction of neck
22. RSA1 blunt rim lid 473 in 457
23. OAC1 reeded rim bowl. 474 in 457
24. MG2 platter or dish with internally grooved base 474 in 457
25. OAA1 rather battered and abraded flat rim with single groove near junction with wall. Possibly belonging to the same class as the reeded rim bowls. 457 in 471
26. GRB1 reeded rim bowl with rounded body. 472 in 457

Other undiagnostic bodysherds from this feature comprised sherds of Dressel 20 amphora, FLA2 (flagon base and body), FLA3, FLA4, GRA1, GRA1B, GRA2, GRB1, Lyons colour-coated ware (roughcast beaker), MG2, OAA1, OAA2, OAB1, OAC1, OBA1, OBC1 and a mortarium base. The samian ware was of Flavian or Flavian-Trajanic date.

Period 2 phase 2

Pottery was found in the construction trenches belonging to Building A and F, occupation layers, perhaps, associated with Building F and from ditch 792.

868 occupation layer Building F

27. GRA1 carinated and cordoned bowl with girth lattice burnish. This vessel was highly fragmented but was reconstructed to form a large proportion of the vessel (EVES :55%).
28. GRA1B cordoned bowl with everted rim of similar form to no. 27.
29. GRB1 straight-sided bowl with flat rim and burnished acute lattice decoration.
30. MG2 copy of Dr 27 cup. Very slight traces of mica flakes on surface suggest mica dusting.
31. OAA1/MG2 rim and bodysherds of curved wall vessel with bead rim and stubby flange. The surfaces are slightly micaceous but lack the large flakes present on certain MG2 vessels. This was probably not originally mica-dusted. Sherds from the same or a very similar vessel were found in context 10. Possibly a lid.

A Mancetter-Hartshill mortarium spout was recovered from this layer (mortaria no. 1) dated c. AD130-150.

1013 occupation layer Building F

Eight sherds from the footing base of an FLB2 flagon

Building F

Only two fragments were recovered from the construction trench of Building F – an undiagnostic bodysherds of fabric OAB1 and GRA1 bodysherd from a barbotine dot beaker,

a form common in the late first to early second century. The samian ware indicated a date range extending after *c.* AD120.

Building A

Very little pottery was found in the construction trench of this building, but the small group suggested an early date, perhaps pre-Hadrianic. A bodysherd from an OBA1 beaker with barbotine dots, similar to the one from Building F, was present along with basal sherds from an OAA1 jar, a very abraded OAA1 sherd with rouletted decoration, sherds of FLA4 and a GRC scrap. The pottery was all very abraded and the sherds were small. The samian ware from G D B Jones' excavation of this structure dated from the Flavian-Trajanic period to the Hadrianic-Antonine era.

Ditch 792

A small number of abraded sherds included a GRB1 bead rim, perhaps from a bowl, GRB1 bodysherds, an OAA1 bodysherd, possibly mica-dusted, sherds of FLB1 and FLA1, a GRA1 plain rim lid and three sherds of BB1, from at least one jar and one bowl. These latter give a date range after AD120, but were too small to date more precisely.

Period 2 phase 3

A much larger group of pottery was excavated from Building D and a series of pits associated with that structure. Most of the groups appeared to date prior to the appearance of BB1 on the site at *c.* AD120. The assemblages from pits 17 (fill 398) 529 (778), 704 (fill 554), 774 (fills 143 and 269), 775 and 864 (862) and 917 included BB1 bowls and jars and two bodysherds from a BB1 jar with acute lattice burnish came from Building D, construction trench 992 fill 759, implying a Hadrianic date at the earliest for this phase of the building.

Building D construction trench 506

32. Much of a GRA1B everted-rim jar with shoulder cordon formed by a double groove and horizontal burnish lines around the girth. An X graffito was situated on the shoulder. 752
33. GRA1 everted-rim jar. 752
34. GRB1 lid. 954
35. GRB1 body of jar with acute lattice burnish. 954

Seventeen sherds from a FLA1 flagon were also present with small sherds of OAA1, FLA2, FLB1 and a coarse FLA white ware of uncertain fabric. The globular form of the jars suggests a date in the late first to early second century. Bodysherd no. 37 may be a copy of a BB1 jar which would suggest a date in and around AD120, but other possibilities do exist. Jar no. 34, lid no. 36 and the FLA1 flagon accounted for the majority of the sherds, the other sherds being small and abraded. The samian was dated to the Flavian-Trajanic period.

Building D construction trench 992

36. MG2 profile of platter with inturned rim and groove at the inside junction of the wall and base. This vessel has areas blackened by burning. It is quite coarse and has a grey core. There is very little trace of mica gilt but two small concentrations of mica flakes suggest it had once had a mica rich slip. 756
37. OAB1 pale orange flagon with handle scar 757 and 758. The rim is not present but the fabric is quite coarse and may indicate a later date than the finer ware from period 1. A ribbed handle from 757 is in a coarser orange fabric from a different flagon or jug.

The pottery from the refurbished wall line of Building D was also dominated by white and cream wares including an amphora lid. Diagnostic sherds included an MG2 platter of late first-early second century type (Marsh 1978, type 24; Grimes 1930, nos. 129-37). Two sherds of BB1 (759) indicated a terminal date in the Hadrianic period or later. Although the group is quite large the sherds were generally small and abraded. A fabric 1 mortarium rim and spout sherd dated to AD65-100 was identified. The samian ware was of Flavian (757), Flavian-Trajanic (754, 758 & 828) and Trajanic or Hadrianic date (758).

Metalled surfaces

38. MG2 beaker with triple grooves on shoulder. Cf. Marsh 1978, type 21 late first-early second century. Probably folded or with bosses. Beakers with multiple bosses in MG2 were recovered from the ploughsoil 54. Cf. Grimes 1930, no. 201. 151

Horizon 763

39. MG2 cup copying Dr27. 763
40. FLB1 ring necked flagon with fairly upright rim. 763
41. GRB1 grooved-rim jar. 763

The jar is not readily paralleled but the flagon and cup compare well with late first to early second century types (Grimes 1930, no. 104 & no.166; Marsh 1978, type 12). Flavian-Trajanic samian ware was present

Pit 124/878

Fill 246 contained two sherds of BB1 from a bowl or dish and from a jar. These give a date after *c.* AD120 but were not more closely datable.

42. CC1 everted rim roughcast beaker. 775
43. CC1 cornice-rim roughcast beaker with rather clumsily made grooved rim. 775

Forty seven sherds were recovered from this pit and most of these came from two roughcast ware beakers, one with simple everted rim the other with a rather clumsily made grooved rim. Both of these were in fabrics which contrasted with imported beakers and resembled locally made vessels, in form and fabric, such as those from Wilderspool (Hartley & Webster 1973, nos. 23-34). These were of Hadrianic or Antonine type

Pit 917

44. GRB1 fairly narrow-mouthed vessel with bead rim. Similar to the oxidised 'honey pot' form in general appearance (Grimes 1930, nos 70-72). Late first-early second century. 922
45. OAA1 or FLB1 abraded rim of narrow necked vessel. Faint traces of possible white slip. 922
46. BB1 flat-rim bowl or dish with acute lattice burnish outside body. The angle of the body suggests an Antonine date.

This pit also contained one sherd of mortarium (mortarium no.4), from a stamped vessel dating between AD110-150, with other sherds of this vessel found in pit 704 (fill 554). Two joining sherds (mortarium no. 2) from a mortarium dating to AD100-150 were also present, with further joining sherds found in pit 864 (fill 862) and the construction trench 183 (fill 242) of Building G (Period 3 phase 2). Other abraded GRB and BB1 sherds were present,

some of which were burnt. The coarse ware and samian from this pit indicates that a terminal date in the early Antonine period is likely. The samian ware was dated to the Flavian-Trajanic and Hadrianic-Antonine eras.

Pit 529

47. OAA1 cornice rim roughcast beaker. The rim is distorted suggesting this is a waster. 778.
48. BB1 profile of flat-rim dish. Burnished all over with traces of acute lattice burnish. *Cf.* Gillam 1976 nos 57-9 dated early-mid Antonine. 529
49. GRB1 everted-rim bowl or wide-mouthed jar. *Cf.* Hartley & Webster 1973 nos 53-4. Rim is slightly distorted. 529
50. GRA1 fairly narrow-mouthed, globular jar with rather rebated neck and blunt ended everted rim. Double shoulder groove. 529
51. GRB1 reeded-rim bowl. 529
52. GRB1 reeded-rim bowl. 529
53. GRB1 small beaker/jar with stubby everted/bead rim. The shoulder is burnished above a double groove which separates it from a zone of wavy line combing. This compares with other similar unpublished jars from Manchester (unpublished illustrations of jars from the Deansgate excavations, Jones & Reynolds 1978 from a phase 2 pit 57, a pit which has pottery dating from the Flavian/Trajanic to the Hadrianic periods). Jars with this distinctive combed decoration can be readily paralleled in South Wales in the first and early second century at Usk, (Webster 1993 type 13.2) and Flavian at Caerleon (Greep 1986, 52 fig. 15). Abraded. 529

The neck of a fairly wide-necked FLA2 flagon was identified. A GRA1B lid, an OBA2 plain lid and mortaria from the Verulamium region (fabric 3) dating to AD60-90 and Wroxeter dated AD110-150/60 were present along with small numbers of bodysherds of MG2, RSA1, FLB1, GRA2, GRC2 and OAB1. Most of the sherds were abraded and some were very abraded. This pit contained a fairly large and diverse group of pottery which indicated a terminal date in the early Antonine period, with some late first-early second century material present.

Pit 774

54. MG2 small flanged bowl. 787
55. GRB1 necked jar with triangular rim. 269
56. GRA1B black thin ware rim of beaker 269
57. MG2 tapering rounded rim of platter or dish. 269
58. CC1 everted rim roughcast beaker. 143
59. BB1 flat-rim bowl with acute lattice burnish. 143
60. BB1 plain-rim dish apparently burnished all over. 143
61. BB1 everted rim jar 143
62. GLZ1 fairly upright rim perhaps of a conical beaker *cf.* Grimes 1930 no. 9 and Arthur 1978 fig.8.12 type 5.1, Greene 1977 fig. 8.1. 143

The lower fills of this pit contained pottery principally of the late first-early second century, but with a burnt BB1 sherd from fill 269. The MG2 and fine black wares and the jar would all fit the earlier date range as does the Little Chester mortarium (mortarium no. 3, probably early second century from fill 143). Fill 143 contained large sherds of a BB1 bowl of Hadrianic or early Antonine date (Gillam 1976, no. 35 dated mid-second century) and this plain-rim dish is likely to belong to the second half of the second century at the earliest (*cf.* Gillam 1976, no. 77 dated late second-early third century). The roughcast ware is consistent with this date and the glazed sherd probably belongs with the earlier fills. The glazing episode at Holt is likely to be restricted to the early second century (Arthur 1978, 334).

Pit 864

63. FLB1 flange-necked flagon with squared rim. *Cf.* Evans 2000, type F5 .61 from the military phase at Wroxeter, Evans 2002, F2 dated mid-second century, Martin 2000, 192-3 no. 47 from mid-second century context and Severn Valley ware type, Evans *et al* 2000, type 1 derived from collared flagons of the first century, Marsh & Tyers 1978, fig. 233 1.J.2 Flavian-second century. 862

A bodysherds from a BB1 bowl was identified from this pit along with a sherd of mortarium (mortarium no. 4) dating between AD110-150, which is from the same vessel as sherds from pit 704 (fill 554). These mortarium sherds joined, in turn, with a sherd from pit 917 (fill 922). Samian ware was also recovered from this pit which dated to AD120-145. A Hadrianic or early Antonine date is indicated.

Pit 704

64. BB1 everted-rim jar. 554
 65. BB1 neckless jar with bead rim. 554
 66. BB1 widely everted jar. 554
 67. GRA1B black thin ware type beaker base and body. 554
 68. GRA1 short, nearly upright beaker rim. Black thin ware like no. 67. 554
 69. GRB1 grooved-rim bowl with zone of rouletting defined by cordon around upper body. Similar bowls are published from Wilderspool and were thought to be Dr 37 copies (Hartley and Webster 1973 nos 56-8). 554
 70. GRB1 everted-rim jar. 554
 71. OAB1/MG2? plain-rim platter or dish. Traces of possible mica dusting. 554
 72. OAB1 everted-rim jar. The fabric and form of this vessel compares with the Wilderspool products (Hartley and Webster 1973 no. 10) but Holt or a local product is also possible (Grimes 1930 no. 63). 554
 73. OAB1 bifid-rim flagon with rebated rim. Traces of mica suggest this may have been mica-dusted. This form can be found at Holt (Grimes 1930 no. 111 and also Wilderspool (Hartley and Webster 1973 no. 1). 554

A fragment of the same GRB1 reeded-rim bowl as that from pit 529 was found in fill 554. The samian ware gave a date range from late first century to the Antonine period and the coarse ware types were consistent with this. The group was comprised of a fairly large number of quite small abraded sherds dating from the early second to the mid-third century, although these later sherds are certainly intrusive. The mortaria included a Verulamium mortarium of Doinus, dating between AD70-110 (mortarium no. 5), sherds from Wroxeter white mortaria of AD110-150, sherds from the Wroxeter mortarium of Decanius (mortarium no. 4), an Oxford mortarium dated AD180-240 and a Wroxeter type spout dated to the Hadrianic-Antonine period. This last is in a fabric which may be Wroxeter or Wilderspool but is more like Wilderspool suggesting a Wroxeter potter may have moved to Wilderspool. Other unillustrated sherds include bodysherds from an MG2 folded beaker (Marsh 1978, type 21), BB1 bowl fragments, CC1 roughcast beaker sherds, FLA4 sherds, an FLB1 everted-rim beaker and a sherd of RSA1 ware. The late BB1 jar rim is of mid-third century date, or later, and is intrusive. The rest of the pottery belonged to the early-mid-second century with a relatively large group of Hadrianic and early Antonine BB1 pottery.

Pit 562

This pit contained a large OAB1 bodysherd from a closed vessel. The fairly coarse fabric type is particularly common in the second century.

Pit 458

Only seven sherds were found in this pit and these comprised a RSB1 sherds, five OAB1 sherds which may have originally been red slipped and a Verulamium mortarium rim and spout fragment dating between AD70-110.

Pit 17

74. OAB1 flagon with outcurving rim, slightly bifid. *Cf.* similar flagons at Holt and Wilderspool (Grimes 1930, nos. 111-3; Hartley & Webster 1973, no.1). 17
75. BB1 flat-rim bowl or dish. 398

Bodysherds of FLA4, FLB1, FLB2, OAA1, OAA2, OAB1 and GRB1 were also present. The samian ware included Flavian to early Antonine and late first century sherds, dated AD75-90. Fill 400 contained a samian sherd dated to *c.* AD125-140. The BB1 vessel gives a date in the Hadrianic or early Antonine period.

Pit 394

This group was small and abraded with very little diagnostic material. Bodysherds of fabrics FLA1C, FLA5, OAA1, OAB1, OAC1 and GRB1 were present and included an OAAB1 everted rim from a medium-necked jar and an OAA1 bodysherd from a rouletted beaker (*cf.* Hartley & Webster 1973, nos 35-37). The globular rouletted beakers are common from the late first century (Evans 2000, type BK7.16) and become more bag-shaped in the Antonine period when they were very common on some sites (Dool *et al* 1985, fig. 77 no. 38; Leary in prep. on assemblage from Rocester Northfields; Symonds & Wade 1999, 472 Cam 108 dated first century to *c.* AD 130/140). The absence of BB1 may indicate a pre-Hadrianic date but the small numbers of sherds preclude certainty.

Pit 336

76. GRA2 bowl with thickened, rounded rim with the beginnings of a cordon around the upper body. This may be the rim of a carinated and cordoned bowl of late 1st –mid 2nd century date or a Dr37 copy bowl. 334
77. OAB1 round bodied bowl with flat rim, grooved near tip. This vessel is in a drab brown fabric with traces of a black deposit or slip. It resembles the reeded-rim bowl series. 334
78. FLB2 rather globular jar with everted rim. There are traces of a shiny surface around the neck suggesting this may have been mica-dusted. The girth shows signs of burning. 334.

This pit also lacked any BB1 sherds and several of the diagnostic sherd suggested a late first-early second century date range. A GRA1 rim sherd from an everted rim beaker was present. Undiagnostic sherds comprised fabrics FLA5, GRB1, OAA1, OAA2 and OAB1.

Pit 483

79. GRA1B everted rim jar with sloping neck. *Cf.* Grimes 1930, nos. 47-8. 488
80. GMG1 plain rim lid. 488
81. MG2 plain-rim open vessel, probably a Dr27 cup. 497

The jar form seems to be an early type being replaced by BB1 in the Hadrianic-early Antonine period. The GMG1 lid is very unusual and seems to be an attempt to put a mica slip on the normal grey ware, characterised by a lighter grey core. The MG2 Dr 27 cup is paralleled at Holt (Grimes 1930, no. 166). The samian proto-type predates the mid-second

century and is given a Flavian date at Wroxeter (Evans 2000, type C1). A similar form does occur at Wilderspool (Hartley & Webster 1973, no. 64) where it is dated to the late first-early second century. Other vessels included sherds of a FLB1 flagon, an amphora lid and an OAA1 folded beaker sherd, probably mica dusted. Undiagnostic sherds comprised fabrics FLA1, FLB2, OAA1, OAB1, GRB1 and RSA1. A Flavian-Trajanic date is possible for the coarse wares and the samian included several Flavian and Trajanic vessels.

Pit 289

82. OAB1 base of miniature beaker or jar. 290.

This vessel cannot be dated precisely with confidence.

Pit 344

This pot yielded bodysherds of FLA5, OAA1, OAB1, GRA1 and perhaps MG2 (traces of mica dusting only) and nothing need date later than the late first to early-second century.

Pit 438

83. FLB1 flagon with long narrow neck as Grimes 1930, no. 113. Bodysherds in the same fabric were burnt or overfired with surface cracking suggesting on site manufacture. 452

This pit had many sherds from an FLB1 flagon and bodysherds of OAA1, OAB1, FLA1C, FLB2, and GRB1. Ten scraps of Lyons ware was also identified and dated to the pre-Flavian and early Flavian period (Willis 2003). These sherds may all be Flavian.

Pit 539

Only four sherds were present in this pit, an OBA2 plain-rim lid and bodysherds of FLB1 and GRB1. These may be pre-Hadrianic.

Pit 976

Only three bodysherds of FLA1 and OAB1 came from this pit. The OAB1 sherds were probably from a flagon and may have been white slipped.

Pit 298

This pit contained three small bodysherds only. These were undiagnostic sherds of fabrics GRB1, OAA2 and SV3. A date in the mid-second century or later has been suggested for Severn Valley ware at Manchester, though this ware does appear at Chester at an earlier date so this dating may need to be reconsidered.

Period 3 phase 1

Pit 500

84. BB1 necked jar. 492

The BB1 jar compares with types dated to the Hadrianic period by Gillam (1976 no. 2). A plain rim sherd in FLB2/MG2 may be from a platter. Traces of white and mica dusting suggest a mica-rich slip. There were two bodysherds of fabrics GRB1 and OAB1.

Dump 42

- 85. BB1 profile of flat-rim dish with acute lattice burnish. 118
- 86. BB1 rim of flat-rim dish with burnished oblique lines in groups and a post firing score on the rim parallel with the circumference. 118
- 87. BB1 necked jar with beaded rim tip and wavy line neck burnish. 118
- 88. BB1 necked jar with beaded rim tip and wavy line neck burnish, rather more everted than above. 118
- 89. GRB1 everted rim vessel with thickened rim and shoulder undulation. Possibly a carinated bowl as no. 27. 118
- 90. GRB1 everted-rim jar. 118
- 91. short everted-rim jar. 118

The BB1 vessels in this group indicate a date in the mid-second century. The jar necks are quite upright and have wavy line burnishing, a feature going out of use in the mid-second century. The bowls/dishes are slightly splayed indicating that an early Antonine date is likely (Gillam 1976, no. 57 & 59 dated early and mid-second century). The possibly cordoned bowl sherd was abraded and is probably residual. The samian ware associated with this deposit was of early Flavian type.

Post-pit 390

- 92. OAAB1 everted rim beaker or small jar with double groove round the shoulder. A bodysherd in a very similar fabric, almost certainly from the same vessel has white barbotine dots. 299

This pit had another vessel, represented by OAA2 base and bodysherds, which had self coloured barbotine dots, an OAB1 sherd with curved white painted lines, probably part of two circles, and sherds of FLA1, FLB1 and OBA1. These sherds may be pre-Hadrianic in date. A sherd of Flavian-Trajanic samian was identified from fill 299

Pit 568

- 93. CC3 everted-rim beaker, probably burnt. 655
- 94. FLB2 unusual sherd with two applied strips and possibly a third. It is not clear what this is, perhaps some kind of face pot. 656

Although this group was larger and quite diverse, the sherds were abraded and relatively small, and there were few diagnostic pieces. A rim sherd from a BB1 jar with a rather splayed rim compared with Antonine types (Gillam 1976, no. 4). Fragments from a BB1 dish, or bowl, with burnished intersecting loops were identified. Two sherds from rough cast beakers were identified. One was of Continental type (CC2) and the other resembles locally made beakers (CC1). The CC3 beaker was of uncertain origin. OAA1 bodysherds from a rouletted beaker, or jar, were present as was the neck and handle of a FLB1 flagon with a rebated rim (*cf.* Grimes 1930, no. 111; Greene 1993, Usk type 2 dated second half of first century). About half of the lower part of a BB1 beaker/small jar was also present in fill 678. Bodysherds of fabrics FLB1, OAA1, OAB1 and OBC were also identified. The BB1 and roughcast ware point to a date in the second century. The BB1 jar is common in contexts of mid- to late second century date while the roughcast ware is particularly common on military sites from the late first to mid-second century with beakers being made locally at Wilderspool in the first half of the second century. Samian ware from the pit included sherds dated to AD140-170, AD125-150, AD160-190 and to the second half of the second century. A little-worn *As*, minted between AD154-155, was also contained within this pit.

Period 3 phase 2

Post-hole 268

95. OAB1 fragments of a small jar or beaker with a slightly moulded everted rim and traces of rouletting outside the body. At least 16 sherds were found from this vessel. They appeared to have been burnt or overfired and were grey outside. 106

This fill also contained BB1 sherds of a jar with acute lattice burnish, a very abraded OAB1 flagon handle, a fairly globular shaped body of a CC3 beaker and bodysherds of FLA1, OAA2, GRB1 and OAB. The sherds may be of Hadrianic-Antonine date but an Antonine date is more likely.

Building G construction trench 183/264/586/692

Fill 236

96. BB1 grooved-rim bowl with burnished acute lattice. *Cf.* Gillam 1976, no. 52 mid-late second century. 236
97. BB1 flat-rim bowl with acute burnished lattice. *Cf.* Gillam 1976, no. 35 mid-second century. 236
98. BB1 jar with everted rim. *Cf.* Gillam 1976, no3 or 4, mid- to late second century. 236
99. FLB1 unusual sherd in fabric OAB1 with what appears to be at least two internal surfaces back to back. Possibly part of a triple vase. 236
100. CC1 rim and bodysherds of roughcast beaker with grooved rim. 236
101. CC1 large rim and bodysherds of cornice rim roughcast beaker. 236

This fill also contained sherds of FLA2, FLB1, FLB2, OAA2, OAB1 and GRB1. The FLB2 and OAA2 sherds included the body and handle, and the neck of flagons respectively. A BB1 bead-rim neckless jar was also present and the rim of a second jar, similar to no. 98. An OAB1 roughcast beaker sherd from 236 was distorted and bubbled and most likely to be a waster.

Fill 242

102. BB1 flat-rim bowl or dish with acute lattice burnish. *Cf.* Gillam 1976, no. 57 early-mid-second century. 242
103. BB1 flat-rim bowl or dish with acute lattice burnish. Burnt. *Cf.* Gillam 1976, no. 35 or 60 mid-second century. 242
104. BB1 large sherd of abraded jar with rather upright neck. *Cf.* Gillam 1976, no. 2 mid-second century. 242
105. BB1 jar with curving everted rim. *Cf.* Gillam 1976, no 1-2 early to mid-second century 242
106. BB1 necked jar with beaded rim tip. Traces of wavy line burnish are visible on the neck and acute lattice burnish on the body of the jar. About 13 sherds belonged to this jar and some 75% of the rim. *Cf.* Gillam 1976, no 3 mid- to late second century. 242
107. BB1 necked jar with rather tall rim. Burnt. Wavy line burnish on neck. *Cf.* Gillam 1976, no. 3 mid- to late second century. 242
108. BB1? Necked jar with slightly beaded rim with acute lattice burnish around body. *Cf.* Gillam 1976, no. 2 early to mid-second century. Unusual fabric, rather grey with brown margins.
109. OAB1 cornice rim roughcast beaker. Fairly large sherd of around 16% of rim, with traces of darker slip. 242

110. RSA1 bowl with everted rim. Trace of red slip at neck. *Cf.* copies of Antonine samian form Dr 44/81 made at Wilderspool, Hartley & Webster 1973, nos. 53-5. 242
111. OAB1 much of large wide-mouthed bowl with everted rim thickened and with fairly blunt tip. This vessel is also present in Building H fill 683, 689 and 693.
112. OAA2 large sherds and several smaller sherds from a wide-mouthed jar with outcurving rim and shoulder groove. 242

Nos. 111 and 112 are likely to follow the dating of the closely related Severn Valley ware wide-mouthed jars. The rim of no. 112 curves strongly outwards suggesting a second century date (Webster 1993, 289 no. 11.2) while the chunky everted rim of no. 111 resembles the earlier forms (Webster 1993, 289, similar but not identical to no. 10.2). Neither are identical to the example illustrated from Wilderspool (Hartley & Webster 1973, no. 46), but they are similar in profile to vessels from Warrington (no. 111 compares with Webster 1992, fig. 73 no.464, with a Wilderspool type beaker and no. 417 which was found with Hadrianic-mid-Antonine material; no. 112 compares with fig. 77 no. 570 from a second century group and with a Severn Valley ware jar dated to the mid-second to late-third century, fig. 78 no. 606).

113. OAB1 dish with bead rim and short flange. The complete profile was recovered and much of this dish was present. 242. Also present in 683 building H.
114. OAB1 narrow-necked jar with curving neck, expanded rim and shoulder cordon formed by double grooves. This vessel is reduced inside and oxidised outside. The form compares with Severn Valley ware types of the first-fourth centuries (Webster 1977, type 1; 1993, type 2). A similar form group is present at Wilderspool (Hartley & Webster, 1973 nos. 9 & 10), but a wide date range must be accepted. 242
115. FLB1 honey pot with double handle and rather squared rim. There are double grooves outside the neck and at least one groove outside the upper body. The vessel is very like one from Wilderspool (Hartley & Webster 1973, no. 39). *Cf.* at Usk Greene 1993, fig. 18 in phase 1 contexts and Wroxeter in first century contexts (Evans 2000). A late first-early second century date is common, but Webster suggests a date in the late second to early third century for a honey pot at Whitchurch (Webster 1969, no. 179). 242
116. FLB1 narrow-necked flagon with single handle and plain flaring rim. The upper neck is not circular but the deformation has resulted in an oval running at right angles to the handle, so it is less likely to be caused by a trefoil mouth formation. This may be a waster. The simple form is similar to one at Holt (Grimes 1930, no. 115 which also had a white slip). *Cf.* Hartley & Webster 1973, no. 5 and Webster 1992, fig. 80 no. 675 at Warrington, where this type is compared to Gillam 1970 no. 11, dated AD80-100. This dating is now considered too narrow. A similar form at Soutwark is dated AD120-160 (Marsh & Tyers 1978, type H). A white-slipped plain rim flagon was found in a deposit previously excavated at Manchester and dated to the mid-second century (Webster 1974, no. 31). 242
117. FLB2 flagon with expanded slightly everting rim. This sherd is very abraded but a handle scar can be seen on the neck. The form is similar to the above but the diameter is larger. 242
118. FLB2 spayed ring necked flagon with larger top ring. *Cf.* Wilderspool, Hartley and Webster 1973, no. 3. This form is likely to be of Hadrianic to early Antonine date (*cf.* Evans *et al* 2000, type 4.41; Marsh & Tyers, 1978 type 1B5 dated Hadrianic; Webster 1974, no. 33 dated AD 110-150 by reference to Gillam 1970 no. 5, but in deposits dated to the mid-second century). 242
119. FLB2 wide-mouthed flagon rim with squared projecting rim and flanged neck. 242
120. OBA1 body of flagon or jug with handle smoothed onto body. The precise form of this vessel is uncertain but the sherd curvature would fit a very globular vessel form like some of the early flagon forms as at Holt (Grimes 1931, no 126), Wroxeter, (Evans 2000, type F1) and Usk (Greene 1993, types 2 and 8). 242
121. CC3 very fine and sharply everted rim of beaker. 242

122. GRA1B hemi-spherical bowl with bead rim and very large curving flange with beaded tip. The surface is somewhat flaked but the remaining surface is very burnished and glossy. *Cf.* at Holt types 157-8 (Grimes 1931) where it is given an Antonine date. 242

This fill also contained other bodysherds of BB1, CC1, CC2, FLA2, FLA4, FLB1, FLB2, GRB1 (roughcast ware), OAA1, OAA2, OAB1 and OBA1, mortaria sherds which included sherds from a Rhaetian C mortarium, two Mancetter-Hartshill mortaria dated AD100-130 and AD180-230 and sherds from two Cheshire Plains mortaria dated 100-150 and Hadrianic-Antonine (mortaria nos 6, 7, 8 and 2).

Fill 245/247

123. BB1 profile of flat-rim dish with acute lattice. *Cf.* Gillam 1976 no. 59 mid-second century. 245
124. BB1 necked jar with wavy line neck burnish and acute lattice burnish. A badly executed cleat or rivet perforation has been made through the upper body. *Cf.* Gillam 1976, no. 2 mid-second century. 245
125. OAB1 bowl with bead and flange rim and curving body. *Cf.* Hartley & Webster 1973, no. 67. 245

A fragment from the neck of an FLA1 ring-necked flagon, the base of a miniature jar in OAA1 or possibly FLB1, the rim of a GRB1 everted-rim jar and bodysherds of OAB1, OBA1 and GRB1 were also identified. Sherds from a Wroxeter white mortarium were also retrieved (mortaria nos. 3), dating to AD100-150 and these joined with a sherd from pit 774 (fill 143). A further mortarium basal sherd probably came from the Wilderspool kilns (fabric 17) and dated to the second century. This sherd was both worn and burnt.

Fill 649

126. BB1 neckless jar with bead rim. *Cf.* Gillam 1976, no. 32, mid- to late second century. Burnt deposits outside and inside upper body. 649
127. GRB1 base of miniature vessel or triple vase. 649

This deposit also contained bodysherds of FLA2 and OAB1.

Fill 651

128. BB1 necked jar with wavy line neck burnish. *Cf.* Gillam 1976, no. 3 mid-second century. 651

Bodysherds of OAA1, an everted rim in fabric OAA1, an FLA2 bodysherd which had fired or been burnt to a purplish/pink colour inside the body, BB1 sherds and a jar base and a highly burnished GRA3 base and bodysherds. The samian was of Antonine and probably Antonine date. A Cheshire plains fabric 14 mortarium base dated to the second century.

Fill 652

A bodysherd of fabric FLA1, samian of Antonine type and a mid-second century mortarium (mortarium no. 9), probably from Castleford, Yorkshire.

Fill 658

129. OAA1 folded beaker sherd, possibly originally mica-dusted. *Cf.* Marsh 1978, type 21 and Grimes 1930, nos 201-3, late first to early second century. 658
130. NV2 beaker base. Bases are not easy to date but NV2 beakers are likely to be of mid- or late second century date. 658

Bodysherds of fabrics BB1, CC1 roughcast beakers, FLA2, FLB1, OAA1, OAB1, and GRB1 were present.

Fill 660

131. GRB round bodied bowl with triangular flanged rim in an unusual grey ware with rather bumpy leathery surface and sparse medium quartz inclusions. 660

GRB1 bodysherd and Hadrianic samian

Fill 720

132. BB1 necked jar, burnt, with wavy line neck burnish. Early to mid-second century. *Cf.* Gillam 1976, no. 2. 720
 133. OAA2 roughcast beaker with grooved rim. 720

Bodysherds of OAA2, OBA1, OBA2, GRB1, an OAA2 sherd with white painted barbotine dots and FLA turned base and flagon handle. The samian dated to the Hadrianic-Antoine period.

Fill 865

134. BB1 neckless bead rim jar with acute lattice burnish. *Cf.* Gillam 1976, no. 32 mid- to late second century. 865
 135. FLB2 carinated body with double groove on carination. Very large sherd of this vessel also present in post hole 129 (fill 130). 865
 136. OBB1 body of very round bodied vessel such as a flagon or jug. The curvature indicates a late 1st-early 2nd century date is likely. *Cf.* Grimes 1930 no. 126. 865

A body sherd of fabric OAA2 was also present.

Hearth 705

One undiagnostic bodysherd of GRB1.

A large group of pottery was recovered from the construction trench of this building and, although much of the material comprised small, abraded sherds, large sherds of pottery were also present. The date of the group is secured by the presence of several samian vessels of Antonine date including a vessel dated AD150-180, a mortarium sherd dating between AD180-230 (mortarium no. 8), several Antonine coarse ware vessels, such as large sherds from two OAB1 wide-mouthed jars in a fabric similar to that produced at Wilderspool, and a red-slipped copy of a Dr 44. A large number of roughcast ware beakers were identified and these also compared well with types made at Wilderspool. Reduced sherds and one example with a pronounced bubble suggest local manufacture of these vessels. The range of BB1 jars and bowls confirm the mid-second century date suggested for this assemblage. For instance, wavy line burnish is common on the jar necks and the rim eversion on some jars, together with the types of flat rim bowls and dishes represented, indicate a date in the mid-second century. Although a date in the second half of the second century is implied by the later types and by the samian sherd dated to AD160-190 from the earlier pit 568, the number of mid-second century forms indicate a date not long after the middle decades of the second century.

There was some evidence for adjoining sherds from different fills. For example, a large sherd of RHC GRB1 beaker from 242 joined with the same vessel in 658. There were also sherds from an OAA2 wide-mouthed jar (no. 111) which were present in fill 242 and in Building H fill 689 and 683.

Period 3 phase 3

Pit 790

Fill 694

137. BB1 flat-rim dish with acute lattice burnish. *Cf.* Gillam 1976, no. 57-8 early-mid-second century. 694
138. BB1 jar with splayed rim with obtuse lattice burnish. *Cf.* Gillam 1976, no. 8 mid-third century. Similar jars at Usk are dated late third (Webster 1993, figs 124-5 types 15.5, 128.3 & 19.1). 694
139. GRA1 rim and bodysherds of narrow-necked jar with outcurving blunt-ended rim. Post-firing graffiti inside the rim reading IXIII or V (broken across last number). The neck has a cordon at the base and the body of this jar has other grooves. 790, 694, 695 and 890
140. OAA1 rim and neck of narrow-necked jar with outcurving rim and double groove at base of neck. 694

Other sherds of BB1 bowls and jars, rim sherds from two CC1 roughcast beakers with everted rims, sherds of FLB2, OAB1, OBB1, GRA1, OBC and a GRB1 base were present. An abraded sherd of a BB1 neckless jar similar to no. 126 was also identified and the samian types dated to *c.* AD140-160, AD120-145, and the Hadrianic and Hadrianic or Antonine periods, whilst a sherd of a mortarium in fabric 15 dated to Hadrianic-Antonine period.

Fill 695

141. BB1 flat-rim dish or bowl. Possibly mid- or late second century. *Cf.* Gillam 1976, nos. 40 & 60. 695
142. GRB1 narrow necked vessel or flask with cordoned neck. This vessel is similar to no. 139 but has a narrower neck. There are worn, or abraded, areas on the upper body of both vessels in the same places. 695
143. BB1 necked jar with everted rim and wavy line neck burnish. 695 & 747

Another BB1 rim sherd from this deposit came from a jar, possibly the same as no. 134. Other sherds of BB1, GRA1, GRB1, CC1 roughcast beaker, FLA2, and a GRA1 turned base were recovered. The mortaria comprised a fabric 12 flange of second century type, a Mancetter-Hartshill mortarium dated AD 130-70 and a Colchester mortarium of early second century date, whilst the samian included Trajanic-Hadrianic, Flavian-Trajanic, Hadrianic-early Antonine and Antonine sherds.

Fill 743

Four coarse ware sherds only, of GRB1 FLA2 and OAB1, and an abraded scrap from a grooved-rim BB1 bowl or dish. The samian was dated Hadrianic-early Antonine.

Fill 746

A Wroxeter white mortarium dated AD 110-150/60 and samian of Flavian/Trajanic or early Antonine date

Fill 747

144. FLB2 ring-necked flagon, splayed with larger top ring. Marsh & Tyers 1978, type 1B5, Hadrianic; Webster 1974, no. 33 dated AD110-150 by reference to Gillam 1970 no. 5, but in layers dated to the mid-second century; and Evans 2002, type F1.3 dated early to mid-second century. 747
145. GRB1 roughcast sherd with vertical scratches. *Cf.* Grimes 1930, no. 203. 747
146. OAB1 necked jar with everted rim, possibly traces of white slip. 747.

An OAB1 flat rim from a bowl may be of the type of Grimes 1930, nos. 169-70, and a neck from a second FLB1 ring necked flagon was present. Bodysherds of fabrics BB1, GRA2, OBA2, FLA1, CC1 roughcast beaker, OAA1 and OAB1 were also identified and these included a GRB1 cordoned bodysherd from a bowl copying a Dr44 or 81, an OBA2 everted rim sherd and a GRA2 sherd from a flask found in Building H [155]. This fill also included samian ware dated to *c.* AD140-160, AD140-160 and probably the Hadrianic, Hadrianic-early Antonine, and Hadrianic or Antonine periods.

Retrieved from pit 790

147. GRB1 everted rim jar copying BB1 types. The rather cavetto rim curve suggests a date in the late second century. 790
148. BB1 flat-rim dish or bowl with VIV graffiti on rim. *Cf.* Gillam 1976, nos 39 and 64 mid- to late second century. 790
149. BB1 necked jar. *Cf.* Gillam 1976, no. 2 dated early to mid-second century, with two small vertical incisions on the rim tip. Only some 7% of the rim survives so there have been more incisions. 794
150. BB1 flat-rim bowl. *Cf.* Gillam 1976, nos 35-38 mid- to late second century. 790
151. BB1 necked jar with everted rim. *Cf.* Gillam 1976, no 2 mid-second century. Burnt790

At least five other necked BB1 jars and one neckless BB1 jar of similar date were present, along with three flat rim bowls or dishes of mid- to late second century type. Several were burnt and most had burnt deposits. Roughcast sherds in a fine partially reduced and partially oxidised ware were present as were sherds from an FLA2 wide-necked double handled flagon, a narrow-necked OAA2 flagon, sherds from a very fine OAA1 vessel with part of a handle, several OAB1 sherds from a jar of uncertain form and a rim sherd from a narrow-necked jar with outcurving rim, similar to no.140. Mortaria included a Mancetter-Hartshill example of G. Attius Marinus (mortarium no. 16, dated AD100-150), a Wilderspool mortarium sherd of Hadrianic-early Antonine date and a Wilderspool sub-Rhaetian mortarium of AD100-165. The samian dated to the Flavian-Trajanic, Trajanic-early Antonine, Hadrianic-early Antonine and probably Antonine periods.

The material from pit 790 includes Flavian-Trajanic types, but is dominated by Hadrianic and Antonine forms. BB1 jars and bowls of both early to mid-second century and mid- to late second century are present in quantity, and the Cheshire Plains oxidised and reduced range of narrow necked, wide-mouthed jars, are also represented. Ring-necked flagons of early-mid-second century type, roughcast ware beakers and a grey ware copy of samian form Dr 44, a form dating to the second half of the second century and present at Wilderspool confirm the date in the second half of the second century, but centring nearer the middle of the second century rather than the end.

Period 3 phase 4

Cremation 102

152. GRA2 plain base and body of jar. One of the sherds has a cordon and a groove some distance below. Scratches or symbols are visible on the zone between. Vessels with plain or decorated zones defined by cordons and grooves with a wall curvature of this type are likely to be narrow-necked jars. These are difficult types to date as they are simple and long lived. However, the fabric and overall form would suggest that a date in the mid- to late second century is likely. Cremation pot. 102
153. BB1 grooved-rim dish or bowl with burnished intersecting chevrons, a feature dating later in the second century (Gillam 1976, 68 change over from lattice to intersecting chevrons in late second century; Webster 1993, 282 type 31.6; Seager-Smith & Davies 1993, type 20; and Holbrook & Bidwell 1991, 100 common from late second century). Burnt and oxidised all over. 102
154. CC1 roughcast ware beaker with everted rim. Partially reduced and probably burnt 102

Sherd of fabrics OAA1, OAB1, GRB1, FLA5 and FLB1 were also present including an OAA1 sherds with a cordoned neck from a narrow necked jar. The burnt condition of the CC1 beaker and the BB1 dish argues strongly for contemporaneity with the cremation and involvement in the ritual. These sherds date the cremation to the late second century.

Building H

Post-hole 543

155. BB1 profile of flat-rim dish with acute lattice burnish. *Cf.* Gillam 1976, no. 63 dated mid- to late second century (but different decoration). 676.

Post-hole 129

A large sherd from the carinated FLB1 vessel from building G fill 865 (no.135) was found in this feature along with one sherd of fabric FLA2 and one of GTA. These sherds may be of Flavian-Trajanic date.

Post-hole 540

A single sherd of fabric FLA5 came from this post-hole.

Post-hole 731

Two very abraded scraps of GRB1 and OAA1 came from this feature.

Two undiagnostic scraps of FLA2 and OAA1.

Fill 113

156. OAA1 very abraded neck of pinch-necked flagon. Very fugitive traces of white may be white slip. *Cf.* Grimes 1930, no. 117. 113

Sherds from a burnt BB1 flat-rim dish, or bowl, of mid- to late Antonine type also present, with bodysherds of FLA3, FLA2 and OAB1.

Fill 156

157. BB1 profile of flat rim bowl. *Cf.* Gillam 1976, no. 40 dated mid- to late second century. There is a small perforation just beside the break between the two sherds, and partly broken by the break 156
158. GRB1 flat rim dish with burnished acute lattice and no basal chamfer. Around a third of the vessel is present. 156

Small abraded sherds of OAB1 and FLB1 were also present. The samian was probably Trajanic or Hadrianic in date.

Fill 173

159. BB1 necked jar with wavy line burnish, similar to Gillam 1976 no. 3. Wavy line neck burnish declines in the mid-second century. 172

Pottery from this fill included a rim of BB1, similar to no. 143. Both jars had burnt deposits on them. A CC1 roughcast beaker with cornice rim was present as was a roughcast sherd in what seemed to be fabric FLB1. The fabric was oxidised with a white slip covering most of the internal surface. A burnt BB1 rim sherd of a flat-rim bowl or dish was also present and came from the same vessel as those from fill 113. Bodysherds of FLA1, FLA2, FLB1 and OAB1 were identified. The samian was of Hadrianic-Antonine type.

Fill 201

GRB sherd from jar copying BB1 jars with acute burnish lattice and a samian sherd dated c. AD115-140.

Fill 204

BB1 jar in same form as no. 143 and a GRB1 bead-rim neckless jar probably copying BB1 neckless jars, as nos. 65, 126 and 134.

Fill 254

160. BB1 plain rim dish. This sherd is small and very abraded and the decoration, if any existed, was worn away. *Cf.* Gillam 1976, no. 75-77, dated second-early third centuries and Webster 1993, types 32 and 33, dated second and mid-late second century for profile, but these are difficult to date. 254

161. MG2 plain-rim. See nos. 57 and 71. Very faint traces of mica-dusting. 254

The rim sherd of a BB1 jar similar to no. 143 was identified with a GRB1 everted rim and bodysherds of BB1 and GRB1. Hadrianic-Antonine samian ware was present and a Wilderspool oxidised mortarium dating between AD110-150.

Fill 624

162. FLA5 body of unguent pot. 624

This context also contained a small FLA 1 sherd and a BB1 jar bodysherd.

Fill 682

Bodysherds of GRA4 jar and GRB1 base.

Fill 683

163. FLB2 narrow-necked jar with cordon around the base of the neck and upper body groove. The rim has broken off at the neck and is abraded along its lower edge precluding a certain join with the bodysherds. Nonetheless the curvature and abraded edges suggest these sherds did join. Traces of a white deposit could be seen and this appears to be white slip. *Cf.* Hartley & Webster 1973, no. 9. 683.
164. OAB1 narrow-necked jar with cordoned, rather upright neck. Complete rim present. *Cf.* Hartley & Webster 1973 no. 9. 683
165. OAA1 narrow-necked jar with sloping necked and everted rim. Double groove forming neck cordon and grooves outside upper body. The body is flaked widely and large cracks are evident. This looks like a waster as there are no signs of reddening and burning. *Cf.* Grimes 1930, no. 46 and unlike Hartley & Webster 1973 no. 9. 683
166. OAA1/SV1 large sherds from wide mouthed jar with bent out rim. Possibly Severn Valley ware. 683
167. FLA2 large complete rim of double handled flagon/jug with rebated rim. *cf.* Evans 2002, type F3 dating from mid-second to early third century and at Derby dated to Hadrianic to Antonine phases (Birss 1985, fig. 40 no. 41). Similar in form to Gauloise 4 amphorae and its British copies. 683
168. FLB2 single handled flagon with grooved rim. *Cf.* Holt, Grimes 1930, nos. 111-3 dated late first to mid-second century. This form has presumably developed from the first century type as Evans 2000, type F2, a proto-type in military deposits at Wroxeter and at Usk, Greene 1993, type 2 dated first century into the Flavian period. 683
169. RSA2 Orange fabric with darker reddish slip. Lower body and base of carinated bowl with footring base. Possibly a bowl copying Antonine samian form Dr44 which was made at Wilderspool (Hartley & Webster 1973 no. 54). 863
170. OAA1 reeded-rim colander. The body and a larger sherd of the rim came from fill 727 and while not adjoining are certainly from the same vessel. *Cf.* Hartley & Webster 1973, no. 61. 683
171. OAA2 carinated strainer. *Cf.* Holt, Grimes 1930 no. 216, Marsh 1978 no. 45, Hull 1958 type 387. Faint traces of mica so possibly originally mica-dusted. Eight sherds of this vessel also came from fill 727. 683
172. GRA2 large sherd of vessel with sharply curving, almost carinated wall, highly burnished with footring base. The body might be compared to that of a flagon from Usk in profile (Greene 1993, type 8 who notes it continues into the Flavian period in Britain) but not in fabric. It is recorded in a reduced fabric at Wroxeter (Evans 2000, under type F8). 683
173. BB1 necked jar with fairly upright rim and wavy line neck burnish. Burnt deposits encrusted around neck and body. Early to mid-second century. 683
174. BB1 flat-rim bowl with intersecting chevron lattice. *Cf.* Gillam 1976 nos. 36 & 61, mid-second century. 683
175. GRA3 bowl with burnished intersecting loop lattice decoration outside the middle body and carination or deep chamfer. 683
176. GRB1 bowl with bead rim and zone of rouletting. Possibly a Dr 37 copy. 683
177. GRA1 dish with flat rim and acute lattice burnish. Copying BB1 dishes of second century. 683
178. BB1 many sherds from burnt BB1 jar with acute lattice burnish. *cf.* Gillam 1976 no. 2. Two adjoining sherds appear to have broken across a perforation. 683
179. BB1 small jar or beaker with acute lattice. *Cf.* Gillam 1976, no. 25 mid-second century. 683
180. BB1 profile of flat-rim bowl with acute lattice burnish and burnt deposits outside the body. *cf.* Gillam 1976, no. 40 mid- to late second century. A single vertical scratch inside the body may be accidental. 683

181. BB1 flat rim dish with acute lattice decoration. *Cf.* Gillam 1976, no. 58 mid-second century. Burnt encrustations outside body. This vessel had two short incisions on the inner edge of the rim as no. 149. 683

This fill contained large amounts of pottery and this included large and many sherds from several vessels (nos. 163, 164, 165, 171, 172, 178 & 180 – sherds from a large wide-mouthed jar and a flanged dish also present in context 242 from Building G, nos. 111 & 113). Other sherds included the turned base and a large bodysherds of a fine FLB1 vessel with no diagnostic features, probably a flagon, rim and bodysherds from at least one CC1 cornice rim roughcast beaker, a GRB1 narrow-necked jar similar to no. 164 in form, a plain base in a very fine OAA1 or SV1 fabric, probably Severn Valley ware, at least three other flat rim BB1 dishes or bowls, and two more BB1 jars of similar type to those illustrated. A rim sherd of a GRB1 lid and a GRB1 carinated bowl were also present. Other fabrics represented by bodysherds only comprised FLA1, FLA6, FLB1 and GRB2. The mortaria included a Wroxeter white mortarium of Rhaetian type A (mortarium no. 11) and a Wilderspool fabric 15 mortarium dated AD 110-140. The samian comprised sherds dating to *c.* AD135-160, Flavian, Flavian-Trajanic, Trajanic-Hadrianic, Hadrianic, Hadrianic-early Antonine, Flavian-Trajanic (1), probably Antonine periods.

Fill 684

182. OAA2 flange rim flagon, rim only. 684
 183. GRA2 large sherds from everted-rim jar with burnished lattice decoration copying BB1 jars. 684
 184. Nearly all of a CC1 roughcast beaker with everted rim. 684
 185. CC1 flat-rim bowl with acute lattice burnish in fabric as CC1. Copy of Antonine BB1 bowl. 684
 186. BB1 flat-rim bowl or dish with acute lattice burnish. *Cf.* Gillam 1976, nos. 57 & 40 second century. 684
 187. BB1 everted rim small jar. *Cf.* Gillam 1976, no. 16 early to mid-second century. 684
 188. BB1 profile of plain rim dish with traces of what seems to be widely spaced lattice burnish. *Cf.* Gillam 1976, no. 77 dated late second to early third century. Burnt. 684
 189. OAB1 a narrow-necked vessel with cordoned neck. The sherds appear overfired and burnt. The body is distorted and this is likely to be a waster. 684 and 691

Other sherds from this fill included another flat-rim bowl/dish, many and large bodysherds sherds from BB1 jars, some of which were burnt, the rim of an OAB1 narrow-necked jar similar to no. 164, bodysherds of an FLB2 narrow-necked jar, sherds of a GRA1 lid, an FLA2 sherd partially burnt black, sherds of OAB1, GRB1, FLB1 and FLA1. Samian was dated to *c.* AD120-145, AD125-145, AD125-145, AD140-160, and the Flavian, Flavian-Trajanic, Trajanic-Hadrianic, Hadrianic-early Antonine, Hadrianic-Antonine periods.

Fill 685

Four rim and body sherds from wide-mouthed jar present in fill 683 (no. 166).

Fill 686

190. GRB2 everted rim open vessel. *Cf.* Hartley & Webster 1973, nos. 51. 686

Rather less pottery was in this fill and the sherds were abraded. Vessel types included a small rim sherd of a bead rim rebated neck jar as no.15, a BB1 jar with wavy line neck burnish and an abraded rim of an OAB1 bowl with bead rim and grooved zone, as no. 176,

and other abraded bodysherds of fabrics FLA2, FLA4, FLA5, GRA1, GRB1 and OAB1. The samian probably dated to the Hadrianic and Hadrianic-early Antonine periods.

Fill 689

One sherd of a BB1 jar and four more large sherds of the wide-mouthed jar, no. 111, also present in fills 242 (Building G) and 683 (Building H). Hadrianic-Antonine samian also present.

Fill 690

191. RSB1 large sherd giving profile of bowl with traces of red slip copying samian form Dr 44/81, Antonine. *Cf.* Hartley & Webster 1973, nos. 53-5. 690
192. CC1 roughcast beaker with grooved rim. Much of vessel present. 690
193. GRB1 narrow-necked flask with blunt everted rim and groove outside neck. Large sherd possibly burnt or misfired to whitish grey colour. 890
194. BB1 flat-rim bowl, around a third with burnished intersecting chevrons. *Cf.* Gillam 1976, nos. 38-40, mid- to late second century. 690
195. BB1 flat-rim bowl, around a third with burnished acute lattice and burnt deposits. *cf.* Gillam 1976, no. 35, mid-second century. 690
196. BB1 profile of flat-rim dish with acute lattice outside body and burnished zig-zag outside base. *Cf.* Gillam 1976, no. 61 mid-second century. About 20% of vessel. 690
197. BB1 bead-rim bowl with acute lattice. *Cf.* Gillam 1976, no 52 mid- to late second century. 690
198. BB1 examples of wavy line and intersecting loop decoration on two bases. 690
199. BB1 bead-rim jar heavily encrusted with burnt deposits. Gillam 1976, no. 32, mid- to late second century. 690
200. BB1 necked jar with wavy line burnish on neck and acute lattice burnish with burnt matter encrusted on body. *Cf.* Gillam 1976, no.3 mid- to late second century. 690.

Also from this fill came two sherds from an OAB1 wide-mouthed jar as from Building G fill 242 (no. 111), a rim sherd from jar no.139, a large number of large sherds from various BB1 jars, many of them burnt and encrusted with burnt matter, at least two more necked BB jars and around four more BB1 flat-rim bowls and dishes were represented by rim sherds. A second CC1 cornice rim roughcast beaker was present and bodysherds from a roughcast beaker on fabric OAA2. Bodysherds of FLA2, FLB1, GRB1, GRB3, OAA1, OAB1 and OBB1 were identified and the samian ware dated to *c.* AD 130-150 and the Hadrianic, Hadrianic-Antonine and Antonine periods.

Fill 691

201. Profile of BB1 flat-rim dish with complete base. 690
202. Profile of half of a BB1 plain-rim dish with burnished acute lattice outside body and zig-zag outside base. *Cf.* Gillam 1976, no. 76 late second –early third century. 691
203. FLA1 ring necked flagon rim with splayed neck and rebated rim. *Cf.* Birss 1985, 93 no. 16, Hadrianic to mid-Antonine. 690
204. GRB1 flat-rim dish with acute lattice copying BB1 examples. 690
205. GRA1 narrow necked jar/flask with cordon outside neck. This may be the same vessel as no. 193 but fabric and profile seem slightly different. 691.
206. OAB1 part of a wide-mouthed jar very similar to (no. 166) was identified but in a slightly different fabric (OAB1) and diameter. 691
207. FLB1 miniature jar, ? triple vase. 691

At least two additional necked BB1 jars and one neckless bead-rim jar, two additional flat-rim bowls or dishes, two CC1 roughcast beakers, one with an everted rim and one with a cornice rim, were identified. A rim sherd from vessel no.189 from fill 684 was also found. Some of the BB1 sherds were burnt. Around half of a flanged straight walled dish as no. 113. Bodysherds were present of fabrics FLA1, FLA2, FLA5, FLB1, GRA1, GRB1, GRB2, OAB1, and SV3. An abraded sherd from GRB1 reeded-rim bowl and a plain OAB1 rim, possibly from a cup Dr27 were found. The samian was dated to *c.* AD125-145, AD120-140, AD120-140, AD120-145, and the Trajanic-Hadrianic, Hadrianic-early Antonine and Hadrianic-Antonine periods. One sherd of Wilderspool Rhaetian mortarium type A was also retrieved dating between *c.* AD100-140.

Fill 693

- 208. OAB1 colander with? flat rim. 693
- 209. NV1? Beaker with short everted rim and barbotine dots just below rim. *Cf.* Perrin 1999, 92 Hunt cups mid-/late second to early third century. 693
- 210. BB1 profile of flat rim dish, nearly a quarter present. Acute lattice burnish on body and burnished loops outside base. 693
- 211. MG/RSA lower body of carinated bowl with red slip outside body and mica dusting both all over. David Williams kindly examined this sherd and suggested a Continental origin.
- 212. MG2 flat rim bowl or dish. 693

A sherd from wide-mouthed jar no.111 was identified. Sherds of at least three BB1 jars and at least two more flat-rim bowls/dishes, and a cornice rim CC1 roughcast beaker were present with bodysherds of FLB1, GRA1, GRB1, OAA1, OAB1, OBA1 and samian dating to Hadrianic-early Antonine and Hadrianic-Antonine periods. The mortaria (two Wroxeter white mortaria bases and one sherd of fabric 5), included vessels dating between AD110-150/60.

Fill 698

Two sherds of OAB1 and one of FLB1 only and samian dated *c.* AD 125-40 and the Flavian and Hadrianic-Antonine periods.

Fill 727

- 213. FLA2 heavy rebated rim flagon. *Cf.* Birss 1985, 95 no. 41, 99 no. 98 from Hadrianic to Antonine deposits, at Warrington dated AD130-220; Webster 1992, fig. 30 no. 204; and at Birrens, Robertson 1975, fig. 75 no. 3. 727

Eight sherds from the wine strainer and sherds from a colander (nos 170 and 171) in fill 683 were also found with an abraded rim from a CC1 roughcast beaker and the rim and body of a flat-rim dish. An OAB1 bodysherd from a small or miniature jar was identified and bodysherds of fabrics BB1, FLA2, FLB2, GRB1 and OAB1. The samian dated to the Trajanic-Hadrianic, Hadrianic-early Antonine and Hadrianic or Antonine periods.

Fill 760

Abraded sherds of fabrics BB1, FLA2, GRB1 and OAB1, a Wilderspool Rhaetian mortarium type E (mortarium no. 15) and samian dated to the Flavian-Trajanic and Antonine periods.

Fill 884

214. GRB1 everted rim jar. 884
 215. Abraded GRB1 jar with everted rim and perforation on the shoulder. Soot encrusted. The form is similar to no. 15 rather than the BB1 copies.
 216. GRB1 flat-rim dish with acute lattice burnish copying Hadrianc-Antonine BB1 bowls and dishes. 884

A rim sherd of a GRA1 short everted rim jar and two rim sherds of jars with beaded rim and rebated necks, as no. 15, were present and were rather abraded. These forms are common in the late first and early second century deposits and are probably residual. Bodysherds of BB1, FLA1, FLA2, FLA4, GRB1, OAA1 and OAB1 were present and samian dated to the Flavian-Trajanic and Hadrianic or Antonine periods.

Fill 885

217. OAA1 bead rim cup, ? copy of Dr27. 88
 218. GRB1 everted-rim jar. Copying BB1 type jars. 885
 219. OAB1 narrow-necked jar. 885

Bodysherds of FLA1, GRB1, OAB1 and Hadrianic-Antonine mortaria sherds (fabric 15).

Ditch 918

This contained five FLA2 sherds, an abraded sherd of OAB1

The pottery from the construction and foundation trenches of Building H includes samian sherds of the Hadrianic to early Antonine period with predominantly Hadrianic types. There were several samian sherds with a mid-second century date range and nothing later than AD160. The coarse pottery includes Hadrianic-early Antonine BB1 vessels with coarse ware of types paralleled at the Antonine kilns of Wilderspool. Although the coin and samian from pit 568 gives a *terminus post quem* of AD160 for Period 3 phase 2 to Period 3 phase 4, the pottery indicates that the activity did not extend long after that date and seems to represent a rapid sequence of events dating to the middle decades of the second century.

Period 4

Pit 578

220. NV1 body of Castor Box . The carinated form suggests a third century date (Perrin 1999, 98). Burnt. 627

The rim of an OAB1 everted rim jar, the body of a BB1 jar and undiagnostic sherds of FLA5, GRB1, OAA2, and OAB1 were present. The Nene Valley box gives a date in the third century.

Robber trench 688

221. FLB flagon with single handle and rebated splayed rim. Complete profile and most of vessel present. This form is not readily paralleled in the published groups in the region. A broadly similar rebated flagon from York occurred in first century to early Antonine groups (Monaghan 1997, no. 3748 type FE1). 688
 222. OAB1 everted rim narrow-necked jar complete rim. 688
 223. OAA2 wide-mouthed necked jar with everted rim tip and double grooves on upper body. Similar form to no. 112. 688

224. OAB1 necked medium-mouthed jar with tall almost cavetto rim. The surface has traces of grey so it is possible that this originally had a reduced surface. 688
225. BB1 profile of flat-rim bowl with burnished intersecting arcs. *Cf.* Gillam 1976, nos. 39-40 mid- to late second century
226. BB1 jar with sharply everted rim and obtuse lattice. *Cf.* Gillam 1976, no. 9 mid- to late third century. Large sherd (40% EVES). 688
227. BB1 plain rim dish with acute burnish. *Cf.* Gillam 1976, no. 79, dated early third century. 688
228. GRB1 rim of narrow necked vessel such as a flask with blunt ended, out turned rim forming rather flat area like a rebate. 688

Sherds of another BB1 flat-rim bowl or dish and three necked BB1 jars of Hadrianic-Antonine type, a CC1 roughcast beaker, an FLA1 flagon. A large sherd from a GRB1 jar of uncertain form, the base of an FLB2 flagon, a GRA2 roughcast beaker, a GRB1 roughcast beaker, an OAB1 sherd from a miniature jar or beaker, an everted rim from a GRB1 narrow-necked jar and mortaria ranging in date from AD100-150/60 were also identified (including mortaria nos 12, 13 and 14). The samian ware dates to the Flavian-Trajanic, probably Hadrianic, Hadrianic-early Antonine, Hadrianic-Antonine, Antonine periods and a stamped sherd probably dates to *c.* AD 150-180. The large sherd of a late BB1 jar gives a third century date to this group.

Period 5

Ploughsoil 54

229. GRB3 bowl with upright rim and small flange. The rounded break below the flange looks like a broken perforation. *Cf.* from Northwich, Hanson 1972, fig. 10 no. 1054, vessel from kiln 1 dated to the Trajanic-Hadrianic period. At Northwich it was suggested that the vessel was 'probably used in firing' and Swan (1994 fiche 246) accepts it as kiln stacking material. However similar vessels have been identified at Hardknott fort and related to vessels from Mainz, Hofheim, Oberstimm in Raetia and Vindonissa (Bidwell, Snape and Croom 1999, 94-5). At Hardknott local manufacture by a potter familiar with the pottery types of Raetia or Upper Germany was suggested. Such a link would fit with the known Raetian influences at Wilderspool and Walton-le-Dale. 54
230. MG6? platter with inturned rim. *Cf.* no. 36. 54
231. OAB1 bowl with flanged rim, grooved at the rim tip. *Cf.* Hartley & Webster 1973, no. 67. 54
232. OAB1 honey pot with everted rim. *Cf.* Hartley & Webster 1973, no. 39. 54
233. OAB1 honey pot or flagon with upright bifid rim. *Cf.* Hartley & Webster 1973, no. 38

The relict ploughsoil [54] contained 1223 sherds of coarse ware, much of it small and abraded sherds. Most of this was similar to the material from the above phases but four sherds from here and one from an unstratified level were of Nene Valley colour-coated ware. These were all from beakers except a fragment of Castor Box from the ploughsoil [54]. A sherd of a NV2 indented beaker came from the unstratified levels and a beaker sherd with underslip, barbotine scroll-work came from the ploughsoil [54]. These date from the late second to third century and the late second to early third century respectively. A BB1 rim of early-mid-third century date (Gillam 1976, no. 7) was also identified, but no incipient flanged or flanged bowls were present in BB1 or grey ware fabrics.

The pottery assemblage suggests that activity diminished towards the end of the second century and very little ceramic debris accumulated in the third century.

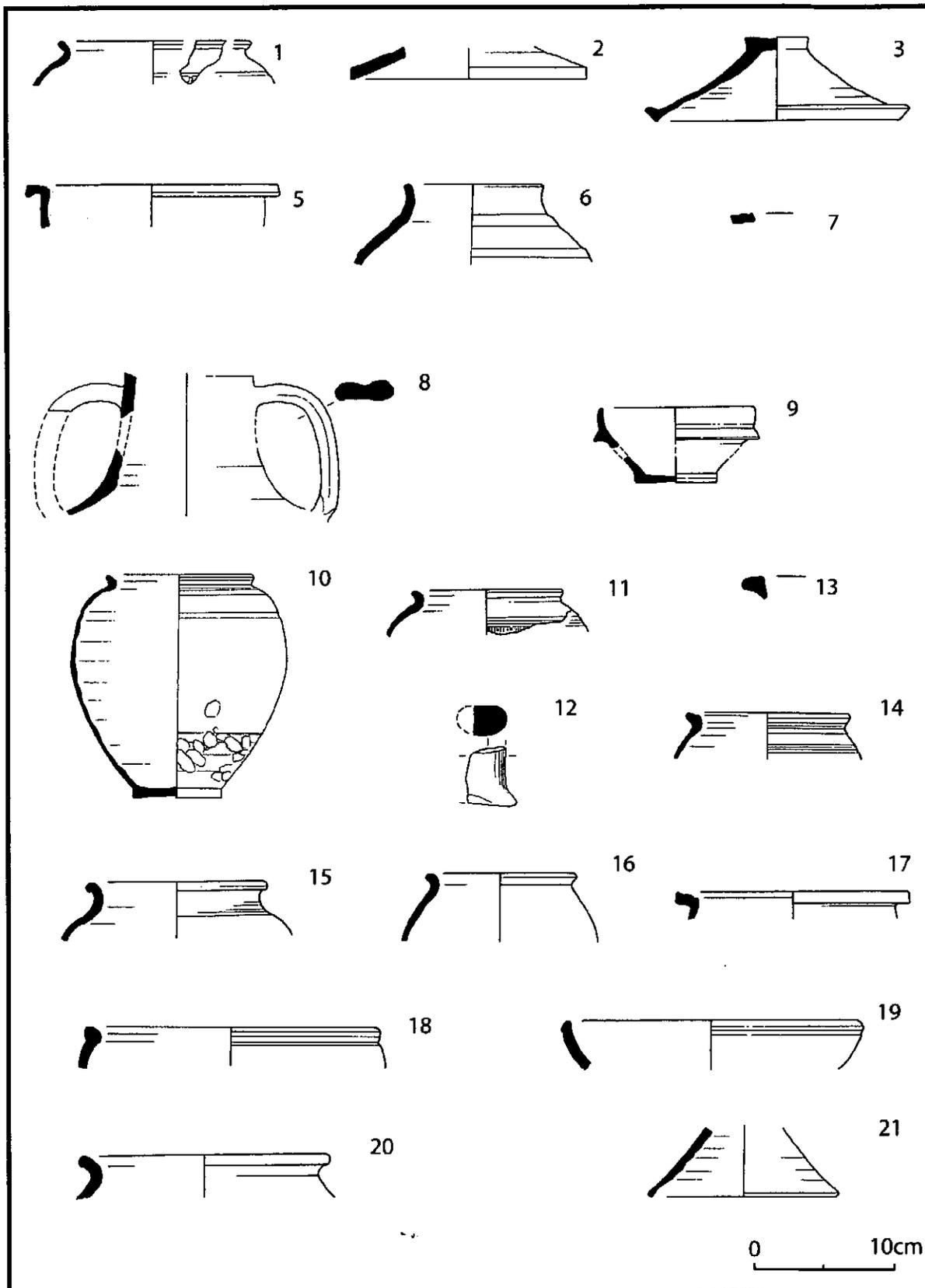


Illustration 56. Coarseware.

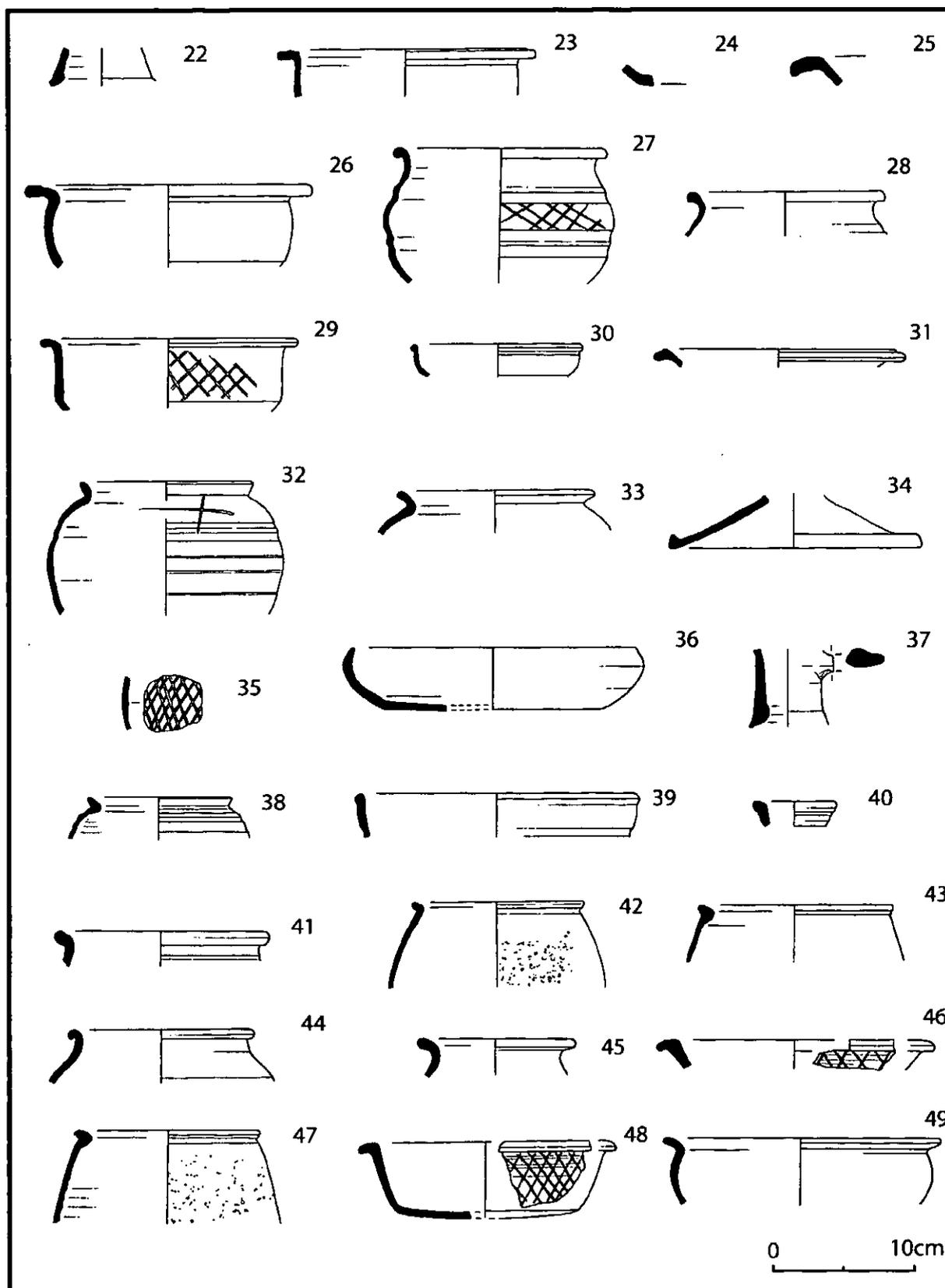


Illustration 57. Coarseware.

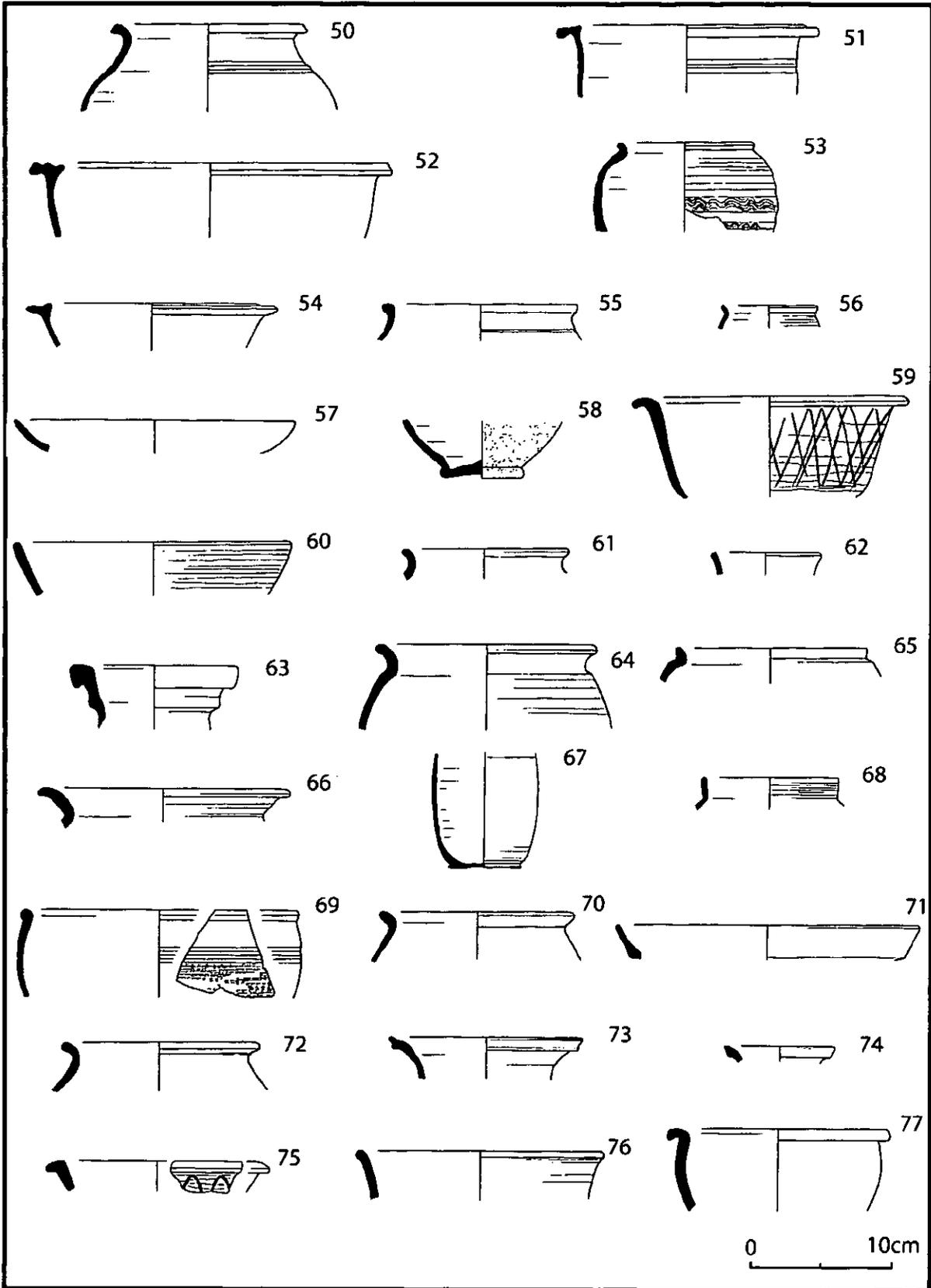


Illustration 58. Coarseware.

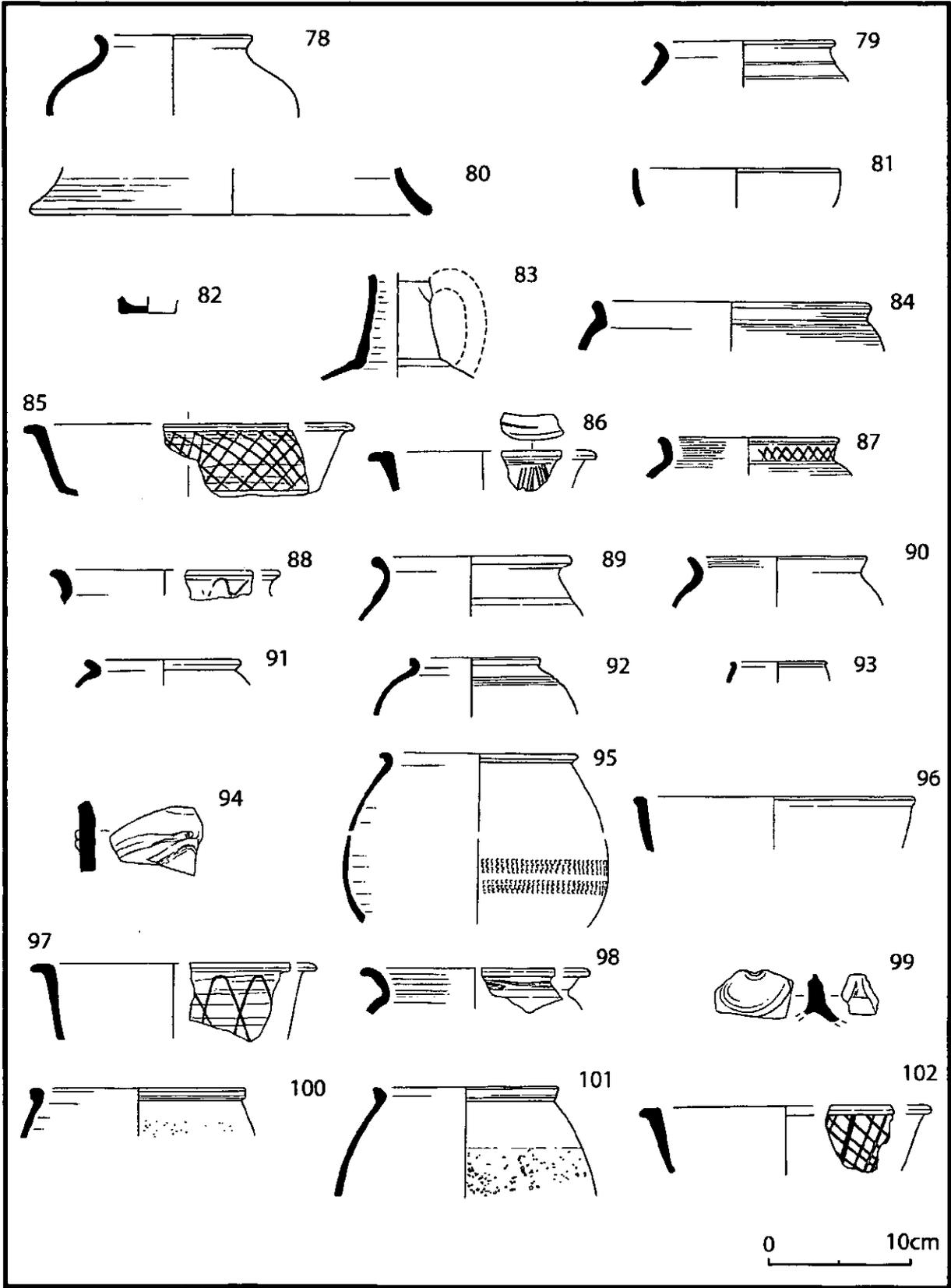


Illustration 59. Coarseware.

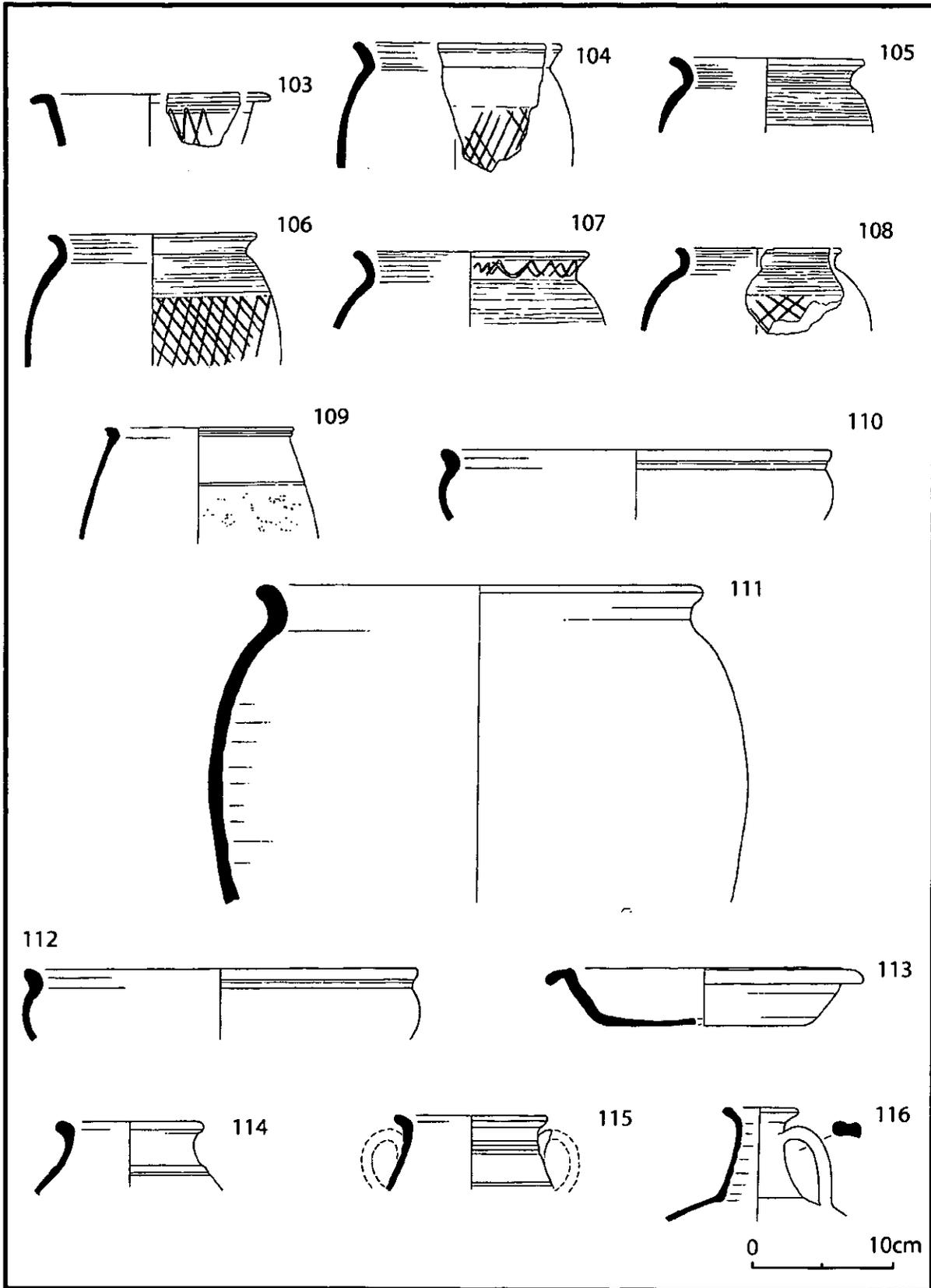


Illustration 60. Coarseware.

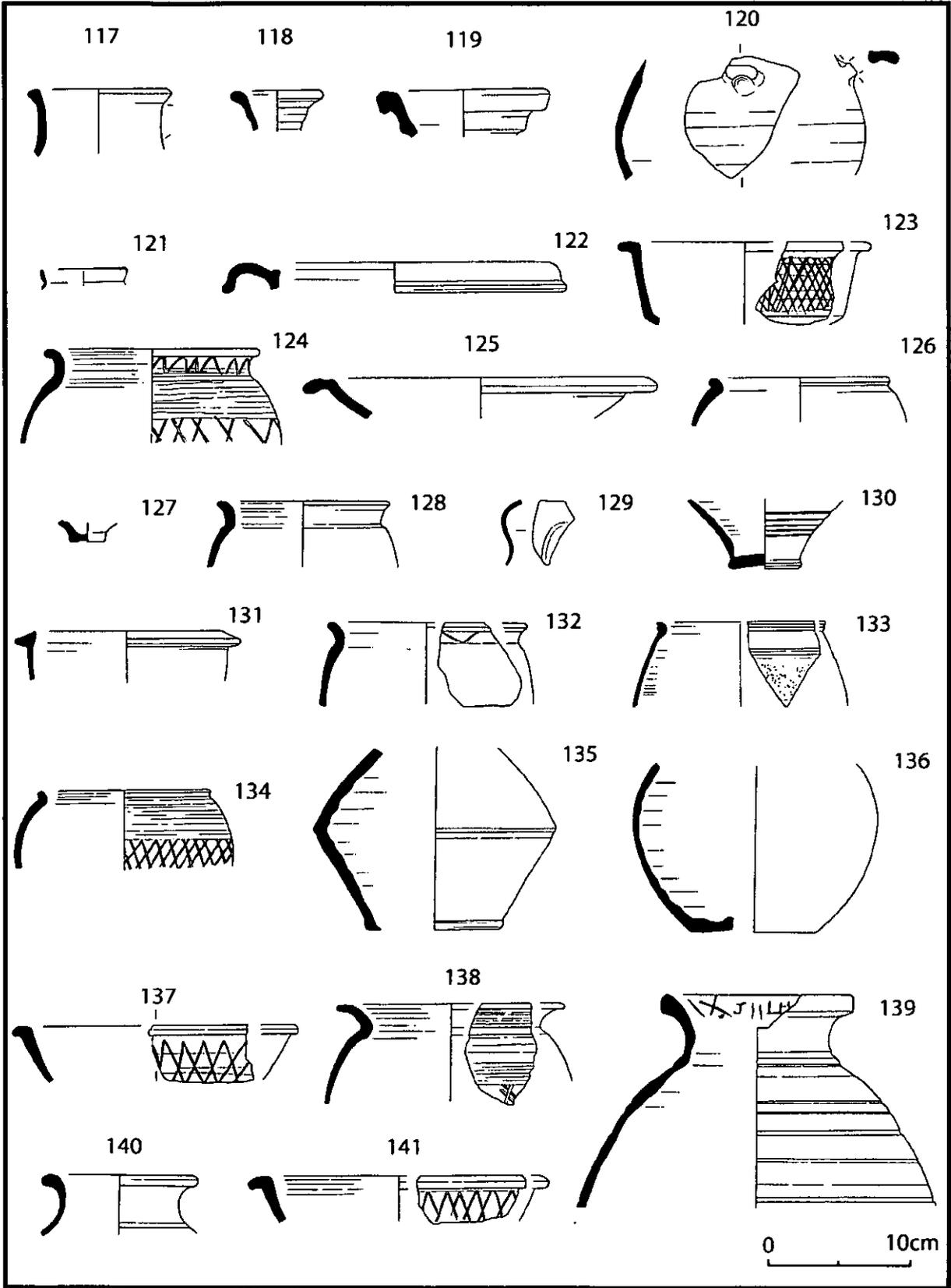


Illustration 61. Coarseware.

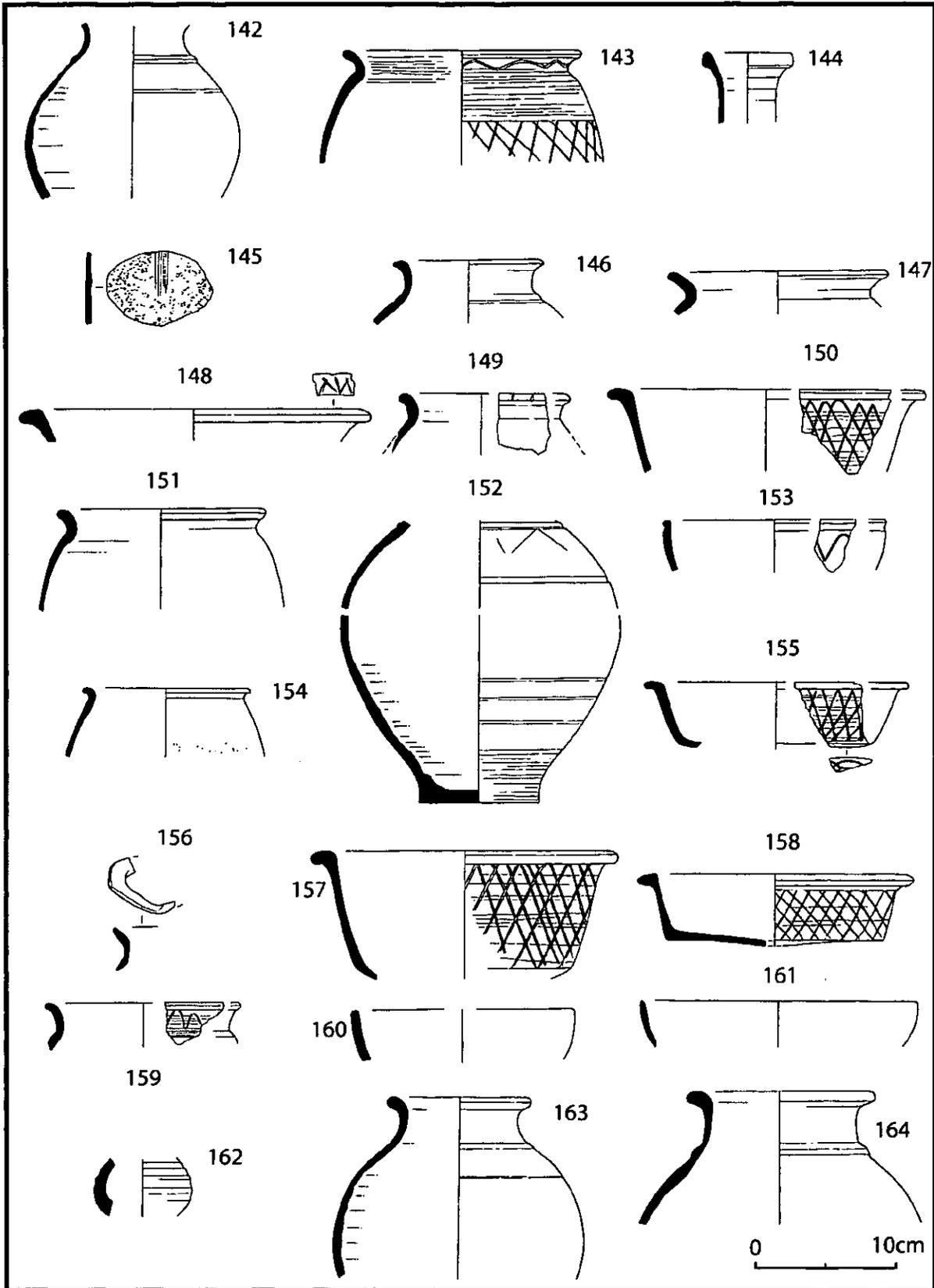


Illustration 62. Coarseware.

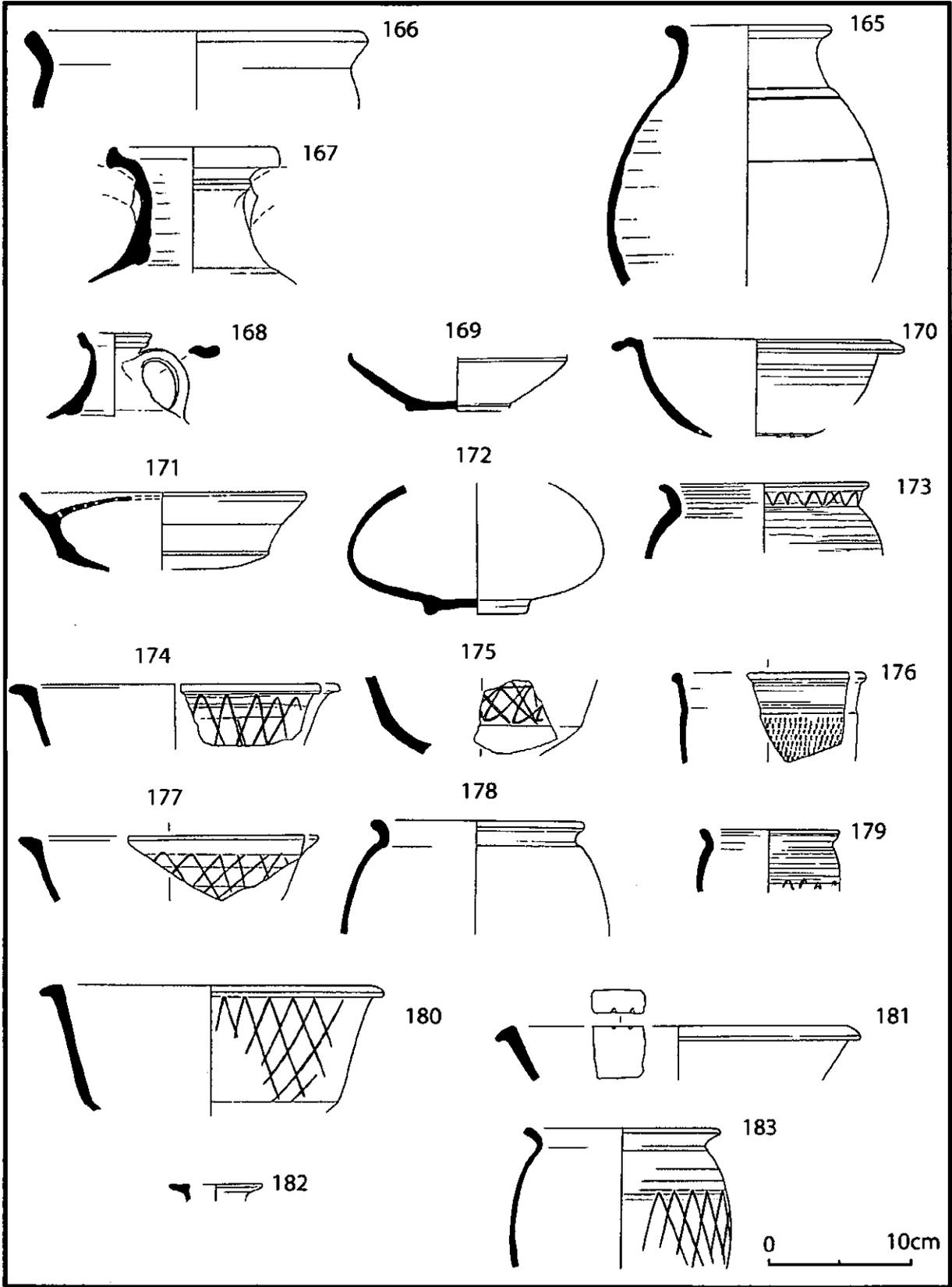


Illustration 63. Coarseware.

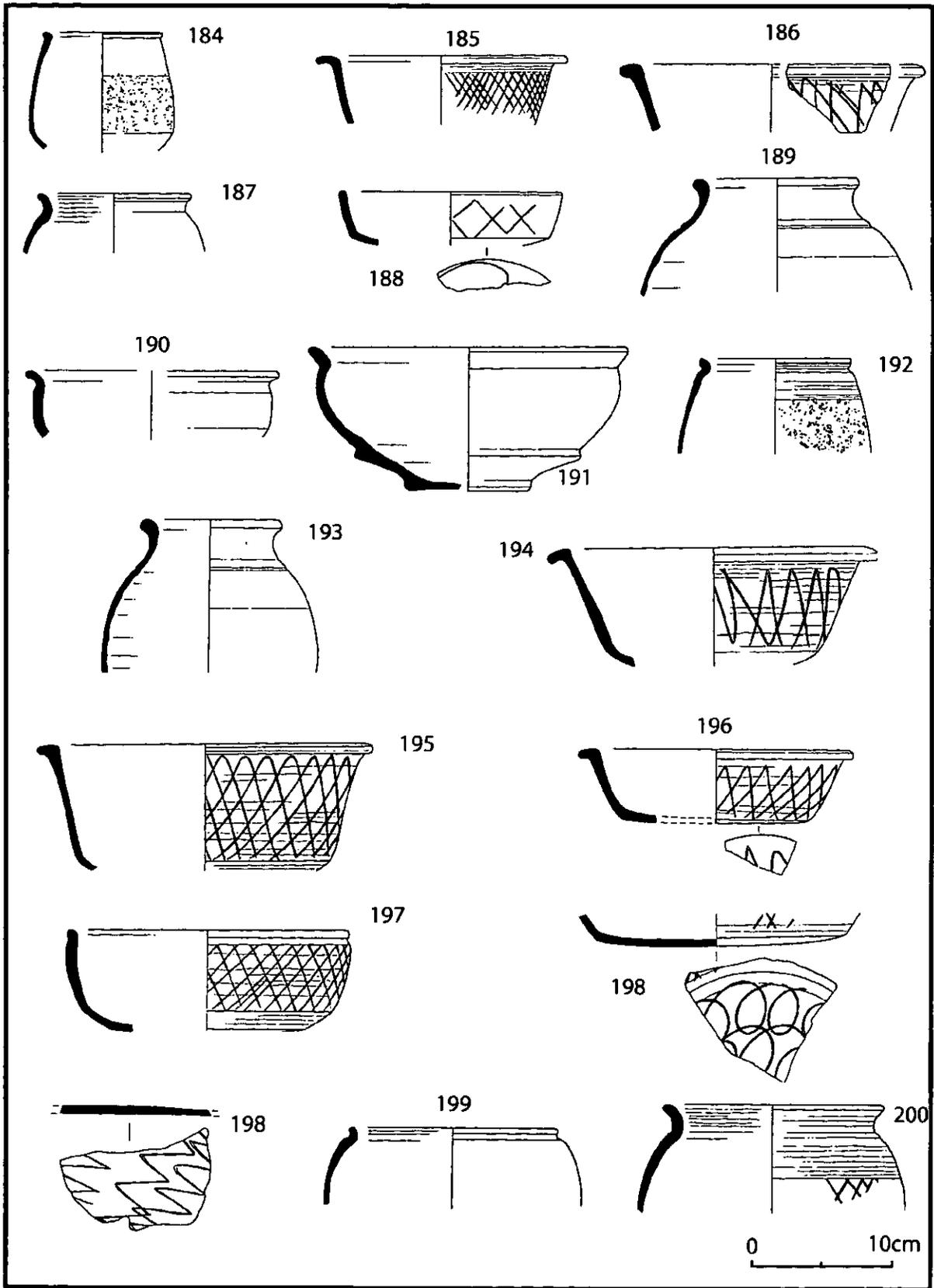


Illustration 64. Coarseware.

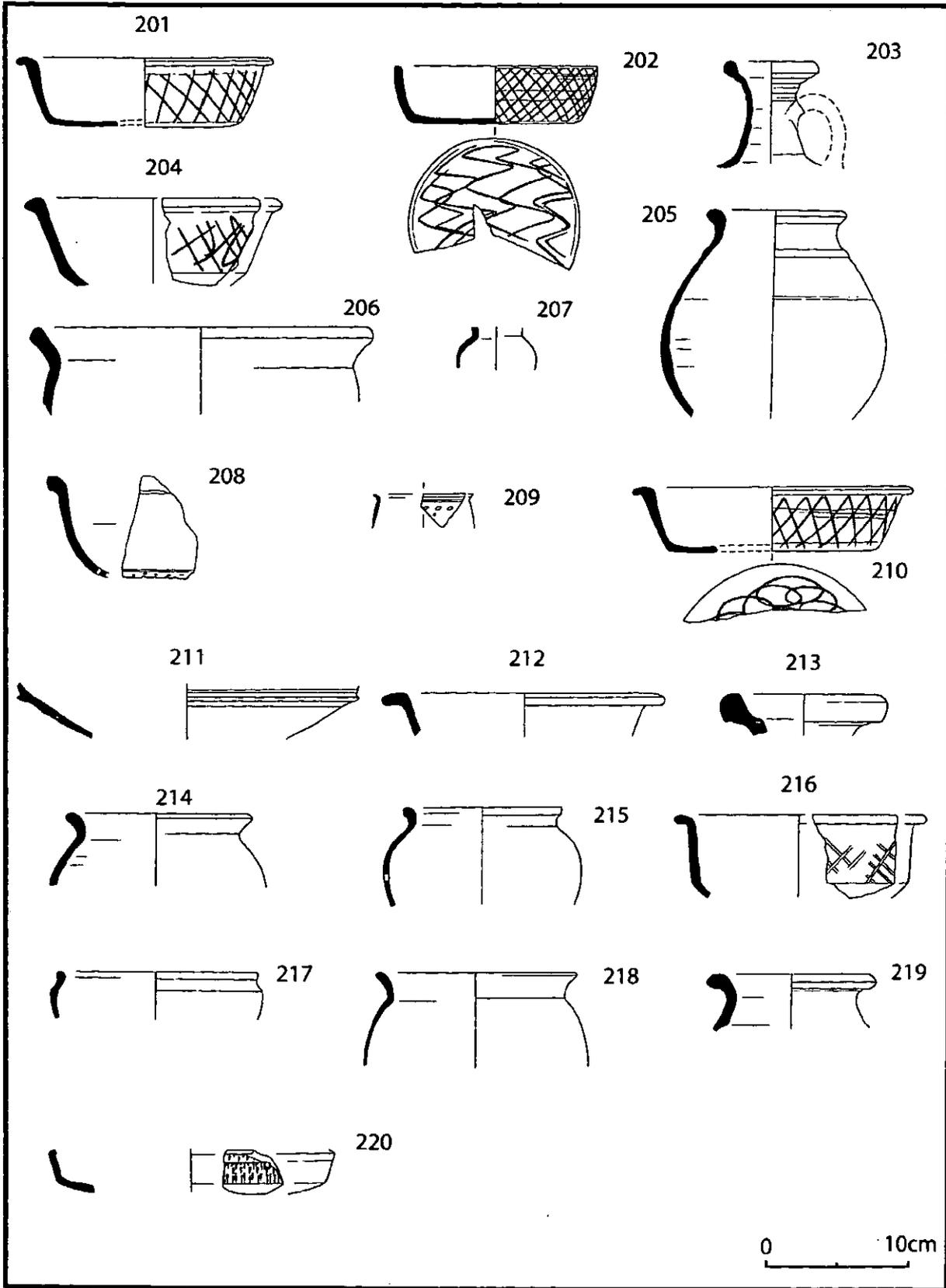


Illustration 65. Coarseware.

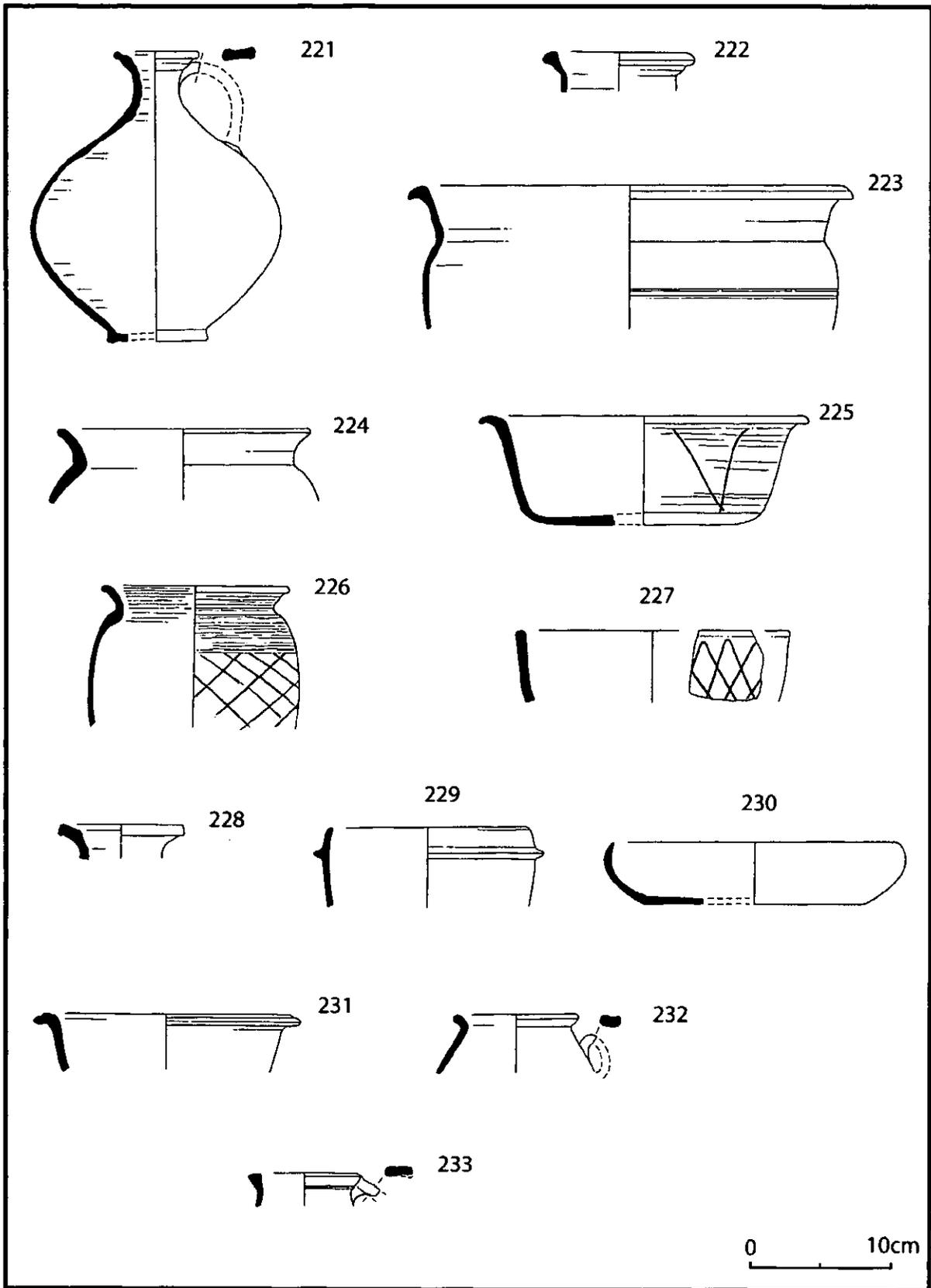


Illustration 66. Coarseware.

4.4.3. Taphonomy

The condition of the pottery was variable. Sherds from stratified contexts tended to be better preserved than those from Periods 4 and 5. The soil conditions had damaged the pottery in two inconvenient ways. In many instances the original surface was almost completely eroded and, in some cases, black and white deposits were identified on the sherds, including the breaks. With the help of David Williams and David Peacock, these were identified as depositional and post-depositional in origin and were possibly faint traces of limescale which was deposited after burial. If care was not taken in examination, and if the deposits were restricted to the surfaces of the pot rather than the breaks, these could be confused with traces of white slip.

The quantity of coarse ware from Period 1 phase 2 was too small to be reliable. Study of the quantities and average sherd weights of the coarse ware from the different periods and phases suggest the assemblages had quite different characteristics with quite small abraded material coming from Period 2 phases 1 and 2 and Period 3 phase 1 and much larger, less abraded, sherds from Period 3 phase 2 to 4 (Table 2). Significantly, the sherds from Period 1 phase 1, although not as large as those from Period 3 phase 2 to 4, had quite a high average sherd weight. This was caused principally by the presence of a near complete jar in pit 504 and due to a jar or flagon base from ditch 122. More than 75% of the groups weighed less than 20g and more than 55% weighed less than 15g. Consideration of the sherd condition and numbers of vessels represented confirmed this general impression and suggested that the ceramic deposits included large and fairly fresh sherds in Period 1 phase 1 and Period 3 phases 2 to 4. These groups have a greater average sherd weight than deposits of ceramic rubbish at Lincoln which was considered fresh (Darling 1999, group 17 table 3, 21g & 0.33 brokenness). In the groups published by Evans (2001a) from the north these values are high and compared with the measures recorded by Martin (pers comm.) at Beetham Hilton Hotel, Deansgate (average of 21g excluding samian and amphora), the values for Period 3 phases 2 to 4 are also high.

Period	Phase	Count	Weight	Av. Sherd weight
1	1	102	2486	24.37
1	2	2	82	41.00
2	1	64	899	14.05
2	2	59	872	14.78
2	3	347	6337	18.26
3	1	46	824	17.91
3	2	252	6579	26.11
3	3	137	3884	28.35
3	4	710	19498	27.46
4		100	2710	27.10

Table 2. Quantification of coarse wares by phase (excluding mortaria, samian and amphora).

The pottery groups from Periods 3 phase 2 to 4 came from construction trenches for Buildings G, Building H and from pit 790. Study of these groups revealed repeated cross-joins of large sherds from near complete vessels. These joining sherds were probably, as the excavator suggests, originally derived from vessels associated with the use of Building G, which became incorporated into its 'construction' trench, pit 790 and the foundation trench of Building H during the demolition and subsequent refurbishment of this building. This would mean that a proportion of the pottery from pit 790 and the construction trench of Building H pre-dates these features and, perhaps actually dates the use of Building G. The dating of Building H would therefore depend on the pottery from its post-holes and possibly the late second century sherds associated with the cremation burial [102].

4.4.4. Aspects of site function

The distribution of the coarse pottery and samian ware was studied for differences in the functional makeup through time and also in different feature types. The samian counts, and estimated vessel equivalents (EVES) were recorded by the author for Periods 1 to 4 following the completion of the samian specialist report and are included in tables 3 and 4. This has allowed a consideration of the overall changes in wares and vessel types.

In terms of quantities of ceramic debris, the building's construction trenches contained by far the greatest amount of pottery, yielding more than twice the number of coarse ware sherds than the pit groups. Most of this material came from Building H and its robber trench and, as suggested in the previous section, it is quite possible that this material may relate to the use of Building G. The ceramic assemblage from the building contexts comprised more jars than any other features, fewer cups and beakers but slightly more flagons than the pits, and the most of the small number of specialist items such as triple vases, colanders, wine strainers, miniature vessels and an unguent pot. These differences, in all probability reflect different disposal methods as well as functional differences in this area. If the group from Building G, pit 790 and Building H are really one group, as the cross joins suggests, the number and size of sherds suggest that this group may belong to the abandonment of Building G and represent some sort of midden, which was accumulating nearby and which was cleared into pit 790 and the trenches of Building H. This is the only group which may, therefore, reflect quite accurately the vessels being used within a building on the site

Feature type	B/D	Cup/beaker	Flagon/flask	Jar	Narrow-necked jar	Wide-mouthed jar	Mortaria	Other	Lid
Building	28.62	13.75	11.11	24.55	10.47	2.69	6.18	1.79	0.84
Cremation	21.05	78.95							
Ditch	25.09	13.26			12.54		7.89		41.22
Layer	62.50	14.22		23.28					
Pit	30.04	22.06	7.98	20.47	7.27		4.35		7.83
Post-hole	33.97	9.62		56.41					

Table 3. Relative quantities of vessel forms in different feature types (using EVES).

The ditch groups are small, just under 200 sherds in total, and tended to be made up of abraded, small sherds. Regular disposal of pottery debris in the ditches does not seem to be a feature in this part of Roman Manchester. The composition of the group is unusual in terms of the number of lids and lack of medium-necked jar rims. This is likely to be a distortion caused by a couple of large fragments of lid. Medium-necked jars were present but were not represented by rim sherds

The pit groups vary in the amount of pottery they contain from two sherds to 136 sherds (pit 704). More than half the pits had less than 30 sherds of coarse ware and the groups were characteristically abraded with small sherds unlike the Building G/H group. The pit groups had fewer jars and more beakers and cups than the building group, with comparable amounts of the platter/dish/bowl group and the flagons and flasks. Compared with other forts occupied between the first to third centuries, the amount of cups and beakers is towards the higher end of the scale for both pits and buildings (Evans 1993, fig. 8). The relative quantities of bowl/dish/platters against jars is average for a military site. The

bowl/dish/platter component stays steady at c. 20% in all the feature types, except the layers, but the proportion of jars varies from c. 37% in the buildings to c. 12% in the ditches (largely due to the lids component).

Period	Phase	Bowl/ dish	Beaker/ cup	Flagon/ flask	Jar	Narrow- necked jar	Wide- mouthed jar	Mortaria	Specialist	Lids
1	1	21.17	7.17	0.00	28.66	11.40	0.00	7.17	0.00	24.43
1	2	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	1	59.89	0.00	0.00	25.27	0.00	0.00	0.00	0.00	14.84
2	2	63.24	25.95	0.00	0.00	0.00	0.00	0.00	0.00	10.81
2	3	33.33	26.27	4.99	15.98	1.15	0.00	4.61	0.00	13.67
3	1	29.73	37.84	2.25	30.18	0.00	0.00	0.00	0.00	0.00
3	2	19.42	12.49	9.07	29.26	11.46	3.34	11.12	3.85	0.00
3	3	24.60	11.17	13.30	29.65	16.89	0.00	4.39	0.00	0.00
3	4	33.56	16.22	10.56	20.10	11.94	2.73	3.07	1.55	0.28
4		12.37	1.92	21.78	22.65	20.91	2.44	17.07	0.00	0.87

Table 4. Vessel types by period and phase (using EVES excluding amphora).

The differences in the layer and the ditch group may not be representative since both these groups are quite small. The most significant aspect of the study was that it suggests the building group was probably more representative of the activities being carried out in the area and the pit groups, apart from 790, may be markedly less so. Differences in the size of the groups make it difficult to decide if the specialist pots from the construction trench of Building H are unusual or not. The other groups were considerably smaller and, since these types are always rare, may not have been large enough to include this element of the ceramic assemblage. Alternatively these vessels may reflect an activity which was not being carried out elsewhere on the site. At Orton's Pasture, Rocester, the presence of a distinctive find assemblage suggested to the excavators the possibility of a shrine (Ferris *et al* 2000, 74-81). Here the particular ceramic vessel types included near complete and complete pots, a large average sherd size, more specialized vessel types such as tazzes, wine strainers, triple vases, face pots and lamps. The group from Building G/H had similar characteristics. Ferris (Ferris *et al* 2000, 74-9.) also notes ritual elements in other artefact and ecofact categories such as a patera handle, Mediterranean pine, dates and a grape pip. Similarly, at Castleford the evidence for ritual, or religious activity, was noted in the pattern of rubbish disposal within pits in the form of complete, or near complete, pottery and glass vessels (Cool & Philo 1998). At Orton's Pasture patterns in the spatial distribution of the 'ritual' items was discernible in the ditched enclosure (Ferris *et al* 2000, 74-81). The other finds from the Building G/H group might include the deliberately placed and unusual lead figurine, and the other unusual non-ferric metalwork assemblage associated with Buildings G/H (Cool this volume). The siting of the cremation 102 adjacent to Building H would further add to the evidence for this structure or its predecessor, Building G, having a special function. In addition to the Building G/H deposit the complete pot from pit 504 in Period 1 phase 1 may also have ritual significance.

Apart from the unusual vessels from the Building G/H group, there is evidence for cooking in the form of burnt food deposits on the jars and some bowls/dishes. Some distorted, cracked and spalled vessels from this group may be wasters but this seems inappropriate for a potential 'ritual assemblage'. However, if these conditions are caused by activities involving heat such as communal meals and sacrifices, these conditions could also be the result of rituals. It is notable that more sherds with graffiti or incised marks came from this deposit than any other (nos 139, 148, 149, and 181), perhaps reflecting the communal nature of some of the rites and the need to identify the vessels. The colander vessels and the 'wine strainer'

are likely to be associated with drinking. Marsh (1978, types 45-6), for example, records a similar form to no. 171 at London, which he suggests was of Continental origin. He also notes an example from Hedderheim on which the holes were arranged to form an inscription. 'loosely translated as Hear me and even if you're sozzled bring here to this vessel, what you will drink second' (Marsh 1978, 181). Drinking, of course, can occur in non-ritual circumstances. The fragments of triple vases may be associated with ritual activity more directly. Hartley and Webster (1973, 87) record that the examples they identified all came from the civil settlements associated with the forts. The form is common in the north-west England, on Hadrian's Wall and at York (Jones 1971, 72), and Perrin (1990, nos 1240 & 1242) records a triple vase and a wine strainer of the form of no. 171 from the General Accident site at York. Monaghan (1997, 858) also considers tazzes clear indicators of ritual activity. The tazze fragments from Barton Street came from the relict ploughsoil (contexts 10 and 54) which sealed the remains of Building G and H and so these might be indirectly linked to the original activities occurring within these buildings. The Building G/H groups also contained the largest percentage of flasks and flagons

Around 37% of the vessels from Period 3 phase 1 were, using EVES, beakers or cups and the majority of these were derived from pit 568 located directly beneath the wall line of Building G. This may indicate that the putative special function of this area began during this phase of activity. Compared with other published material from ritual groups these quantities from period 3 are as high as the suggested ritual area at Catterick Racecourse (Evans 1993, 112 at 11%) and at the upper end, or outside, the range of beaker quantities from forts generally (c. 15-20% in the second century). At Chester Evans (1993, 112 & Appendix 1) publishes 14% and 12% for beakers in the period AD80-130 and the late second century respectively. At Warrington, Webster (1993, table 2) notes that some 5-9% of the assemblage comprised beakers, despite the manufacture of the roughcast beakers nearby at Wilderspool. Evans notes a high proportion of beakers at Trentholme Dr, where he links it with ritual functions, and at the Carrawburgh Mithraeum (Evans 1993, 101 & 112, 44% at Carrawburgh). At Derby, Little Chester, beakers made up a mere 1-2% of the coarse ware vessel assemblage (Birss 1985, table 9 discounting samian, mortaria and amphorae), while at Chesterfield beakers constituted some 4% of the assemblage (Leary unpublished archive) and at Brough-on-Noe a similar proportion was recovered from mid- to late second century groups (Leary 1993, 77-84, unpublished archive). Although during his study of northern pottery Evans (1993, 101) noted little association between beakers and flagons, in Period 3 at Barton Street flagons were more numerous than in Periods 1 and 2, suggesting they may both have had some part in the activity being carried out at this site. In the present context, it may be significant that both flagons and beakers are preferentially found associated with the feasts and rituals accompanying cremation burial rites. Philpott's (1991) analysis of vessel types accompanying cremations showed a preference for flagons and beakers. Some evidence was also recorded at the cemetery on Derby Racecourse (Birss 1985, 266-7) where, although less than 10% of the cremation deposits had grave goods, an analysis of the burnt pottery from the fills of both inhumations and cremations found that 95% included burnt sherds of flagon and non-local fine wares (beakers and samian). The distinctive rite involved and the convenience of identifying burnt sherds makes it considerably easier, however, to isolate associations between ritual practice and ceramics in a cemetery than in a non-funerary site. Analysis of a cemetery in Luxembourg by Polfer (2000) comparing vessels from the *ustrinum*, or cremation area, and those deposited as grave goods and pyre goods showed that vessels associated with eating were predominant in the *ustrinum* assemblages whereas drinking vessels were more common in the pyre and unburnt grave groups. Polfer (2000) concludes that eating was linked to the funerary rites associated with the *ustrinum* and drinking was associated with the pyre and grave goods. The clear association of drinking vessels with the rites associated with the pyre may also extend, however, to other classes of ritual activity. For example, at the Carrawburgh Mithraeum they formed a clear element of the ceramic assemblage associated with religious activity occurring at this site (Evans 1993, 112).

Another potential context would be the meeting of craftsmen guilds. These meetings included communal feasts and a samian bowl from Ospringe (in the British Museum), marked as the property of a group of people, might be interpreted as a vessel linked with such feasting. Evans (1987), in a study of graffiti on pottery from Britain, noted that the bowls, dishes and cups group produced over 50% of the graffiti in his sample and around 80% of these graffiti were personal names many of them in the genitive. This may reflect the need to locate personal drinking vessels at communal feasts, though these need not necessarily be of a religious nature. Hassall (1982) has also suggested that the use of numbers such as X may be an illiterate mark of ownership, rather than denoting the number 10, and it is noticeable that such marks are present in the group associated with Building G/H.

The groups from Period 2 display high percentages of tableware including beakers/cups suggesting the specialist function of this area may have begun during this phase. Both Periods 2 and 3 had high proportions of fine ware fabrics (c. 21-27%) which when compared with the values recorded during this period are high in both the contexts of towns and forts (cf. Evans 1993, table 2).

4.4.5. Chronological changes in vessel fabrics and form – aspects of trade, fashion, status and function

Trade and exchange

Period 1

The earliest groups of pottery from Barton Street include vessel types and fabrics which can be paralleled at Holt (no. 8) and South Wales (no. 53). Study of the samian and coins from Holt has suggested that activity on the site began shortly after AD87 (Ward 1998, 141). Mica-dusted vessels cups and beakers are present at Barton Street in a fabric similar to that from the later groups. These may also be from Holt but the presence of a mica-dusted cup copying samian form Dr 27 in the Severn Street kiln group, along with a mica-dusted grey ware fabric similar to GMG1, raises the possibility of a local source in the vicinity of Manchester. Small amounts of other white wares may have come with the mortaria, perhaps from Wroxeter and certainly by Period 1 phase 2 a few flagons were coming from the kilns around Verulamium, presumably along with the mortaria which was derived from this area. A SV3 jar from the Severn Valley industries is earlier than has previously been suggested for this ware at Manchester (Webster 1974), but can be paralleled at Chester where Carrington (1977, 153) has identified Severn Valley ware in deposits dating to the end of the first century. Carrington (1977, note 10) also noted that some of the Flavian-Trajanic mica-dusted wares compare with similar vessels made at Gloucester, as well as those from Holt, and suggests the possibility of this being an alternative source. The sources of the oxidised and reduced coarse wares are harder to identify. Some similarity to wasters in the Severn Street kiln was noted (see above) and Clarke (nd) records both reduced and oxidised Cheshire Plains type wares from this kiln. The badly spalled vessel (no. 10) from pit 504 may be a waster from a local kiln.

Period	BB1	Reduced	GTA	Oxidised	White wares	White-slipped wares	CC	Mica-d	NV1	RS	SV	TS	MOR	AMP
1.1		18.13		11.70	38.60	7.60		1.75		0.58	0.58	8.77	1.17	11.11
1.2		22.22		22.22		22.22						11.11		22.22
2.1		23.39		22.22	11.70	9.94	1.75	2.34		0.58	1.75	13.45	0.58	12.28
2.2	5.68	56.82		15.91	2.27	10.23	1.14	1.14				5.68	1.14	
2.3	4.26	20.79		13.69	11.87	7.91	5.58	1.62		0.61	0.10	22.72	3.14	7.71
3.1	16.38	14.66		23.28	0.86	12.07	3.45					18.97		10.34
3.2	16.92	8.08		35.38	5.00	8.46	5.19		0.77	0.19		13.27	3.27	3.46
3.3	25.23	14.86		21.62	6.76	1.80	5.86					18.47	4.05	1.35
3.4	27.64	15.43	0.09	19.44	4.53	5.41	7.06	0.35	0.09	1.39	0.87	12.29	1.22	4.18
4	18.23	15.76		23.65	6.40	9.36	0.99		0.49			8.87	11.33	4.93
5	12.91	15.12	0.40	23.84	11.38	5.91	1.73	2.90	0.20	1.09	0.24	12.02	4.46	7.76

Table 5. Relative quantities of major fabric groups by phase (using sherd count values).

Period 1 groups contain a number of different fabric types, but are overwhelmingly dominated by two main fabric groups – grey wares and white wares. This might, in turn, confirm the impression gained at other sites whereby a number of small local kilns, such as the Northwich kiln (Hanson 1972) and the possible kiln located at Melandra (Webster 1971, 63; 1974, 93), supplied the forts of the region. The assemblage from the Wilderpool kilns includes Flavian-Trajanic forms (Hartley & Webster 1973, nos. 47, 48, 58 & 64) and these may also have been producing pottery during this period along with those kilns at Holt (Ward 1998). The products of the local kilns may have been augmented by the importation of white ware flagons from elsewhere in the region and possibly fine wares from these sources, or from the local kilns.

In addition to these wares, Lyons ware was recovered from the Period 2 deposits. This ware has long been dated to the pre-Flavian period but Willis's (2003) work on its distribution in the Midlands and North suggested that it continued to be imported in the Flavian period and was particularly associated with military installations (*cf.* Monaghan 1997 where it is dated AD45-85; Tyers 1996, 150 noted in early Flavian deposits at York, Caerleon, Chester and Newstead). It is, therefore, possible that these wares reached the site during Period 1 and became incorporated into Period 2 features. Lyons ware was also identified from the excavations at Castlefield Quay (Leary 2004).

Period 2

During Period 2 phase 2 BB1 begins to arrive at the site from Dorset. This phase marks the very start of the widespread distribution of this ware. The production of reduced coarse wares may well have continued at Manchester alongside the importation of BB1. Coarse ware forms include reeded-rim bowls, rebated neck jars, similar to those from Usk in the first century (no. 15), neckless jars with short everted rims of Flavian-Trajanic type and a beaker with barbotine dots. A distorted bubbled grey ware sherd strengthens the evidence for on-site manufacture of grey ware at this time. Some of the fine reduced forms such as the 'eggshell ware' type beaker (nos. 56, 67 and 68) may, however, be traded or imported. Although a very fine carinated beaker copying the eggshell ware types, was found in the Severn Street kiln, it was not a waster and its fine fabric contrasted with the wasters seen by the author. Reduced wares seem to fall into decline after a peak in Period 2 phase 2. The oxidised wares being used on the site during Period 2 comprise reeded-rim bowls, rough cast ware beakers, including distorted examples, flagons and platters. Mica-dusted wares were slightly more common in Period 2 phase 1 than in Period 1 and included platters, a flanged bowl, cups copying samian form Dr 27 and a folded beaker. Both the oxidised table wares and the mica-

dusted wares may be produced locally to fill a decline in samian supplies in the Trajanic-Hadrianic period (Marsh 1978, 207; 1981; Going 1992). The source of the white ware flagons seems to change its emphasis from Holt to another source, possibly Wroxeter or Mancetter-Hartshill with small numbers of Verulamium flagons. Severn Valley ware continued to appear in small quantities.

Period 3

In Period 3 the quantity of BB1 and oxidised wares rose considerably with concomitant reductions in Cheshire Plains reduced wares throughout the period. It is noticeable that the rise in oxidised wares is broadly contemporary with the rise in BB1. At Derby, Little Chester, a similar phenomenon was observed. Here BB1 began to arrive in significant quantities although in this case Derbyshire ware began to dominate the jar market and the Little Chester kilns seem to have met the need for finer bowls and dishes (Birss 1985, 123). At Derby after this adjustment, in the face of competition from BB1 wares, the Little Chester kilns ceased to function and by the end of the second century very little table ware was produced locally. At Barton Street the ceramic sequence did not extend much beyond the end of the second century and in Period 3 Wilderspool or other Cheshire Plains kilns supplied oxidised table ware types such as the bowls copying Dr 81 and 44, and flanged hemispherical bowls. A similar pattern to Derby may emerge, however, since the proportion of dishes and bowls in Period 2 assemblages (c. 40%) declined in the Period 3 assemblages (c. 30%). Of these more than 40% were in BB1 ware, 9% in oxidised wares and around 10% in reduced wares by Period 3, contrasting with 15% in BB1, 8% in oxidised wares and 35% in reduced wares during Period 2. As at Derby the oxidised wares of Period 3 were predominantly jars.

The mica-dusted wares were much less common and were probably all residual. The quantity of white ware fabrics, including white-slipped wares, diminished throughout Period 3 and was dominated by the FLA2 group. The fluctuations within the relative proportions of white wares and white-slipped wares suggest that different sources were favoured at different times resulting in, for example, more white wares from Holt in Period 1 phase 1 and more Cheshire Plains white-slipped wares in Period 2 phase 2 and Period 3 phase 1. Sourcing of these fabric groups may well reveal fluctuations in the success of flagon makers at different Cheshire Plains kilns in the face of competition from Mancetter-Hartshill and/or Wroxeter. The number of colour-coated wares increased principally because of the use of roughcast ware beakers, predominantly in fabric and forms similar to the Wilderspool products with some other imported roughcast ware beakers. By Period 3 phase 3 Nene Valley colour-coated wares appeared in very small numbers. Reduced wares decreased over the period and the fine grey wares seem to almost disappear. Severn Valley wares were represented in Period 3 phase 1, but were uncommon, and any case it is not always easy to distinguish fine Cheshire Plains wares from Severn Valley wares.

The coarse wares other than the BB1 were predominantly of Cheshire Plains types. The vessels in reduced fabrics include copies of BB vessel forms, roughcast ware beakers (possibly misfired), a bowl copying samian form Dr 81, the body of a flask, or flagon, and narrow-necked jars in forms also present in the Severn Valley ware repertoire. The oxidised wares comprised similar vessels – roughcast beakers, narrow-necked jars, Dr 81 copies – as well as other forms such as reeded-rim colanders, a straight-walled dish with a flanged rim (no. 206), wide-mouthed jars similar to Severn Valley ware jars, though in a coarser fabric, flagons (possibly originally white slipped) and several miniature vessels, probably triple vases. The clear influence of the vessel types made in the Severn Valley ware industry upon the Cheshire Plains vessels is noticeable from Period 3 phase 2, but seems selective with key types such as the tankard, the flanged bowl with inturned rim, reeded-rim bowls and carinated bowls not present (Webster 1977, types E, F, G & H) nor the more recently

identified flagon forms (Evans *et al* 2000, 27-8). The white ware sherds were exclusively from flagons apart from those from an unguent pot. These flagons were ring-necked or rebated rim in form. The white slipped ware sherds were also predominantly from flagons but, in this instance, included triple vases, a carinated vessel, a roughcast beaker, and a narrow-necked jar. The flagons included ring-necked flagons and examples with splayed mouths, sometimes bifid and often with a slight rebate or groove inside the rim tip. A large flange necked flagon was also present in this ware type. A few sherds with orange Cheshire Plains ware with traces of red-slipped ware were all copies of Dr 81 and compare well with the similar examples copying Dr 81 and 44 made at Wilderspool (Hartley & Webster 1973, nos. 53-5). It is difficult to ascertain the source of the reduced and oxidised coarse wares. An overfired and distorted OAB1 narrow-necked jar and a second narrow-necked jar in OAA1 with surface and through cracks, and burnt appearance suggest some oxidised wares were locally made and this might be confirmed by the possible sagger vessel from the relict ploughsoil (no. 229). Several roughcast ware sherds are also burnt, or are patchily reduced and oxidised, which may indicate on-site production. A narrow-necked jar in fabric FLB2 was burnt and distorted and may also have been waster. It is difficult to be certain about these burnt and distorted sherds since many of the BB1 vessels were extensively burnt and it is certainly possible that these characteristics are the result of domestic accidents. The distortion of fine wares, such as roughcast beakers and the more elegant narrow necked jars, the use of which has been associated with water (Evans 1993, 96-7 & 105) and is commonly found in wells (*cf.* at Lound well group, Leary 1995; at Margidunum, Oswald 1952, 11 pls X & XV), would argue in favour of an interpretation as wasters.

There is, therefore, a body of evidence which suggests that at least some of the Cheshire Plains wares, reduced and oxidised, may have been locally made at Manchester during the Hadrianic to early Antonine period with the addition of some material from Wilderspool that, perhaps, included the red-slipped vessels and some of the roughcast beakers. The Cheshire Plains industries show the effects of influences exerted by the incoming BB1 repertoire and the less numerous Seven Valley wares. Both stimulated the introduction of new vessel forms, although the BB1 took over some of the markets previously supplied by the Cheshire Plains reduced wares. Overall the market for these reduced local products diminished. In contrast, the Cheshire Plains oxidised wares were able to maintain and indeed increase their production levels.

4.4.6. Site status and changes in the functional composition through time

Discounting the anomalous results for Period 1 phase 2 for which the numbers of vessels were too small, the site falls within the norm for bowl/dish to jar ratios for military sites, with rather more tableware than is common in Period 2 phase 1 through to Period 3 phase 1 (Table 5). The proportions of lids in Periods 1 and 2 were quite high and may reflect storage, or reception, of goods, which have been sealed with lids during transit.

As is typical on Roman sites in Britain the relative numbers of jars rises from Period 2 and peaks in Period 3 phase 3. The peak in Period 1 phase 1 is due to the near complete pot from pit 504 and the relatively small numbers of vessels from this phase. Of course, these changes may only relate to the function of this area rather than reflecting more extensive changes in Roman Manchester, particularly given the apparently specialised use of this area in Period 3. Additionally the increase in jars may be related to changes in tableware. During Period 3 the narrow-necked and wide-mouthed jar forms gain popularity. These have been grouped, by other specialists, with the jars, but seem to have a quite different function to the medium-necked cooking and storage jars. The narrow-necked jars are, for instance, associated with liquids, whilst the wide-mouthed jars are possibly associated with the serving of communal meals (Leary forthcoming b). A similar rise in wide-mouthed jars was recorded by Webster (1993, table 2) at Warrington, although narrow-necked jars were not listed separately to jars.

The rise in narrow-necked and wide-mouthed jars may be linked with the well attested decline in the use of flagons in Britain late in the second century, and also a possible change in dining customs from individual dishes and bowls to communal pots. If these jar types are divided up, the rise in medium-necked jars is far less pronounced reaching 32% at its height in Period 3 phase 2 and 25% in Period 2 phase 1, whilst narrow-necked and wide-mouthed jars accounted for *c.* 12% and 3% respectively in Period 3. The decline in the production of table ware has already been commented upon and these alterations may represent a response to this shortage and could also be linked to changing fashions in eating habits.

4.4.7. Regional trends in Roman pottery – a comparative study

There are very few quantified assemblages from the Cheshire Plains region. Some rural settlement published recently have been quantified by fabric and form (Fairbairn 2002; Jones 2000; Philpott & Adams 1999). The military sites, however, were for the most part published before quantification of fabrics and forms became routine, although the excavated groups for Warrington were published with a full quantification (Webster 1993). Nevertheless it is possible to compare the fabric and forms at Barton Street with those published in the catalogues of older excavation reports. In style the pottery recovered from Barton Street compares well with other military sites in the Cheshire Plains. The number of parallels at sites such as Holt and Wilderspool demonstrate close links between these sites. At Holt similar types can be found for the narrow-necked jars, the bossed, barbotine decorated and painted beakers (the latter represented by bodysherds only at Barton Street, the reeded-rim bowls, the flagons, platters, cups, the form of a flanged bowl, but not the fabric), dishes, beakers and a wine strainer (Grimes 1930, nos. 40, 50, 54, 55, 80-9, 1-5, 11, 117, 125, 129, 134-7, 166, 157-8, 169, 201-2, 203 & 215-6 respectively). Few of the very fine wares or legionary wares studied by Greene (1977) from Holt have been identified, although a single glazed sherd from a conical cup is likely to come from Holt. Several vessel types, particularly in the second century, compare well with the Wilderspool types, namely the flagons, unguent pot, narrow-necked jars, roughcast beakers, honey pots, wide-mouthed jars, reeded-rim bowls, Dr 44 and 81 copies, Dr 37 copy, tazzes, colanders, Dr 27 copies, platters, and triple vases (Hartley & Webster 1973, nos. 1, 2, 7-8, 9-10, 23-33, 38-9, 46, 48, 53-5, 57, 59, 61, 64, 66 & 68-9 respectively). The small Trajanic kiln at Northwich contained only a small amount of oxidised vessels (Hanson 1972). These compare broadly with vessels from Barton Street but the group is too small to trace detailed comparisons. The stratified material from Northwich does provide some useful comparanda such as the form of the late first-early second century flagon, which compares with wide-mouthed examples from Holt, the platters which compare with Holt and the triple vase of Wilderspool type (Webster 1972, nos. 10, 17 & 45). Other vessels present, such as the rusticated ware, the painted red ware bowl and the Severn Valley ware type tankard are, however, absent at Barton Street (Webster 1972, nos. 13, 16 & 49). At Warrington, which was largely supplied by the Wilderspool kilns, parallels are also present (Webster 1992). Here the settlement obtained slightly more Cheshire Plains and BBI wares than Barton Street and comparable amounts of traded fine wares, such as Nene Valley colour coated wares and imported roughcast wares (Webster 1993, table 1). Barton Street has rather less Severn Valley ware, but this may be because of an earlier decline in activity as well as its position further inland to the north.

Further south of Manchester the sites at Whitchurch and Wroxeter provide contrasts and similarities. In the Flavian-Trajanic groups from Whitchurch forms such as reeded-rim bowls, carinated bowls, campanulate bowls, which at Manchester are commonly oxidised, were often in reduced fabrics (Webster 1969, nos. 119, 124, 129, 130, 137, 163), although an oxidised cup copying samian form Dr 27 and a glazed ware beaker probably from Holt indicate some similarities during this period (Webster 1971, nos. 115 & 145). Rusticated wares may have been more common. The Antonine groups appear from the published catalogue to include over 32 Severn Valley ware vessels, far more than at Manchester

(Webster 1969). This may, in part, be because the site continues later and there are larger groups of pottery dating to the late second century onwards. However, even in the second century groups contemporary with Barton Street Period 3 there seems to be more Severn Valley ware. This also contrasts with a group from Middlewich in which preliminary examination identified less than 1% Severn Valley ware (Evans 2002 assessment). Links between Whitchurch and Chester/Holt are established through small amounts of glazed ware in the Flavian-Trajanic period and, as at Barton Street., Verulamium mortaria were common. Possible Wilderspool mortaria of the Antonine period were identified but some of these, possibly all, may be from Wroxeter (Webster 1969, nos. 222, 299 & 302). Other similarities to Wroxeter wares were identified along with some Gloucester types (Webster 1969, nos. 263 & 270). The later pottery included Nene Valley ware but no Oxfordshire or Huntcliff ware were illustrated. Throughout the second to fourth centuries BB1 wares were present but the proportion of the assemblage made up by this ware is uncertain.

The trade between Manchester and Wroxeter in mortaria and probably flagons has already been mentioned. The late first-mid-second century material published from Wroxeter indicate rather less BB1 than at Manchester (Evans 2000, table 4.20, 11%). Mica-dusted wares appeared in small quantities in the late first and beginning of the second century, along with flagons and mortaria from Verulamium, and small amounts of white ware possibly from Holt (Evans 2000, 268). Most of the other wares were locally produced. A small amount of Severn Valley ware was identified, though the difficulty of distinguishing Severn Valley ware from the fine locally made oxidised wares was recognised, even with the application of petrological examination and atomic absorption spectrophotometry (Evans 2000, 268). Despite this, the numbers at Wroxeter confirm the impression from other sites in that very little Severn Valley ware was being traded this far north. Among the imports Pompeian red ware was identified at Wroxeter, which was also present at the Beetham Tower site, Deansgate (Martin pers comm.), but was not present at Barton Street. There are no Wilderspool mortaria identified among the Wroxeter group and no Cheshire Plains wares were found suggesting the trade represented by the Wroxeter mortaria may not have been reciprocal. The assemblage is dominated by local wares with more reduced fabrics (31%) than oxidised (19%). This seems to reflect a similar preference to that observed at Whitchurch (Webster 1969) and preliminary examination of material from Nantwich (Evans 2004), the occupation of which has been dated to the late second to early third century, suggests sites further north had a greater proportion of oxidised wares (40%) by the later second century. A lower quantity of oxidised wares at Middlewich (19%), a group dated by a preliminary assessment of the assemblage to the late first-second century, with less third-fourth century activity (Evans 2002), may reflect an earlier date range when, as at Barton Street, reduced wares were more common. Detailed analysis of these groups will, however, shed further light on the preferences of the different military units.

To the north, Swan (1984, fiche) records a waster from Ribchester which suggested production here in the late first-early second century, and this is also noted by Hird (2000, 191). Some differences between this assemblage and that recovered from Barton Street can be readily observed. Hird (2000), for instance, records that rusticated wares were common in the late first-early second centuries, which was certainly not the case at Barton Street, or indeed the other excavated sites in Manchester (Webster 1974; Walker 1986; and unpublished archive drawings for Jones' excavations at Deansgate). As at Barton Street, Lyons ware is present at Ribchester, but other fine wares such as eggshell ware and *Terra Nigra* present at Ribchester are absent at Barton Street. Ribchester also obtained mica-dusted wares similar to those at Barton Street and the suggested source is Holt (Hird 2000, 190). A Continental source is suggested for much of the roughcast ware at Ribchester, although the possibility of a source at Wilderspool is mentioned (Hird 2000, 190). As at Barton Street BB1 increases in quantity from the Hadrianic period but unlike the other Manchester assemblages the greywares increase as the BB1 wares rise in number, and it is the oxidised wares that decline in use. Hird (2000) describes the oxidised wares at Ribchester as

Wilderspool type, but notes that these were possibly produced at Walton-le-Dale, rather than Wilderspool itself. A local source is suggested for the Ribchester grey wares, which increase in number throughout the second century. From the later second and third centuries onwards small amounts of Nene Valley colour-coated wares, Rhenish ware and Oxford wares appear with rather more Severn Valley ware. The mortaria collection from Ribchester is similar in many ways to Barton Street, but contrast markedly in lacking the Wroxeter product and any vessels from Little Chester. This contrast may also be mirrored, though undetected, in the white ware flagons from the sites, but detailed work on flagon fabrics is required before this can be demonstrated.

To the east, groups at Melandra, Castleshaw, Brough-on-Noe, Derby and Rocester are instructive. Only a small amount of material was recovered from Castleshaw dating to the Flavian-Trajanic material with a little Hadrianic BB1 ware. Clarke (1989) considered the material dominated by local Cheshire Plains ware and a vitrified Flavian mortarium waster described as 'fired beyond its sinter point' suggests on site production rather than the sale of 'seconds' (Clarke 1989, 74 & 76 no. 5; cf. Swan's interpretation as wasters of a group of distorted Derbyshire ware jars at Derby, 1984, 125, which Brassington called 'seconds'). Although few details are known, this evidence would confirm that small local Flavian-Trajanic kilns supplied pottery to the forts during this period.

The material from Melandra falls into two groups: the Flavian-Trajanic to early Hadrianic stream group; and the early Antonine *mansio* group (Webster 1971). Within the stream group, the predominant jar form is the neckless everted rim jar, though rebated neck jars are also present (Webster 1971, nos. 49-56 & nos. 131-4). This compares well with Barton Street (no. 10) where the neckless everted rim jar predominates in Period 1 and falls to c. 40% of the jar assemblage in Period 2. During this period the rebated neck jars (no.15, c. 22% of the medium necked jars) also appear followed by small numbers of BB1 jars (15% of the medium necked jars). The stream group also includes reeded-rim bowls and flat-rim dishes and bowls and these compare to those at Barton Street (Webster 1971, nos. 80-83 & 68 cf. nos 5, 7, 25 & 77). Other comparable forms at Barton Street include jars similar to the rebated neck jar series (no. 15 cf. Webster 1971), and the bowl with pronounced flange which is paralleled in the Melandra stream group assemblage (no. 122 cf. Webster 1971, no. 117). Significantly, the bossed beakers of Holt type were illustrated from Melandra (Webster 1971, nos. 156 in an orange ware & 162 in a grey ware, but not mica dusted as at Barton Street no.38). Mica-dusted ware was also present in the stream group (Webster 1971, no. 75) in beaker form and a red-slip dish (Webster 1971, no. 85), but generally there was a lack of mica-dusted wares This, particularly the lack of cups and platters, contrasts with Barton Street although an eggshell ware beaker was identified similar to material from the Chester area, including Holt (Webster 1971, no. 39). Webster suggests a local source for some of the coarse wares from the stream deposit (Webster 1971, 63, no. 123 a distorted oxidised flagon & no. 147 a grey ware necked jar with a fairly narrow mouth). A tankard of West Midlands origin was also identified (Webster 1971, no. 101). In this period there are similarities between the Melandra stream group and Barton Street, although key wares such as the mica-dusted range are not well represented in the Melandra stream group compared with the Barton Street assemblage. Both sites do appear, however, to have been supplied by small local kilns, with some red slipped and mica-dusted wares, although Barton Street seems to have a better range of these fine wares. Glazed wares and Lyons ware have not been identified at Melandra.

As regards the functional characteristics of the stream group a full vessel type quantification was published by Webster (1971, table 2). This shows that the stream deposit was initially dominated by jars (52%), which declined to 33% in the *mansio* deposit during the early Antonine period. Compared with the proportion of jars from Period 1 and 2 at Barton Street (20-29% not including samian), this is high and might reflect functional differences between

the Flavian-Trajanic-early Hadrianic extra-mural occupation at Melandra, and the early Antonine phase, and also between the early phase at Melandra and Periods 1 and 2 at Barton Street.

In the *mansio* group at Melandra, dating to the early Antonine period, a similar rise of BB1 can be seen accompanied by a rise in roughcast ware beakers (Webster 1971, table 2, c. 50% & 7% respectively of the *mansio* deposit coarsewares). No rise in oxidised wares can be detected in the illustrated sherds and the non-BB1 wares catalogued are mostly in reduced fabrics. This may be an accident of selection but is more probably a real difference since Webster (1971) is unlikely to have failed to observe an increase in oxidised wares, such as that at Manchester, and this might mean Melandra followed the pattern of the forts further east in Derbyshire and Staffordshire. At Derby, Little Chester, local grey wares and some oxidised wares dominate the assemblage in the Flavian-Trajanic period and in the mid-second century grey wares decline dramatically in the face of competition from BB1, and Derbyshire wares (Martin 2000, table 5). Although there is a slight rise in the sherd count for oxidised wares during this period, this may result from more delicate beakers increasing the sherds count, particularly as this was the form being made in the oxidised fabric during this period, and using EVES values both the reduced and oxidised wares fell numerically in the mid-second century (Martin 2000, table 7) By the late second century the oxidised and reduced wares accounted for less than 10% each of the assemblage. Other studies of the Derby pottery either did not list the local reduced and oxidised ware separately (Birss 1985), or conflated all oxidised wares, including Derbyshire ware (Symonds 2002). However, the vessel type quantification in Birss (1985 table 6) shows a similar sequence with the types commonly made in oxidised wares declining in the late second century. The archive catalogue also shows that these table wares were not replaced by oxidised types (Birss 1985, fig. 45 nos. 174, 181, 182, 183 & 186 & fig. 46 nos. 188-90 were all grey wares). This pattern can also be traced at Brough-on-Noe where in the mid-second century 22% of the assemblage was made up of BB1, with 21% grey ware, 21% oxidised ware and 6% Derbyshire ware. By the mid-late second century around 27% of the assemblage was made up of grey ware, 11% oxidised and 24% Derbyshire ware, with only 8% made up of BB1 (Leary 1993, fig. 2 and archive tables & 118). At Chesterfield oxidised wares also decline from 40-50% of the assemblage in the Flavian-Trajanic period to just over 10% in the late second century (Leary 2001a, and archive tables). At Rocester, which has known links with Derby, the same pattern has been observed. Here oxidised wares were never common and fell from c. 7% in the Flavian-Trajanic levels to c. 4% in the Antonine deposits (Leary 1996, fig. 28; forthcoming a). Thus Melandra does not seem to favour the later oxidised wares, contrasting with Manchester, and, like the Derbyshire forts, has more grey ware in the Antonine period. Indeed, Melandra even obtained some Derbyshire ware (Webster 1971, no181), a fabric not found at Manchester.

The fall in BB1 at Brough-on-Noe during the late second century is somewhat anomalous since BB1 does not decline in the second century at Derby, but remains at just under 20%. At Chesterfield an average of 9% of the assemblages were made up of BB1 in the early Antonine groups, rising to 12% in the mid-late second century (Leary 2001a, 93-4 and archive tables) suggesting that the Derbyshire forts were obtaining less BB1 than Manchester in the Antonine period (29%). In this respect, it is probable that Melandra was more appropriately placed, geographically, to secure a better supply of these vessels. It may also be significant that the assemblage excavated from the settlement ditch at Mellor, Stockport, comprised 10% BB1, 16% Derbyshire ware, 15% Cheshire Plains oxidised wares and included other East Midlands types of fourth century date (Leary forthcoming b). Although this group covers the second to fourth centuries the quantity of BB1 suggests, that like Melandra, it too was able to obtain BB1 through the western supply route but, being on the edge of the Pennines, it also was able to acquire more Derbyshire ware than the Cheshire Plains sites. Significantly, the fabric profile present at Mellor contrasts with those from other rural sites in the Cheshire and Lancashire Plains, but also contrasts with rural sites in

Derbyshire which are, for the most part, characterised by a very large percentage of Derbyshire ware jars (Leary forthcoming b). At Roystone Grange, for example, only 1% of the total assemblage was BB1 ware while 57% was Derbyshire ware, with 5% grey ware and small amounts of oxidised wares, mostly of Derby Little Chester type (Hodges & Wildgoose 1981; Leary unpublished).

The Barton Street group, therefore, follows the pattern of nearby forts in the Cheshire Plains, but contrasts with the Derbyshire and Staffordshire forts in that it displays very different supply patterns from the Antonine period onwards. This contrast is also seen in the second century assemblages from Melandra and Mellor. Over a wider area, the quantification of later groups from Manchester and their comparison with later groups from the Pennine forts, and forts to the north would be most instructive. A comparison of this kind would, for example, permit some details to be added to the picture presented by Webster (1982) of markets largely dominated by traded wares such as BB1, Nene Valley colour coated wares, Rhenish wares, Colchester products and Oxfordshire wares, with Mancetter-Hartshill mortaria, Severn Valley ware, Huntcliff ware and some local production (Webster 1974, 94 & fig. 39 no. 194). The few late sherds from Barton Street are of BB1 ware with a few Nene Valley colour coated sherds. At Mellor late double lid seated jars of the type made at Swanpool, Lincolnshire (Webster & Booth 1947, type H) indicate another source of late pottery while at Roystone Grange, Huntcliff ware was present along with Oxfordshire red colour coated and Nene Valley wares (Leary unpublished). These few groups add to an understanding of Roman ceramic exchange in the third to fourth centuries and suggest that the east-west network may have become more significant, with small amounts of pottery coming from the Nene Valley, Lincoln and East Yorkshire and south west from Mancetter and Oxfordshire, although the coastal route continued to be used in the supply of BB1 wares.

Wild (2002) has used the samian evidence to suggest an earlier date for the road from Little Chester through Manchester to Ribchester along the edge of the Pennines than King Street (Wild 2002). It is, perhaps, significant then that the present assemblage from Barton Street, along with those from Strutt's Park (Leary 2001b) and Ribchester, all have sherds of Lyons ware which appear to be missing among the groups from Rocester, Middlewich, Northwich, Wilderspool and Walton-le-Dale (Willis 2003, fig. 1), and this might support Wild's (2002) hypothesis.

The material from Barton Street can, therefore, add to an understanding of changes in the exchange patterns and local ceramic styles through time. Study of the groups around Manchester and those to south, east and west show differences in the preferred colour and forms of the pottery, as well as in the accessibility of traded wares. Consideration of the evidence from different periods suggests that quite different solutions to the needs of the inhabitants were adopted in the Flavian-Trajanic period when small local kilns met the needs of the forts, and in the Antonine periods when local supplies, either near the fort or further away in the Cheshire Plains, were augmented by traded coarse wares in the form of BB1 from Dorset. In the third century this latter supply continued, but by the fourth century sources from much further away in East Yorkshire, Lincolnshire and the Nene Valley may have made up the shortfall as local kilns declined. Differences between Barton Street and the material from Mellor may indicate that although the fort was very near the edge of the Cheshire Plains zone, the native settlement at Mellor accessed both the Derbyshire and the Cheshire Plains ceramic zones whereas the fort only accessed markets and potteries supplying the other forts in the Cheshire Plains. This may reflect differences in tribal contacts maintained by the inhabitants of Mellor, detected also in the nature of its Iron Age pottery, which was not shared by the military forces at Manchester.

4.5. The Mortaria

Kay Hartley & Ruth Leary

Two hundred and eleven sherds (16453g) from a minimum of *c.* 100 mortaria were identified. An archive catalogue of all the mortaria was prepared by Kay Hartley along with a report on the fabrics and stamped mortaria. The overview was written by Ruth Leary in consultation with Kay Hartley. All *italicised* numbers refer to the archive catalogue numbers. All numbers in **bold** refer to the illustrated sherds

4.5.1. Fabrics

Fabrics descriptions relate to the mortaria in this sample rather than being appropriate for the whole production, eg the description for Little Chester relates to the one mortarium directly attributable to this source, there are other variations.

Cream and pale fabrics

Fabric 1: Northern France: Oise/Somme area

There is sufficient evidence in the mass of sherds, the presence of several stamps of C Iulius Priscus and some wasters to show that this fabric was being produced at Noyon in Oise, but other potteries producing a similar fabric also existed elsewhere in the Oise/Somme area of northern France (Hartley 1998, 201; see also Tomber & Dore 1998, 75-76).

Self-coloured, yellowish-cream fabric, sometimes with pink core; fabric softer, more powdery and more open in texture than Fabric 2. Inclusions: moderate, tiny to small, quartz, red-brown and black material. Trituration grit: flint, quartz with occasional red-brown.

Fabric 2: Northern France (see comments and references as for Fabric 1)

Self-coloured, quite hard, fine-textured, buff-cream to brownish-cream fabric, sometimes with pink in the core. Inclusions: very moderate to fairly frequent, mostly minute quartz with some red-brown and black material, also sparse white, calcareous and a few large red-brown inclusions. Trituration grit: mostly flint with some quartz.

It is not clear whether Fabrics 1 and 2 represent different sources but both can be attributed to northern France. Both fabrics disintegrate easily in adverse conditions eg acid soils, waterlogged contexts.

Fabric 3: Verulamium region: Kilns are known at Bricket Wood, Brockley Hill, Radlett and Verulamium, but unless the specific kiln-site is known or suspected, the term 'Verulamium region' is used (Tomber & Dore 1998, 154-5)

A granular, usually greyish-cream fabric sometimes with pink core; and often with cream to buff-cream slip; the fabric can be orange-brown but still granular. The texture is caused by the presence of a vast amount of moderately well-sorted, small quartz inclusions with a little flint and very sparse red-brown material, all of which may be present in the clay (*cf.* Seeley & Drummond-Murray forthcoming). The trituration grit consists of flint, red-brown material and a little quartz. Although this is the common fabric associated with these potteries, they also produced another fabric which is similar in every way except for having smaller sized and perhaps fewer inclusions; it is consequently smoother to the touch.

Fabric 4: Oxford (Tomber and Dore 1998, 174-5, white ware)

Fabric 5 : Mancetter-Hartshill, Warks

Fine-textured, cream fabric, varying from softish to very hard, sometimes with pink core; self-coloured or with a self-coloured slip. Inclusions usually moderate, smallish, transparent and translucent white and pinkish quartz with sparse opaque orange-brown and rarely blackish fragments; rarely white clay pellets (or re-fired pottery). The range in fabric is, in fact, quite wide, from that with virtually no inclusions to fabrics with a fair quantity and fabrics with hard, ill-sorted black inclusions. The trituration grit after AD130-140 consisted of hard red-brown and/or hard blackish material (probably re-fired pottery fragments), with only very rare quartz fragments. Earlier mortaria usually have a mixed trituration grit in which quartz and sandstone are normal components and some early second-century mortaria probably have entirely quartz trituration grit.

Mancetter-Hartshill mortaria of AD130/140 onwards are usually easy to recognize, but Mancetter-Hartshill fabrics of AD100-130 are more variable. It is at this period when there can be difficulty in distinguishing Mancetter-Hartshill, Little Chester and Wroxeter fabrics. A further difficulty is that a few potters were active at both Mancetter-Hartshill and Little Chester.

Fabric 6: Little Chester, Derbyshire

Cream fabric with rough surface and substantial, dark grey core; self-coloured or with self-coloured slip. Inclusions: fairly frequent and ill-sorted; angular quartz, red-brown material and hard black rock; mostly tiny to smallish, but with occasional large black rock. Trituration grit: almost entirely, quartz (angular, large to small) with the odd red-brown, black and rich, softish red-brown (? haematite) and soft cream (? clay pellet).

Fabric 7: Wroxeter (location of kilns unknown, but serving Wroxeter as their primary market).

The floruit of these potteries was within the period AD100-150/160. One or two potters may perhaps have started marginally earlier than AD100.

Cream fabric, varying in texture from softish to very hard and often with a buff-cream slip. Inclusions: again varying, moderate to frequent, ill-sorted quartz, red-brown and opaque black material. Trituration grit: mainly quartz, quartz sandstone, red-brown sandstone, black rock. No. 78 (Decanius) has a rather exceptional fabric: body of the fabric is a brownish-orange, but fired to cream on all surfaces with sometimes a sliver of greyness beneath the cream. Inclusions: moderate to fairly frequent, ill-sorted, tiny to large, quartz, opaque black and red-brown. Trituration grit: mostly quartz, ?slag and red-brown material and pale yellowish-brown sandstones.

For a fuller description of the range produced in these potteries see James 2003, 245, Fabrics 8-12; see also Tomber & Dore 1998, 179.

Fabric 8: Almost certainly Wroxeter

Extremely hard, buff-cream fabric with pink core and pale brown slip. Inclusions: fairly frequent, completely ill-sorted, tiny to large, mostly quartz (transparent and pinkish) and red-brown sandstone, with rarer opaque black material. Trituration grit: quartz and ?quartz sandstone.

Fabric 9: Possibly Colchester

Drab, self-coloured creamy brown. Inclusions: very moderate, ill-sorted, but smallish, slag and quartz. Trituration grit: the few surviving appear to be mostly flint which given the fabric and the rim-profile of *no. 32* could indicate Colchester as the source. This is, however, an unlikely source for Manchester especially in the early second century when any mortarium workshops existing at Colchester were not selling to a wide market.

Fabrics 1 and 2 are basically similar to Colchester fabrics, but this sherd, *no. 32*, lacks the concentric scoring which would have been used in the north French potteries and the rim-profile is not convincing as one of their products.

Fabric 10: Most likely source Castleford (Rush, Dickinson et al 2000, 169, Fabric 105)

Fine-textured, notably micaceous cream fabric. Inclusions: moderate to fairly frequent, but mostly minute, orange-brown sandstone and quartz. Trituration grit: The surviving grits show that it included quartz and red-brown sandstone. No slip survives and it may have been self-coloured.

The micaceous quality of the fabric is the significant factor in attributing it to a source. Of all the known sources likely to have been involved at Manchester, the most obvious one for this fabric is Castleford, where the 'pottery-shop' mortaria had the same quality and the fabric and trituration grit appear to be similar (Rush, Dickinson *et al* 2000, 169, Fabric 105; discussion 183-6; see also note on No. 9). On present evidence, the only other possible source could be in the Lincoln area where some workshops produced a micaceous cream fabric. However, the possible sources for the 'pottery-shop' mortaria were exhaustively explored and the conclusions arrived at are still up to date. We await the discovery of kilns producing cream wares at Castleford, but there can be no reasonable doubt that they existed. It is also worth noting that the positive links through stamps on these Castleford mortaria were with Aldborough (where there is no evidence for micaceous fabric), not Lincoln; this suggested, on the whole, that certain potters (*ibid*, fig. 97, illegible stamps nos. 6-12) had either simultaneous or consecutive workshops at Castleford and Aldborough.

Fabric 11: Rocester, Northwich or Little Chester

Self-coloured, cream fabric with slightly abrasive surface. Inclusions: sporadic, moderate to fairly frequent, tiny to medium-sized, transparent quartz, red-brown and black material. Trituration grit: the little surviving includes irregular quartz, red-brown and pale brown and black rocks.

Pink- to orange-brown fabrics

Fabric 12: North-west, Cheshire plain

Softish, pink-brown fabric, self-coloured. Inclusions: moderate plus, ill-sorted, mostly quartz with some red-brown material. Trituration grit: large to smallish, transparent and pinkish quartz, quartz sandstone, red-brown sandstone, black slag, and perhaps black rock.

Fabric 13: North-west, Cheshire plain

Fine-textured, dark ochre fabric, fired to pale orange-brown at surface and with cream slip. Inclusions: moderate, sporadic, ill-sorted, quartz, red-brown sandstone and rare black material. Trituration grit: mixed, red-brown sandstone, quartz, black and rare pale ?sandstone.

Fabric 14: Cheshire plain

Fine-textured, rich orange-brown fabric with cream slip often surviving only in traces; the fabric can have a pinkish core. Inclusions: ill-sorted, minute to smallish, rounded quartz with red-brown, black and grey material. Trituration grit: almost entirely quartz with hackly fracture; other mixed tiny grits are as in the inclusions and may in fact be inclusions which are visible in the surface.

Fabric 15: Wilderspool 1

Bright orange-brown, slightly abrasive fabric, often with thin cream slip which often survives only in traces. Inclusions: frequent, sand-sized up to small, mostly quartz with some opaque, black and red-brown material. Trituration grit: mixed, quartz, quartz sandstone, red-brown and pale brown sandstone and hard grey material.

The mortaria can have a grey core and the texture can vary and can be less abrasive (eg No. 121).

Fabric 16: Wilderspool 2 (Rhaetian)

Orange-brown fabric, finer textured than Fabric 14, with dense, red-brown slip normally limited to the upper side of the flange and any internal concavity below the bead. The slip may or may not extend over the spout dependent on whether the potter applied the slip before or after cutting out the spout (the best practice was to cut the spout first of course.) Inclusions: constituents as in Fabric 14 and still frequent, but smaller and probably fewer. The difference in texture appears to derive either from removing much of the sand content of the clay or in choosing a finer clay of the same type. Trituration grit: constituents as fabric 14, but in the Rhaetian mortaria they were more likely to use smaller fragments and to pack it more closely together; in theory the grit should not extend into the concavity, but odd strays do occur.

Fabric 17: Probably Wilderspool 3 (No. 79)

Powdery, fine-textured, orange-brown fabric with pink core and traces of cream slip. Inclusions: very moderate, sporadic ill-sorted, quartz with some black material. Trituration grit: small to medium, quartz, pale and red-brown sandstone, quartz sandstone and rare cream fragments (?clay pellets).

Fabric 18: Probably Wroxeter

The Wilderspool potteries produced a fine, red-brown fabric which was probably used only for Rhaetian type mortaria and fine wares (Hartley 1981; Hartley & Webster 1973, 81, fig.3). The finer Rhaetian fabrics can be very difficult to distinguish so that no. 19 could possibly be Wilderspool although on balance Wroxeter seems to be the more likely source; this is a type C Rhaetian form and the main production at Wroxeter was in this form while few type C were produced at Wilderspool (Hartley in prep).

Fine-textured, lightweight, orange-brown fabric with drab ochre core and smooth surface with brown or red-brown Rhaetian slip. Inclusions: few, ill-sorted, sporadic, quartz, black and possibly other rocks. Trituration grit: as Fabric 7.

Fabric 19: Cumbria? (no. 136)

Slightly powdery, orange-brown fabric, sometimes with pinkish core, with traces of cream slip. Inclusions: moderate to frequent, minute to small, mostly quartz with rare opaque black and red-brown ?sandstone. Trituration grit: mixed quartz, red-brown sandstone, quartz sandstone and rare black and very rare gold mica.

Fabric 20: Cumbria (no. 68)

Hard and crisply-fired, orange-brown fabric with dark grey core and matt tan-coloured slip. Inclusions: moderate to fairly frequent, poorly distributed and ill-sorted, mainly quartz with some red-brown and black material and gold mica. Trituration grit: quartz mostly with hackly fracture, some gold mica and black rock. Bodysherd no. 68 has survived in an apparently perfect state in adverse soil conditions. Bodysherd no. 95 has been placed in Fabric 20 because of the presence of gold mica in both inclusions and trituration grit, but in other respects it fits better into Fabric 21; no traces of any slip have been found on no. 95 but this could be due to poor preservation.

Fabric 21: Cumbria? (no. 123)

Fairly hard, orange-brown fabric with substantial grey core sometimes extending closely enough to the surface to suggest post-firing oxidation. Inclusions: fairly frequent, but poorly distributed, ill-sorted, mostly quartz, with some red-brown and rare black material and transparent mica. All sherds retain traces of cream slip. Trituration grit: no certain trituration grit survives, but quartz would certainly have been a major constituent.

Nos. 138 and 102, tentatively identified as in fabrics 16 and 21 respectively, are not warped, but they are either wasters or severely enough burnt to become the equivalent of wasters.

4.5.2. Stamped and unstamped mortaria (Illus 67-9)

Archive catalogue numbers are listed in italics at the end of each entry; Context details are also listed at the end of each entry.

1. Fabric 3, Verulamium region. Heavily worn mortarium with concentric scoring inside only. AD60-90. 2, context 988.
2. Fabric 12, North-west, probably Cheshire plain. Condition: heavily worn. AD100-150. *No 3* (Context 862) joins *4* (Context 862), *60* (Context 922), and *61* (Context 922). *23*, context 242, are from the same vessel.
3. Fabric 6, Little Chester. Condition: well-worn. The right-facing potter's stamp survives. This may be a two-line trademark stamp, but it is possible to read letters on both lines, so it could just be unintelligible to us. By collating the clearest examples certain points are clear: it has the letter O at the beginning and end of the stamp on a level with the central dividing line, acting as decorative motifs or space fillers. The upper line could have just motifs or some reading based on the ligatured letters MV, MAV, MNV, AMV or even MANV. The lower line is MA or AAA: these readings are quite acceptable the lower line as contractions for 'MANV', 'by the hand of', a term very rarely used in mortarium stamps, but especially favoured by Austinus (McCarthy 1990, 261, fig. 195, 1-7); it could equally be a series of motifs used by a semi-literate potter. The stamp will never be understood unless the potter used another, less obscure die. It is, however, easily recognisable and stamps from the same die have now been noted from: Brough-on-Noe; Little Chester (Brassington 1980, fig. 21, no.564, drawn the opposite way up); Manchester (3; 1 Barton St; 2, Deansgate (unpublished); Melandra Castle; Rocester (4, Cleary & Ferris, 67, fig. 31, no.24 and p. 69, drawing incorrect in detail).

This potter used two fabrics, a roughish, orange-brown one with grey core and Fabric 6. All the mortaria from Rocester and that from Brough are in Fabric 6, while the Little Chester and Melandra stamps are in red-brown. There is no doubt that similar fabrics were being produced in the early second century at Little Chester (Brassington 1971, p53, note the two mortaria of *Septiminius*, one in each fabric and

both probably wasters; *Septuminus* also probably worked in the Mancetter-Hartshill potteries).

It is needful to keep an open mind on the possibility that a workshop at Rocester could have produced the 'trademark'. No kilns have been found to date at Rocester, but the mortaria recorded from there suggest that similar fabrics were also produced there. It is even possible that the same potters may have been active at both Rocester and Little Chester. However, until further evidence appears to substantiate activity at Rocester, this potter should perhaps continue to be regarded as working at Little Chester. It is worth noting that at least three potters attributed to Little Chester did have a market, however limited, outside Little Chester while those tentatively attributed to Rocester are not recorded outside Rocester. The question of which potters worked at Little Chester and at Rocester will only be settled by the discovery of further kilns on both sites (see discussion of links between Hartshill/Mancetter, Little Chester and Rocester in the early second century in Ferris, Bevan & Cutler 2000, 34-35).

The floruit of the Little Chester kilns appears to have been in the early second century though some production probably continued. The rim-profiles used by this potter would fit such a date well and are certainly not later than Hadrian.

6, context 143, 24 and 25, both context 247, and 13, unstratified

4. Fabric 7 variant. Potteries in vicinity of Wroxeter. The incomplete stamp, partly obscured by accretion, reads DECAN[III], AN ligatured. This is from a die of Decanius, probably in the genitive case. This is from the most commonly used of seven dies of Decanius; no impressions from it are ever complete. Stamps of Decanius are recorded in Wales from Brecon Gaer (3); Carmarthen (3); Caersws (2); Penyarden Park (2); Usk; in Scotland from Bar Hill and Old Kilpatrick on the Antonine Wall; and in England from: Alcester (3); Birdoswald (2); Chester (2); Carlisle; Corbridge; Gloucester (2); Ravenglass; Shapwick, Dorset; Wilderspool; Worcester (4); and Wroxeter (38). Decanius's mortaria and their distribution are closely matched in those with a series of letter stamps perhaps used by semi-literate potters (Walker 1958, 46 & 48, nos. 43a & 44, fig. 9, nos. 1-2). The distribution pattern proves beyond doubt that all worked in a pottery which regarded Wroxeter as their home market, though no evidence of their kilns has yet been found; nor is it known where there was suitable clay available in the vicinity. Decanius also had an interesting trade in Wales and smaller markets in south-west and north-west England; two of his mortaria reached forts on the Antonine Wall. The two latter could have been carried by military troops, but the growing numbers in north-west England suggest some trade. The pottery post-dates the military occupation of Wroxeter and its floruit was clearly in the first half of the second century; its production has to fall within the period AD90-160. Decanius and the above mentioned semi-literate potters produced identical work and must have been contemporary. One stamp of Decanius is recorded as on the primary floor of the Wroxeter forum (Atkinson 1942, 281, fig. 40, no. 2, described as illegible). The stamps from Brecon are likely, to be earlier than AD140, to judge from other pottery from the site. Stratigraphic and site evidence, plus that of the rim-profiles suggest that their production was within the period AD100-150, optimum date AD110-150.

The flange fragment no. 15 (context 554) joins no. 78 (context 54) and they both join 12 (context 554) and 110A (context 54); three base and body sherds in 15 do not join, but are from same vessel; nos. 59 (slightly burnt, context 922), 83 (context 54), 91 (context 54), and 119 (context 54) are all from same vessel. No. 5 (context 862)

might also belong and was burnt. These fragments suffer from accretion and discolouration.

5. Fabric 3, Verulamium region. Eight joining sherds from a well-worn mortarium with a fragmentary, stamp which can be read with reasonable certainty as the lower parts of DO[...] from the most commonly used and probably the latest die of Doinus (Castle 1972, fig. 5, D), showing also part of the lower border. Doinus worked at Brockley Hill within the period AD70–110. Die D was probably in use later than AD80. See *ibid* 84–85 for further details of his work; there is, however, no evidence that the kiln excavated actually belonged to Doinus. 13, context 554.
6. Fabric 18 Wroxeter. Condition: very heavily worn. Rhaetian mortarium type C (Hartley in prep). This mortarium could, on fabric grounds, be from Wilderspool but Rhaetian type C mortaria were made in infinitely greater numbers at Wroxeter so this is a more likely source. Antonine. 18 and 19, context 242.
7. Fabric 5. Mancetter-Hartshill potteries. Condition: some burning before fracture. The rim-profile is similar to no. 64, but this from a different mortarium, dated AD100–130. 20, context 242.
8. Fabric 5. Mancetter-Hartshill potteries. A distinctive type which post-dates practice of stamping and which is closely matched in mortaria found in Kiln 2 at Mancetter (unpublished). AD180–230. 22, context 242.
9. Fabric 10, probably Castleford. Condition: very heavily worn. The right-facing stamp is illegible, but easily recognisable as from the same die as a stamp found at York. The fabric of this mortarium fits better with production at Castleford than elsewhere and the rim-profile would also fit with manufacture there in the mid-second-century about the time when the ‘pottery-shop’ mortaria were produced. Distribution, such as it is, also fits production at Castleford and further finds will help to clarify the source. (See comments under Fabric 10.) 28, context 652
10. Fabric 7, Wroxeter. The form indicates a date range of AD 110–150. This form is unusual for Wroxeter. 34, context 683.
11. Fabric 16 Wilderspool 2. Rhaetian type A with surviving handle. Within the period AD100–150. 37, context 684.
12. Fabric 16 Wilderspool 2. Sub-Rhaetian mortarium type B. Probably Hadrianic–Antonine. 40, context 688.
13. Fabric 15, Wilderspool. The abraded and probably poorly impressed stamp is from the single die of Decmitius; the retrograde stamp is divided into four quarters, probably reading DE/CMI//TI/VS. His mortaria have now been recorded at Lancaster, Manchester (3 (Barton St 1; Deansgate 2); Wilderspool (7); and Walton-le-Dale (2, one from a pottery making area). This mortarium will no doubt be from Wilderspool, but his presence on the pottery making site at Walton-le-Dale indicates that he was also active there, though his limited distribution shows that unless he made unstamped mortaria he was one of the least important of this group of potters. His rim-profiles indicate activity within the period AD100–140, optimum date 110–130. 41, context 688.
14. Fabric 16 Wilderspool 2. Sub-Rhaetian type B. Rhaetian type B was uncommon except at Wilderspool is the likely source. Probably Hadrianic. 45, context 688.

15. Fabric 16. Full profile of Rhaetian mortarium type E. AD100-160. 56, context 760.
16. Fabric 5. Mancetter-Hartshill potteries. The fragmentary right-facing stamp is the lower part of a retrograde FECIT counterstamp which was used in combination with one particular name-die of G. Attius Marinus. It is from the same die as one from Manchester (Jones & Grealey 1974, fig 35, no. 50). The lettering in this pair of dies is carelessly formed especially in the name-die while that in his commonest midland and Radlett name-dies, which are more legible, have been regarded as 'undecipherable and probably not intended for words' (Page 1898, 266). Up to fourteen mortaria are now recorded with stamps from this pair of dies, from: Barton-on-Humber; Elslack; Leicester; Lincoln (2); Little Chester; Manchester (2); Melandra Castle (3); near Pocklington, north-east Yorks; Ribchester; and Scunthorpe. It has sometimes been thought that this pair of dies might have been used at some workshop other than the Mancetter-Hartshill potteries partly because these are the only dies of his which are sometimes associated with red-brown fabrics (Elslack; Pocklington; and Scunthorpe). A few early second-century Mancetter-Hartshill potters did make mortaria in red-brown fabric as well as cream, so that this, of itself, is not a reason for assuming production elsewhere. However, there is a possibility, though no hard evidence, that he could have been active at Little Chester perhaps in addition to his mainstream activity in the Mancetter-Hartshill potteries (Wheeler 1985, 124-129), but mortaria made at Little Chester would not normally reach Lincoln and Leicester. This Barton Street example, however, is as good an example as one might find of a Mancetter-Hartshill product of the period AD100-130. Because the dies G. Attius Marinus used most commonly in the Mancetter-Hartshill potteries are clearly linked to his earlier activity at Radlett, Herts (Page 1898) it seems likely that the pair of dies in question may well have been the latest in use because of the extent to which they differ from their Radlett predecessors. It is therefore possible to suggest a date at least in the second half of the period AD100-130. (For details of his earlier activity at Radlett and at Colchester see Symonds & Wade 1999, 199, S21-22; Frere 1972, 373-4, no. 12; Wheeler 1985, 124-129). 64, context 790.
17. Fabric 4 Oxford Variant of Young type M13 and dated by him to ?AD180-240 (Young 1977); it could perhaps begin a little earlier cAD160. 69, context 54.
18. Fabric 5 Mancetter-Hartshill. Mortarium with traces of red-brown motifs on the flange. Third century, probably AD 200-250. 72, context 54.
19. Fabric 5, Mancetter-Hartshill. Condition: burnt. Rim sherd with bead which can be seen continuing through the spout, an indication in these potteries of a date not earlier than late Antonine. AD 170-210. 76, context 54.
20. Fabric 16 Wilderspool 2 Sub-Rhaetian type B, probably Hadrianic. 77, context 54.
21. Fabric 11, probably made at Rocester, Northwich or Little Chester. Condition: worn. A small amount survives from the border of a potter's stamp. This border with its wide, regular and very neatly made diagonal bars is unusual in stamps used in northern England or the northern midlands. Only two mortaria are known in fairly similar fabric which provide possible matches, one from Northwich, Cheshire ([...]VMORV retrograde, unpublished), the other from Rocester (Cleary and Ferris 1996, p65, fig. 29, no. 9, drawing of the semi-legible stamp poor); this Barton Street stamp could be from the lower border of either. The rim-profiles of no. 94A and the Rocester mortarium are very close and the Northwich one not too dissimilar. Kilns are known to have existed at Northwich and Rocester, but Little Chester has to be

regarded as another possible source. The rim-profile would best fit with manufacture within the period AD90-130. *94a, 84* (both context 54) and *140* (unstratified).

22. Fabric 21? This mortarium is not distorted, but the fabric is sintered and heavily reduced throughout and has the appearance of a waster. It could be a waster and indicative of local production, but it should be remembered that undistorted and complete wasters were often sold, and that excessive heat can produce a similar effect to overfiring. It is a small mortarium of the same general rim-type as many attributed to the Cheshire Plain and Cumbria (Fabrics 12, 14, 21). There is enough colour surviving to indicate that it was intended to be orange-brown with a well-defined grey core and it also has entirely quartz trituration grit; areas of cream slip survive. Fabric 21 is the only one of the fabrics which has all of these features. It may be from the same source as others in Fabric 21 and will certainly be of similar date, made probably in the first half of the second century. *102*, context 54.
23. Fabric 15 Wilderpool 1. profile and spout of well worn mortarium. *121*, context 10.
24. Fabric 2. Northern France, perhaps in the Oise/Somme area, but this rim-profile was also produced at Taverny in the Val d'Oise. Gillam form 255. Antonine. An uncommon type in the north. *132*, unstratified.
25. Fabric 13 North-west, Cheshire Plains area. Condition: worn. Hadrianic-Antonine. *135*, unstratified.
26. Fabric 19 Cumbria. Condition: heavily worn and slightly singed. This mortarium has never been stamped. Probably of Flavian date or just possibly early second century. A wide date-range has been allowed for this unusual mortarium, but it does in fact look Flavian with pre-Flavian overtones rather than later and if it is Flavian could certainly be assumed to be of military origin. The closest parallel for the form is a local product for the fort at Metchley (Jones 2001, fig. 41, M6). The Metchley example is pre-Flavian, but there are several examples of the odd pre-Flavian type apparently still being made in Flavian military workshops (Hanson in prep.). *136*, unstratified.
27. (not illust) Fabric 16? Rhaetian Type B. The fabric of this mortarium is too completely sintered for the potter's intention to be clear, but as is a Rhaetian form one may reasonably assume that it was the normal red-brown colour and had the usual Rhaetian slip. Type B was an uncommon Rhaetian type except at Wilderspool so it is more likely to be from there than Wroxeter or anywhere else. If it is a waster from a kiln it would indicate that Rhaetian mortaria were being made at Manchester, which is not impossible since there is evidence to suggest that they were made at many places. It is likely to be Hadrianic. Like No. 22 this is technically a waster. *138*, unstratified.

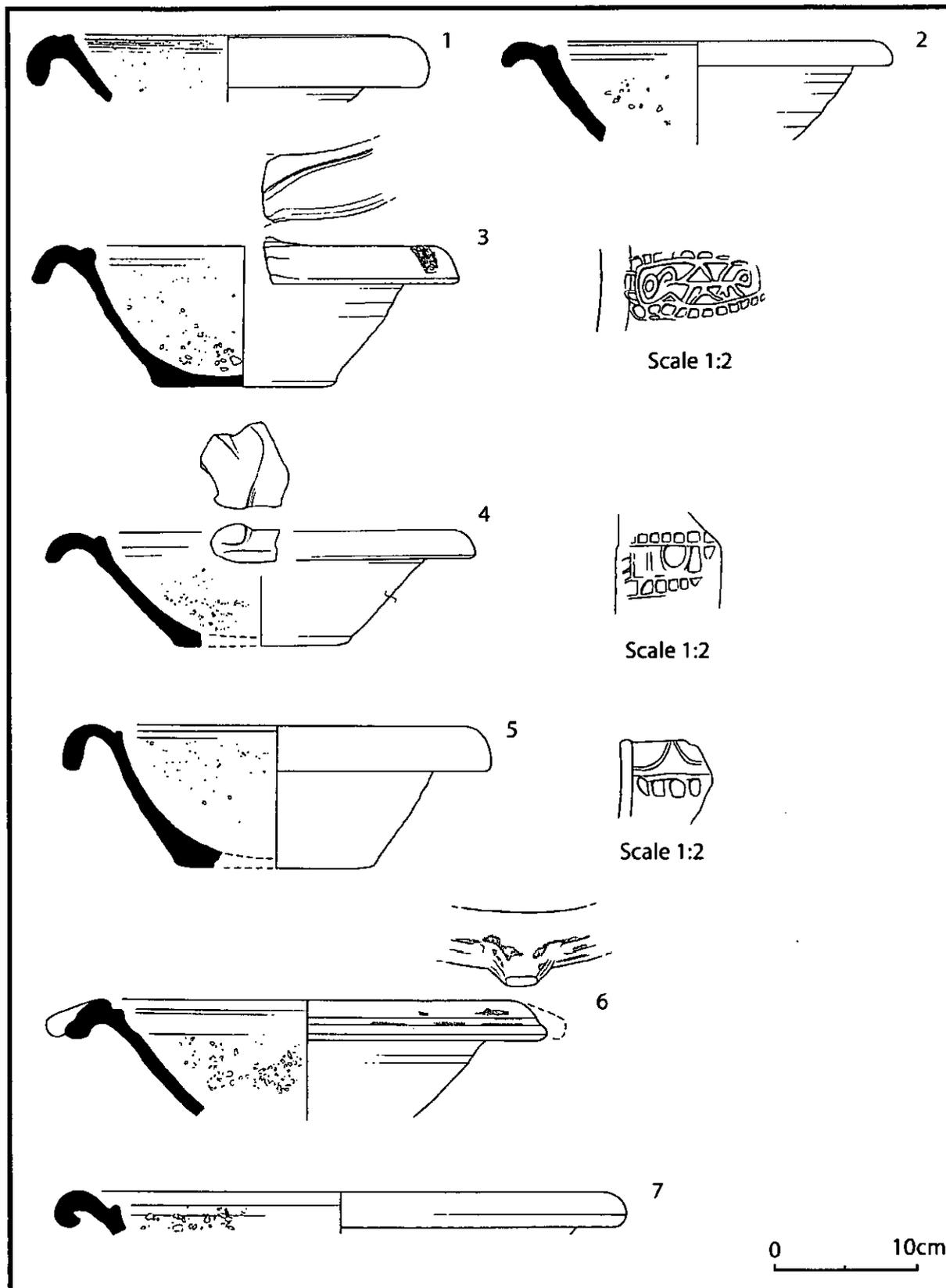


Illustration 67. Mortaria.

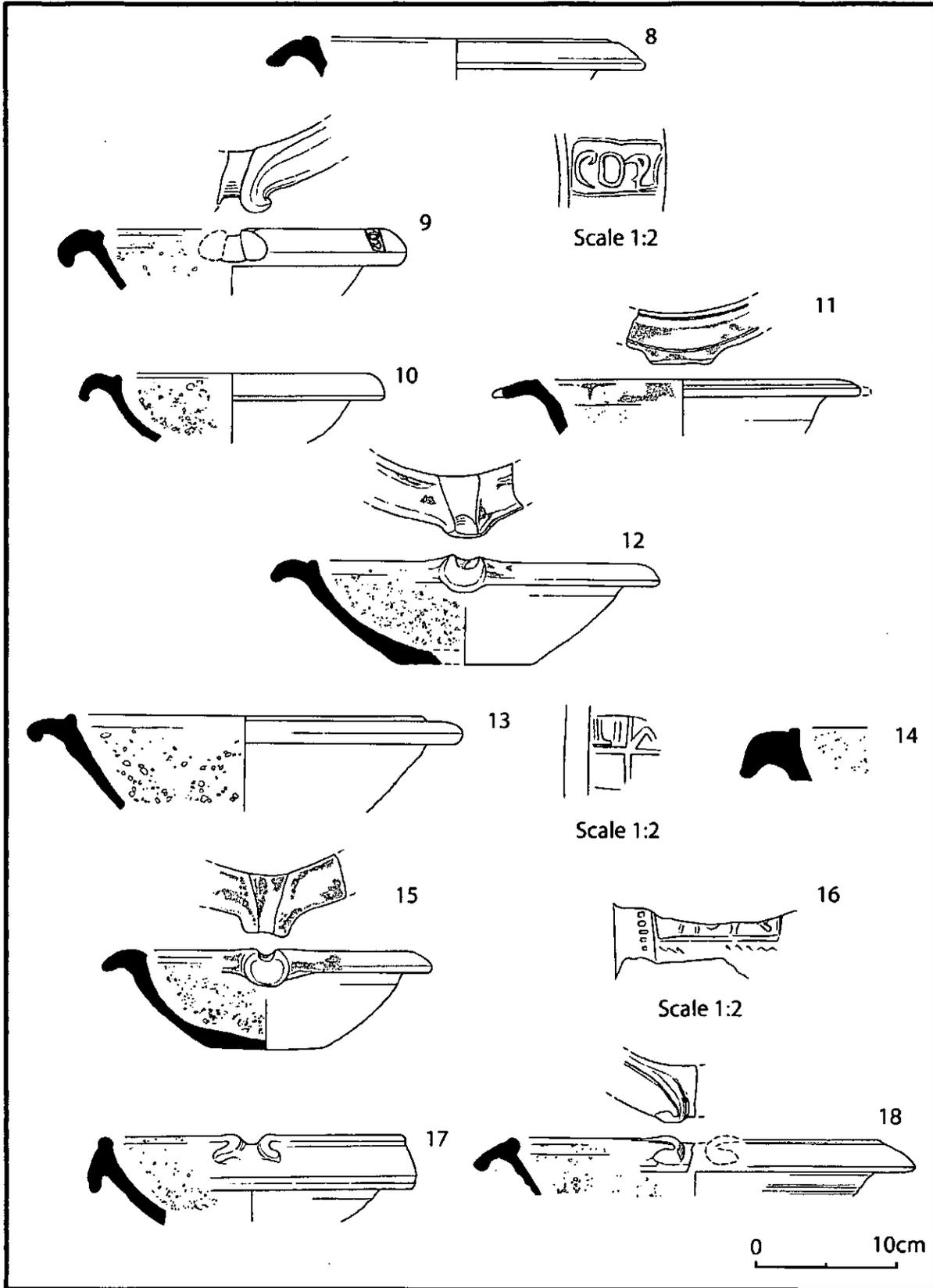


Illustration 68. Mortaria.

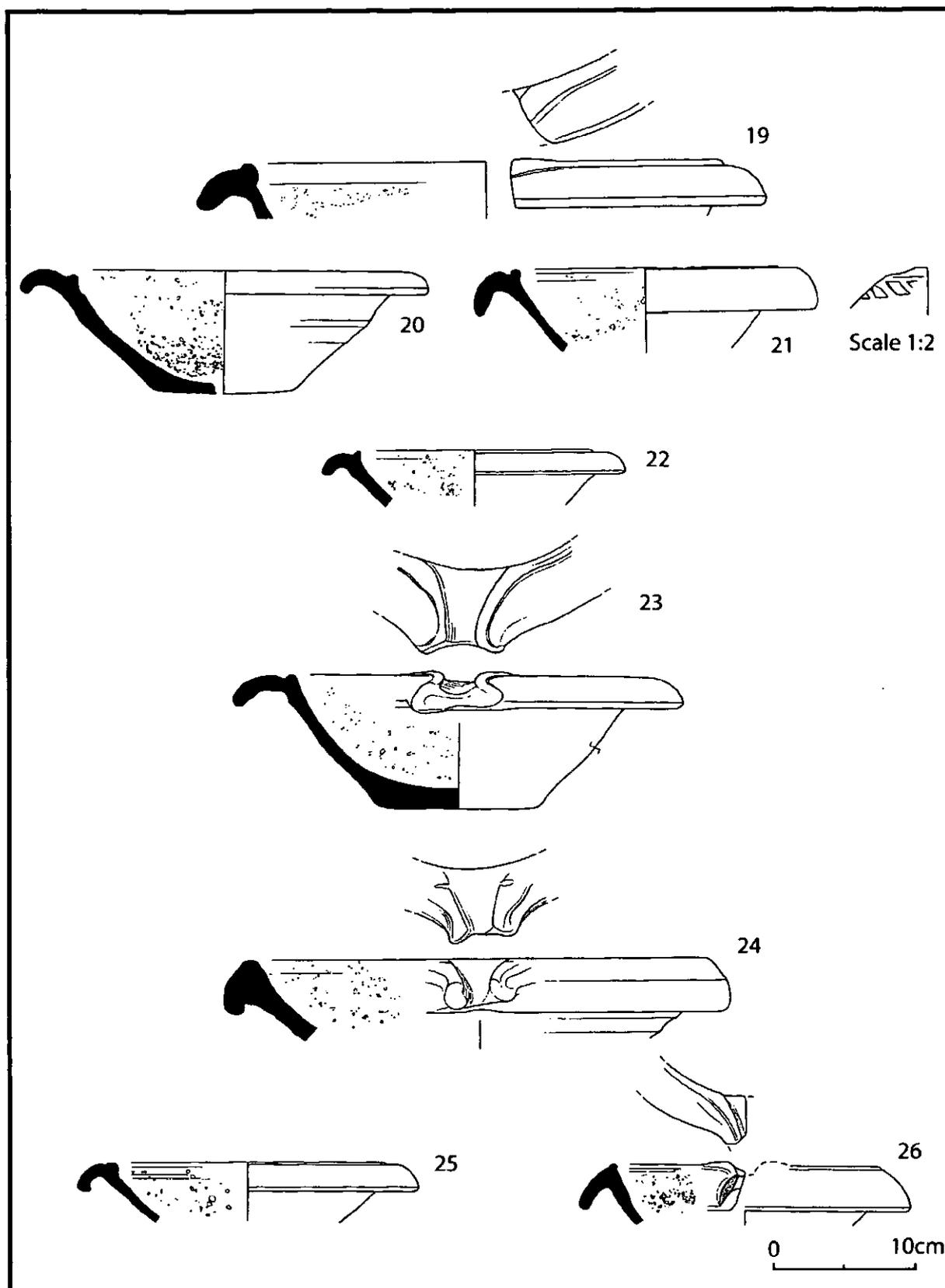


Illustration 69. Mortaria.

4.5.3. Comments

Summary (see also Appendix 3)

Numbers of vessels:	c. 100
Numbers of sherds	211
Weight	16,453 kg

Sources, mainly or solely first century

Verulamium region (60-110)	4
N. France (Oise/Somme)	2
Cumbria	<u>1</u>
Total	<u>7</u>

Sources in order of importance in this sample AD90/100-160 +

Wilderspool	32
Wroxeter	27
Cumbria	8
Cheshire Plain	7
Mancetter-Hartshill	4
N. France (140-180)	1
Little Chester	1
Rocester/Northwich/LC (90-130)	1
Colchester	1
Castleford	1
Total	<u>83</u>

Sources for AD170-250

Mancetter-Hartshill	4
Oxford	<u>2</u>
Total	<u>6</u>

Indet = Too fragmentary to date: MH (1); Wrox (1); Wilderspool (1); Cheshire Plain (1)
Total: 4

The mortarium assemblage confirms the date range indicated by the rest of the pottery and, though the sample is small, it is sufficient to indicate which workshops were producing the coarse ware mortaria present on the site during the different periods of its occupation. It is also sufficient to indicate their relative importance during these periods. In all, at least 14 workshops were identified, including a possibly local source represented by no.22 and 138 discussed above (Table 6).

There is nothing which need be dated earlier than the Flavian period and the bulk of the vessels fall within a date range of AD 100-160+ (c. 80% of the group). Very few sherds are later than the early Antonine period and none are later than AD230/250. The small number of Flavian mortaria is consistent with the relatively few features of this date which were excavated. Even this number shows the Verulamium region as the major supplier with potteries in the Oise/Somme area of northern France as an important secondary supplier. This is very much what might be expected. No. 26, attributed to Cumbria is the exceptional piece. Both this and the later Cumbrian mortaria could well represent movement of military, or military related, personnel. The bulk of the mortaria in this sample can be dated to the period AD100-160+. Sherds with a date range restricted to the Hadrianic or early Antonine period were comparable in number.

Wilderspool was, one would expect, the largest supplier, probably throughout its production. Mortaria from the Wroxeter cream ware workshop (Fabric 7), active c. AD100-150, are

found in small numbers at Carlisle, Wilderspool and elsewhere in the north-west so that their presence at Manchester is also to be expected. The relatively large number there, over 20% of the mortaria assemblage, together with the almost certain presence of a few mortaria from their later Rhaetian workshop, is, however, surprising. Some Rhaetian mortaria are difficult to attribute, but even if some are wrongly attributed to Wroxeter instead of Wilderspool, it would only reduce the number marginally.

To find Cumbrian sources possibly heading the small suppliers is very unexpected, not least because the movement of mortaria southward bucks the trend in mortarium dispersal in the midlands and north; this does suggest that military movement may be involved in some way. We do not know the precise source or sources for these (and for No.26, believed to be earlier in date), but some facts can be noted. Fabrics 19 and 20 cannot be matched at any workshop in the north-west which is known to have produced mortaria. They are closest to a fabric which can be attributed to a workshop at Old Penrith (Austen 1991, 157); this contains gold mica, a rare constituent in mortaria made in Britain. It is not, however, identical and the forms produced differ. There is every indication that the Old Penrith production was for local consumption, perhaps military. Fabrics 19 and 20 are also from some small, possibly military workshop, probably producing mortaria for local consumption; because they are unknown they have wide date-ranges; the length of production was probably more limited than these may suggest.

There is nothing surprising about the other sources for the period AD100-160/170. There were small workshops in the Cheshire Plain about which we know very little (for a site which has mortaria from these sources see Caersws, Britnell 1989; Jones 1993). It is quite normal to get what appear to be a single mortarium from known sources eg No. 3. The Barton Street sample is small and, in this instance, it is possible to know that up to three mortaria with exactly the same stamp are known from Manchester and one from Melandra, which show that Little Chester was a normal source, it is not for example, an unusual item carried to the site.

Source	Count	Weight	Rel count	%	Rel weight	%
Imports	7	773	3.32%		4.70%	
Ver	10	1057	4.74%		6.42%	
Mancetter-Hartshill	16	1337	7.58%		8.13%	
Little Chester	5	826	2.37%		5.02%	
Wroxeter white	58	3518	27.49%		21.38%	
Wroxeter Rhaetian	11	644	5.21%		3.91%	
Colchester	1	179	0.47%		1.09%	
Castleford	1	325	0.47%		1.98%	
Rocester, Northwich or Little Chester	2	338	0.95%		2.05%	
NW/Cheshire Plains	15	1020	7.11%		6.20%	
Wilderspool Rhaetian	33	2568	15.64%		15.61%	
Wilderspool non- Rhaetian	32	2733	15.17%		16.61%	
Cumbria	13	629	6.16%		3.82%	
Oxford	7	506	3.32%		3.08%	
	211	16453	100.00%		100.00%	

Table 6. mortaria by kiln source using sherd count and weight.

The assemblage of mortaria from Manchester Barton Street has similarities with other sites in the region (Table 7). The early mortaria the Barton Street group compares well with sites such as that at Warrington in terms of the quantities of imported mortaria from north France although, by contrast, the site at Middlewich, a site with Flavian occupation, obtained early mortaria from the Rhone Valley, perhaps via Wroxeter. At Ribchester nearly half of the first century mortaria were imported with the majority of these from north France (Hird 2000, 192-3) and at Lancaster mortaria from north France are recorded both from rescue excavation in 1970-75 (Webster 1988, 106 no. 40) and more recent excavations by Oxford Archaeology North (information from Ian Miller, Oxford Archaeology North). The slightly lower levels of Verulamium region mortaria at Barton Street are of no significance in terms of trade, but reflect the overall small amount of pottery from the early features on the site.

In the second century, Wilderspool mortaria were very common on sites like Manchester and Melandra which were in the immediate vicinity; the smaller numbers to the south at Middlewich probably reflects its more distant geographical position, on the boundary for the circulation of Wilderspool products. The workshop at Walton-le-Dale, worked by exactly the same potters as those at Wilderspool, and producing virtually identical mortaria served sites like Ribchester and Lancaster and sites to the north (Davis et al. in prep); Wilderspool might have supplied some of their earlier mortaria, but it might not be possible to distinguish them.

At Middlewich rather fewer Wroxeter white mortaria were obtained though very similar quantities of Rhaetian ones, whereas the inhabitants of Barton Street acquired more Rhaetian mortaria from Wilderspool. The larger proportion of mortaria from Mancetter-Hartshill at Middlewich probably reflects the position of the site on the outskirts of Wilderspool distribution. The King Street site at Middlewich saw little activity after the early Antonine period and even if the third century mortaria are ignored, Mancetter-Hartshill would still contribute over 17% of the remaining mortaria from there. At Ribchester Mancetter-Hartshill products become a major supplier after the mid-second century so the absence of many examples at Barton Street reflects the generally small number of mortaria dated after *c.* AD160. This shortage may partly be explained by the possible ritual function of the excavated area during this period. As for the period AD100-160 the small number is because of saturation by Wilderspool and Wroxeter. Wroxeter cream mortaria are so rare at Ribchester and Lancaster as to suggest that they lay beyond the limits of their normal market. Small numbers of Wroxeter mortaria have been identified from Carlisle (Hartley 1990, 237-8) but it is not clear whether they were brought through trade or troop movement.

To the east of Manchester at the Derbyshire forts the mortarium assemblages at Derby Little Chester and Brough contrast sharply being overwhelmingly made up of Little Chester and Mancetter-Hartshill products (Hartley in Dool *et al* 1985, table 11; Leary 1993, table 4) with only Chesterfield standing out with its locally made group and a group from Gloucester (Ellis 1989, table 4). Wroxeter products were very rare on all these sites.

	Barton St	Middlewich	Warrington
N France	3.32		3.64
Lyon (Rhône Valley)		4.17	
Rhineland			0.30
Ver	4.74	6.94	9.09
M-H	7.58	27.78	11.21
M-H or Wroxeter		1.39	
Midlands			5.76
LC	2.37		
Wroxeter white	27.49	9.72	
Wroxeter Rhaetian	5.21	5.56	
Wroxeter non-Rhaetian		1.39	
Colchester	0.47		
Castleford	0.47		
Rocester, Northwich or Little Chester	0.95		
NW/Cheshire Plains	7.11	6.94	10.91
Local		4.17	
Holt		1.39	
CP or Wroxeter		1.39	
W. Midlands or CP		1.39	
W. Midlands		1.39	
W'pool Rhaetian	15.64	2.78	
W'pool non-Rhaetians	15.17	19.44	59.09
Cumbria	6.16	2.76	
Nene Valley		1.39	
Oxford	3.32		

Table 7. Comparison with mortaria groups from sites at Middlewich (Leary forthcoming), Warrington (Lucas forthcoming), relative quantities using sherd count values. 27 of the mortaria showed wear with 12 of these being heavily worn. Evidence for burning was noted on four vessel and three vessels were singed.

4.6. Roman Ceramic Building Material

Jeff Speakman

4.6.1. Introduction

Ceramic building material (CBM) is defined as clay material that has been deliberately fired for use as part of a structure (ACBMG 2001). The main categories are brick, roof tile, floor tile, wall tile and hypocaust elements. The excavations produced a total of 1763 ceramic building material finds, weighing 150.4kg. Unfortunately, much of the material is quite fragmentary making it difficult to tell whether it was roofing material, walling material or tile from hypocausts.

4.6.2. Methodology

Tile from each context was grouped by fabric, designated a bulk find number and recorded uniformly by class of tile, presence of flange, width and height of flange, minimum and maximum thickness of body fragments, presence of upper or lower cutaways and presence of signature marks and/or stamps. All diagnostic pieces were recorded, photographed and bagged individually and each record was assigned a unique identification number. A count was made of all the individual pieces present

and the total weight recorded. Initial analysis was carried out during this stage of recording. Although it was not possible as part of the scope of this analysis to refer to a regional ceramic building material type series (form and fabric), the fabric types of the Barton Street material are listed in Table 8.

<i>Fabric 1</i>	Oxidised orange, fairly fine, sandy fabric; with some clay mixing, large quartz inclusions up to 15 or 25mm
<i>Fabric 2</i>	Fine pinkish-orange, with very occasional large quartz inclusions up to 12mm
<i>Fabric 3</i>	Fine hard pink fabric with a grey surface, with very occasional large inclusion void/s up to 8mm (one void has striations which may be from a shell inclusion or toothbrush washing marks)
<i>Fabric 4</i>	Hard high fired purple fabric
<i>Fabric 5</i>	Hard high fired brick red
<i>Fabric 6</i>	Hard, high-fired red-purple with purple surfaces
<i>Fabric 7</i>	Fine-rough, sandy fabric pale pink in colour (possible variant of 1 with variation in colour)
<i>Fabric 8</i>	Fine, sandy, pale brown fabric
<i>Fabric 9</i>	Hard, fairly high-fired, sandy fabric, pinkish-orange in colour

Table 8. Fabric types of ceramic building material found at Barton Street.

4.6.3. Romano-British Ceramic Building Material

There was a total of 1682 Romano-British ceramic finds of which 20 are unstratified with no locational information, and a further 93 are recorded as unstratified but from Areas 4 and 6. This leaves 1536 pieces recovered from known contexts. Over half of these remaining finds (890) were recovered from a small number of contexts: 465 pieces (weight 44398.9g) from context 54 (and *equivalent* 10), recorded as a relict ploughsoil; and 425 pieces from contexts 703/807, an oven base utilising re-used tile. A further 160 pieces were recovered from three other contexts which contained 50 or more finds: context 554, a fill of pit 704 (Period 2 phase 3), which had 55 pieces (weight 6548.5 g); context 688, the backfill of robber trench 748 (Period 4), with 52 pieces (weight 6647.4g); and context 627, a fill of pit 578 (Period 4), also with 52 pieces (weight 4696.4g). A further piece was recovered from context 631 (weight 269.1g) also in pit 578. Analysis of the context groupings shows that large amounts of ceramic material (277 pieces) were also recovered from multiple contexts within two cut features: 155, a foundation trench for a stone wall 548 associated with Building H (Period 3 phase 4), which contained a total of 174 pieces (weight 20785.7g); and 183, the cut of a construction trench associated with Building G (Period 3 phase 2), with 105 pieces (weight 7896.9g). No other contexts held more than 29 pieces, with 99 sherds (weight 7370.8g) recovered from contexts with fewer than ten pieces (Table 9).

Context	Cut number	Total pieces	Number of	Weight in grams
Unstratified		113		10625.2
54 and 10		465		44398.9
703/807/463		425		21168.1
554	704	55		6548.5
688	748	52		6647.4
627	578	52		4696.4

Context	Cut number	Total pieces	Number of	Weight in grams
631	578	1		269.1
113, 128, 156, 173, 201, 254, 548, 683, 684, 686, 690, 693, 694, 695, 727, 746, 747, 885	155	174		20785.7
106, 236, 242, 247/	183	105		7896.9
102, 649, 650, 651, 720				
655, 656, 657	568	29		2795.2
627, 631	578	28		2579.2
143, 269, 780, 787	774	26		2457.5
627	578	24		2004.4
474	457	23		295.8
339	338	19		1063.8
279, 334, 337, 426, 431	336	14		3674.3
776, 778	529	14		3838.0
153, 868, 1014 = 953, 988	122	11		1633.1
695	790	10		1556.8
662	541	9		377.1
269	774	8		1329.6
624	= 166 in 165	7		54.6
461	458	6		287.3
757, 970	506	6		79.6
454	438	5		26.5
351	350	5		22.6
464, 498	471	5		54.5
521	520	4		67.3
552	705	4		35.2
794	792	4		312.8
412, 418	394	3		516.8
775	= 879 in 124	3		392.7
488	483	3		56.3
707	653	3		494.7
345, 358	344	2		9.1
993	992	2		26.1
492	500	2		246.9
554	704	2		1931.9
738	736	2		36.5
862	864	2		54.4
922	917	2		18.2
19	17	1		42.9
371	370	1		5.8
497	483	1		8.6
700	= 661 & 794	1		338.4
627	578	1		381.9
642	= 90 in 89	1		24.9
920	918	1		99.9
387	544	1		4.6
		297		29268.9

Table 9. Frequency and weight of CBM by context.

The ceramic building material has been classified into five types: roof tile, including *tegulae* and *imbrices*; box flue-tile; brick (largely defined by thickness); daub or oven material; and unidentified fired clay material, probably from the preceding categories. There was a wide range of handmade brick and tile produced and although there were general types, which were used across Britain, there is considerable variation between individual sites.

Roof tile

Romano-British roofs were laid on a timber support and the tiles consisted of two basic types: the *tegula* (meaning 'a small covering', plural *tegulae*), a large flat tile

with flanges at each long edge; and the *imbrex* (meaning 'a covering against rain', plural *imbrices*), a curved roof tile which tapers, so that one can fit snugly into another.

The *tegulae* were laid side by side, with flanges abutting, starting from a row along the bottom of the roof. The next row slightly overlapped and was prevented from sliding forward by the interlocking cutaways in the flanges. The *imbrices* were fitted over the two adjoining *tegulae* and often, mortared into place. The ridge along the top of the roof was covered with curved ridge tiles, similar in shape to *imbrices*, but not tapered. Chimneys or *finials* were added to the roof to allow hot air or smoke to escape.

The weight of the tiles and low angle of the roof was usually enough to hold the tiles in place, although occasionally tiles have been found with nail holes, suggesting that the bottom course of tiles may have been nailed into place. There are a number of pieces of tile from Barton Street with broken holes, which may have originally been nail holes. In one instance, the tile also appears to have been deliberately broken to form a curve surrounding the hole and, although the hole was placed within 30mm of the straight edge of the tile, this could indicate reuse of this piece as a loom weight.

Tegulae

Tegulae formed the largest proportion of tiles recovered from the site with a total of 347 fragments (weight 66989.1g). There are no complete tiles and, although it was possible to put together a large part of one tile from broken fragments [703], no measurements were possible. Body thickness ranged from 20-35mm. There are a minimum of 30 flanges present, ranging from 45-65mm in height and 25-35mm width. The majority have a finger groove at the base of the flange, although there are examples of similar grooves along the top. It is presumed that these were important for the channelling of rainwater away from the roof. The majority of flanges have a curving interior profile, probably to improve the flow of water over the tile, although there are a number of other profile shapes.

Another feature of the Barton Street *tegulae* was the presence of cutaways. Cutaways are usually found at the top and the bottom of the tile and allowed each *tegula* to fit snugly against the next. A total of 18 cutaways were identified in the assemblage and, although there are very few complete examples, they included nine lower and eight upper cutaways. Six of the eight upper cutaways are represented by a broken flange edge, which appears to be a very crude form of cutaway. Cutaways occur in all fabric types, although fabric 1 is the most common. The majority of lower cutaways are knife-cut and only one is complete. There is also one very unusual, unstratified, tile fragment with a flattened upper cutaway and indented lower cutaway, and two unusual tiles with shallow flanges, one which has a hollow under the flange.

Imbrices

A total of 17 fragments (weight 1365.7g) from *imbrices* were recovered, but there were no complete tiles. All are very worn and fragmentary, some only identified by the possibility of a curving form. They vary in thickness from 12-28mm.

Box flue-tile

The Romano-British used ceramic 'box flue-tiles' (*tubuli*), in conjunction with the under floor heating system (*hypocaust*), to circulate warm air into the space behind the walls. 'Box flue-tiles' are hollow ceramic boxes or pipes, square in section and

rectangular in shape, with open ends. They are secured to the wall by iron T-shaped clamps and bear complex incised patterns engraved with a 'tile-comb' or 'roller-die', to assist the attachment of mortar. The often complex patterns may also help to identify different gangs of skilled tile-makers (Brodribb 1979, 217). Many of the 'box-flue tiles' have cut-out vents in the sides to allow air to circulate.

A total of three box flue-tiles (weight 1339.1g) were recovered from the excavations. None was complete and each had a different combed pattern on the outer surface (Table 10 Illus 70-2).

688 SF 395	Wavy combed impression made with a five-toothed comb and has a surviving 45 mm wide side vent hole (Illus [9] & [10]).
688 SF 504	Combined wavy and straight, combed impression. The number of teeth on this tile appears to be greater than tile one, possibly with six teeth, although it is a little uncertain (Illus [11]).
688 SF 452	Incised pattern seemingly produced as single strokes of an implement or stick (Illus [12]).

Table 10. Details of incised patterns on box flu-tiles from Barton Street.

All three pieces were recovered from context 688, the fill of a robber trench [748], which was identified on the south edge of stone wall 548. Analysis shows that a total of 52 (weight 6647.4 g) pieces of Romano-British brick and tile were recovered from this context. The presence of the box flue-tile on the site suggests that these were derived from a building of some significance, possibly a heated bathhouse, but the surviving quantities of tile are not sufficiently numerous to confirm this.



Illustration 70. Box flue-tile combed face (SF 395).



Illustration 71. Box flue-tile combed face (SF 504).



Illustration 72. Box flue-tile incised face (SF 452).

Brick

Roman bricks come in a wide variety of shapes and sizes. Small square *bessales* were used to make hypocaust *pilae*, whilst others were used as floor tiles and facing tiles for walls. One of the commonest bricks was the *lydion*, which was used for bonding or lacing courses in walls or for flooring. The largest of all Roman bricks was the *tegula bipedalis*. It was most commonly used as a large flooring tile, to bridge the gap between the *pilae* of a hypocaust.

There are a total of 53 pieces of brick (weight 18173.7 g) from Barton Street with a larger group of 270 pieces (weight 18173.7 g) of fragmentary material, which is probably brick or tile. These figures show how fragmentary the material from the site is, making it difficult to identify whether it was roofing material, walling material or tile from hypocausts. Brick here has largely been defined by thickness, although the square shaped Roman bricks (or *bessalis* tiles) and hypocaust tile recorded elsewhere have thickness no greater than 40mm, which is similar to the material defined as tile at Barton Street (*inter alia*; Dalton Parlours, Betts 1990, 167; Gorhambury, Wardle 1990, 167-9).

The Barton Street bricks vary in thickness from 45mm to 77mm and there are no complete examples. Included within the assemblage are two large, thick Roman bricks, which are pierced by circular holes. The holes are clean and unsooted and may have been used for structural purposes, as spacers for the attachment of other structural pieces or statues, or as ventilation holes, or even to aid firing in a kiln (*cf.* McNab 2003). A third brick fragment is pierced by an angled hole, and the impressions left in the clay show that the hole was formed by the insertion of a stick.

Markings

Tiles, especially *tegula*, were often stamped and finger marked. There are various kinds of marks found on tiles and these include stamps, imprints, signatures, tally marks (cut on the edge of the tile), graffiti and other marks. The most obvious is the stamp used by all kinds of authorities, and which often denotes where the tile was made and by whom. No stamps or tally marks were identified in this assemblage.

Signature marks

It is not uncommon to find quite decorative marks on tile and brick and these are regarded as possessing a personal identity, and as such have become known as the 'signature' mark of the potter. They are usually smoothed into the wet clay with the fingers, or made by a stick. They range from simple loops and circles, to complex patterns of double or triple rings and overlapping loops and squiggles. The ring patterns tend to come in the middle of the tile or at the edge, where they form half-

rings, and these in turn may indicate the top of the tile.

A total of eight signature marks were observed on the Barton Street material and these were divided into four different types (Table 11). Unfortunately, all the signature marks are fragmentary and incomplete and it is not possible to compare them with complete examples found elsewhere. These marks all occurred on the upper surfaces of the *tegulae* or bricks. None were observed on the *imbrices*.

- Type 1* V-shaped fragment of mark. This may be a fragment of the similar Type 4, although this example is much larger.
- Type 2* Single curve.
- Type 3* Double curve – there are four examples found on the edge of the tile and the best surviving example is on a larger brick.
- Type 4* Zig-zag design. Type 1 may form a fragment of this design.

Table 11. Signature mark types.

Animal prints

There are two possible paw prints. The first clearly shows the outline of the pads and one claw from an animal. The second is unclear as the print has been obscured by a large gouge taken out of the flange of the tile.

Incisions on tiles

Deep crossed incisions were noted on the surfaces of a small number of tile fragments, some of which had fractured, and broken away from, the lines of some of these incisions. Whilst many of these incisions are found on the underside of tiles, presumably to aid the adherence of mortar, as with the flue-tiles, two (SF228 & SF279) are unusual in that the incisions appear to have cut the upper surface.

Sooting

There are a total of 116 pieces of brick and tile (weight 27148.9g), most of which have been sooted or burnt in some way (Table 12). Of these, 56 entries (weight 27148.9g) are sooted on the underside of the tile and 60 (weight 5991.6g) appear sooted on the upper surface. Although the number of entries is fairly equal the average size of the tiles with sooting/burning to the underneath is much greater. Many of these tiles are also partially sooted up the side of the flange suggesting that they were in situ when heated. Only one piece from context 778 is sooted over both surfaces.

Context	Description	Area sooted	Total Number of Pieces	Weight (g)
US		Under and over	17	2942.9
	US in 155	Underneath only	2	2730.0
10	Post-Roman Layer	Underneath only	14	2554.2
54	Post-Roman Layer	Underneath only	2	2246.7
153	Fill of ditch 122	Above only	1	23.2
242	Fill of construction trench 183	Under and over	16	3132.6
452	Fill within pit 438	Above only	1	49.7
492	Fill within pit re-cut 500	Underneath only	1	204.7
548	Sandstone rubble core of construction trench 155	Above only	4	857.0
691	Fill within wall cut 155	Underneath only	3	288.4

Context	Description	Area sooted	Total Number of Pieces	Weight (g)
693	Fill within wall cut 155	Above only	1	51.9
703	Oven base	Underneath only	38	2892.1
707	Post-medieval fill of sewer trench 598 = 570 & 607	Underneath only	1	189.5
727	Fill within wall cut 155	Above only	2	367.8
778	Fill within pit 529	Under and over	1	562.6
807	Oven base sealed by 703	Underneath only	9	7196.1
868	Fill of ditch 122	Underneath only	3	859.5

Table 12. Sooted and burnt ceramic building material.

Of the 116 pieces, almost half, 47 (weight 10088.2g) were recovered from two oven bases [703 & 807]. The sooting/burning evidence suggests that the reused tiles were inverted with the lower surface of the tile open to the heat of the fire. A further 12 pieces (weight 4295.1g) were recovered from fills of construction trench 155. Both surfaces of the tile from this context were affected by fire suggesting that the burning is more likely to be associated with rubbish disposal. Four other fragments (weight 882.7g) were recovered from fills within cut 122, three of the four were sooted above with the fourth below.

Only three other contexts had more than single figure finds. Unstratified, with 17 pieces (weight 2942.9g), context 10, with 14 (weight 2554.2 g) and context 242 the fill of construction trench 183, with 16 pieces (weight 3132.6g). The finds from 183, similar to the other construction trench 155, were burnt all over. Burning in situ or as a result of being used for secondary purposes other than roofing is a fairly common practice (Taylor 1990, 396).

Fired Clay

The excavations produced 889 pieces of fired clay (weight 18909.3g). Of these 381 (weight 6181.6g) are undifferentiated fragments and a further 356 (5925.9g) are from undiagnostic brick and tile fabrics. Most of the fired clay was shapeless and abraded, or had small areas of surface that evidently formed part of larger masses of structural clay, which had become fired.

There are 132 fragments (weight 4963.8g), with wood or stick impressions. Although this is potentially evidence for clay walling (daub), some of the clay was probably oven debris (Barford 1990, 327; Poole 2000, 154). The evidence for daub is extremely rare and on most sites is non-existent. For example, for material to be genuine daub it would only have a chance of surviving if the material was burnt to a sufficient degree to fire, or at least bake the daub, either through rubbish disposal or even the burning of the house (Poole pers comm.). Moreover, house daub traditionally has a high organic content (straw, dung, animal hair) and such a fabric was not encountered.

The 'daub' was found in a wide variety of contexts including discrete features such as pits and construction trenches, though the greatest number comes from layers (e.g. plough soil, context 54, with 26 pieces) (Table 13). However, 65% of the total number (86 pieces) could be assigned to dated Romano-British contexts based on stratigraphy and a large proportion were recovered from two construction trenches, context 155 with 46 fragments (almost 35% of the total number) and 183 with 11 fragments (8%).

Context	Description	Total Number of Pieces	Weight (g)
US		16	483.2
10	Post-Roman Layer	4	131.6
54	Post-Roman Layer	26	1024.7
102	Roman Cremation/Burial	2	35.0
156	Fill of wall cut 155	1	18.7
236	Fill of construction trench 183	1	6.2
337	Fill within pit 336	1	48.5
650	Fill within construction trench 586	1	26.0
684	Fill of wall cut 155	18	967.0
688	Post-Roman? backfill of robber trench 748	6	141.9
690	Fill of wall cut 155	6	310.6
691	Fill of wall cut 155	15	599.8
693	Fill of wall cut 155	6	179.5
695	Fill within pit 790	2	125.4
720	Fill of construction trench 692 = 183	10	326.6
747	Fill within pit 790	13	493.7
757	Fill of construction trench 992	2	15.3
763	Roman Layer	2	30.1
<i>Total pieces</i>		132	4963.8

Table 13. Frequency and weight of fired clay by context.

The fired clay is generally a sandy clay, most likely derived from the local boulder clays. All the pieces have been baked or fired to a reddish brown, except where original surfaces survive. On several pieces two surfaces are present, generally lying parallel or diverging to form both sides of a wall or slab of clay. Normally one of the sides was well smoothed and flat, but gently undulating with hints of finger tip depressions and finger ridging from the moulding process. Individual finger or thumb tip impressions were circular, or oval concave depressions, left where the clay had been pressed firmly. Such features are usually found on the interior surface of an oven, rather than the exterior.

Oven lining

Amongst the fired clay are 19 pieces (weight 1795.8g) of hand crafted heavily reduced material, which are possibly associated with ovens or industrial activity. This material was found in a number of discrete features such as pits and construction trenches, as well as a small proportion from unstratified deposits and general layers (Table 14).

Context	Description	Total Number of Pieces	Weight (g)
US		2	39.4
10	Post-Roman Layer	3	203.3
54	Post-Roman Layer	1	101.5
334	Fill within pit 336	2	179.4
554	Fill within pit 704	7	267.0
683	Fill of wall cut 155	2	210.5
688	Post-Roman? backfill of robber trench 748	1	733.3
693	Fill of wall cut 155	1	61.4
<i>Total pieces</i>		19	1795.8

Table 14. Frequency and weight of oven lining by context.

4.6.4. Discussion

Unfortunately Roman Brick and tile has not always received as much attention or

publication as other materials as can be seen from the sites adjacent to Barton Street, and by the recovery of only ten fragments of tile from the excavations at Wilderspool (Williams 1992, 97). It would have been informative to compare the brick and tile from the Barton Street excavations with the material recovered from excavations during 1972 on White Lion Street, an area within 100m of the current site (Jones 1974). Unfortunately, no reference to brick or tile appears in the publication, although it may exist in the excavation archive. Between 1979 and 1981 further archaeological work was carried out immediately to the south-west of the 1972 excavations, on the site of the North Gate of the Fort (Walker 1986, 21). These excavations produced a large assemblage of brick and tile, including *tegulae*, *imbrices*, flue-tile and brick. It is suggested that the brick was used for flooring or wall coursing, although it is unlikely that buildings would have been constructed throughout in brick. This is supported by the large amounts of daub found on the excavation probably derived from demolished walls, ovens or furnaces (Tanner 1986, 126). Whilst the quantities of each type of brick and tile in each phase are published there are no detailed records of fabric or markings, which could be compared directly with the material from Barton Street, although it is interesting to note the presence of fired clay in large numbers, which would appear to mirror the material found during the recent excavation.

Brick and Tile Production

The tile industry was probably more important within the Romano-British economy than pottery production and must have been among the major non-agricultural industries, although very few production sites have been found or published (Peacock 1979, 5-9; Young 1979, 401-3). Peacock (1979, 6-80) identifies five modes of production from ethnographical evidence: household production; rural brickyard; nucleated brickyard complex; estate brickworks; and the municipal brickworks. One over-riding problem for the production of brick and tile is the weight of both the clay resource and the final product which have implications for transport costs. The end product must be cheap in relation to its weight and hence brickworks must be located near to both clay and to the markets (Peacock 1979, 6; ACBMG Min Standards). The mobility of labour and seasonal workers might suggest movement of personnel rather than the transportation of the tile over a long distance to the market. Aside from the military brickworks, most of the known kilns are in rural districts miles from the nearest towns. Peacock's (1979) research also suggests that most of these rural kilns were probably not designed for continuous use but were used intermittently as estate requirements arose. However, the situation in the North West is likely to be different from the patterns observed in the rest of England.

In the North West the main factory for tile production lay on the River Dee at Holt, about 12 kilometres south of Chester, and the majority of its products were used in the legionary fortress of Chester from the end of the first century (Grimes 1930; Ward 1998a; 1998b). Analysis of the Samian evidence suggests that tile production continued until the mid AD130s, although the coin evidence indicates that there was reduced occupation and intermittent production into the mid-fourth century (Ward 1998a; 1998b; Philpott 2000, 96). The stratigraphy of the tiles found in Chester that have been attributed to the Holt potteries suggest, however, a date range for production extending from the early second to the third century. Apart from the Holt potteries, a second manufacturing depot may have been brought into temporary use during the reign of Hadrian, and this was probably located at Scalesceugh near Carlisle (Frere & Tomlin 1992, 175; Hassall & Tomlin 1993, 316). It also appears that tile production may have occurred at Ochre Brook in Merseyside where evidence for the production of Twentieth Legionary stamped tiles, dated to the AD 160s, was discovered during excavations in 1993. Twentieth Legion tile stamps have also been

recovered from sites in Manchester and Wilderspool (McWhirr 1979b, 256). The Ochre Brook and Holt assemblages appear to have mutually exclusive stamps suggesting different producers. Further evidence of more widespread tile production comes through a distinctive *tegula* recovered from the villa at Eaton-by-Tarparley, which had a source other than Holt (Jones 1994, 48). The lack of any clearly identifiable features to the brick and tile from Barton Street makes it difficult to compare them with the limited number of known production sites, though it is likely, based on current knowledge, that the Barton Street brick and tile was probably produced at a location relatively close to Manchester.

Other uses of brick and tile

Many bricks and tiles could be used for purposes other than those for which they were intended. For example, at Dragonby fragments of tile appear to have been reused as hardcore, paving, or in the construction of drains and hearths (Taylor 1990, 396).

At Barton Street it is also probable that tile was reused, particularly as contexts 703 and 807 are recorded as superimposed oven bases, composed of clay and reused tile. Moreover, tiles reused within kilns is a feature of other Roman sites, such as Dragonby, where many of the recovered tile fragments had been subjected to heat following production, suggesting reuse in ovens or kilns (Taylor 1990, 395-6). The evidence of burning on the underside of a number of the tiles from Barton Street may suggest a similar form of reuse, although it might also indicate that the tiles were burnt in situ when they formed part of the roof of an early building.

5. Metal, Glass and Stone Artefacts

5.1. Non-Ferrous metalwork

Hilary Cool

The non-ferrous metalwork recovered during the excavation is a strange group. Normally such assemblages from Roman sites are dominated by personal ornaments, fasteners such as studs, and miscellaneous unidentifiable items such as fragments of sheet. Here, though, most items are identifiable and several are very unusual (Illus 73).

The only personal ornament is a brooch (no. 1). The mouldings on either side of the head, and spring fixing arrangement, identify it as a Polden Hill brooch, and thus to be dated to the later first to mid-second century (Hattatt 1987, 96). The large perforation in the head, however, appears currently unparalleled. Presumably it was designed to have something inserted into it, but it seems very large for this. Some contemporary headstud brooches have perforations in the head because the decorative headstud was made separately and riveted on (*ibid* 120). The perforations on these, however, are much smaller. There is the possibility that the perforation is a secondary feature. Unfortunately, the piece has been very badly corroded and it is difficult to ascertain whether this is the case or not.

No. 2 belongs to a family of sheet bronze jugs with spouts and hinged lids. The upward curve of the lid shows that it would have belonged to a variant known as an Eggers Form 128 (Koster 1997, 33 no. 10), which was current from the end of the first to the third century. They are known to have been used to heat water as deposits of limescale have been found internally on some. One is depicted on the inside of the Simpelfeld sarcophagus alongside a wine jug and bowls for mixing wine (Stuart 1986, pl. IV – lower), and it seems likely that these jugs were part of the set of utensils needed to prepare hot wine. During conservation, a black sooty deposit was found on the underside of no. 2, possibly reflecting this type of use. In Britain they are most commonly found on military and urban sites, but are sometimes found on sites further down the settlement hierarchy. The discovery of this lid is interesting in the light of the recovery of a fragment of a glass funnel from the same site, as funnels were also part of the wine service. Although, on the whole, the sheet jugs appear to be later than the funnels, there was a period in the late first century when both would have been in use.

The zoomorphic mount no. 3 would have decorated an item of furniture. Precisely what type of animal is represented is unclear, though possibly it may have been a horse. As with all items like this, precise *comparanda* are difficult to find though it is highly likely to be of Roman date despite being found in a post Roman plough soil. The bevel and tenon for attachment are similar to the bevelled rear-face and soldered-on attachment shank seen on a furniture mount in the form of a bust of Minerva found in the later second to earlier third fortress baths drain deposit at Caerleon, for example (Brewer 1986, 177 no. 59). A somewhat similar zoomorphic furniture mount, though more resembling a jackal, was found in a context belonging to the second fort at Castleford which may be dated to within the last two decades of the first century (Cool and Philo 1998, 109 no. 655).

The final item of copper alloy is part of the buckle from an enamelled belt set. Examples where the buckle and buckle plate are still attached are known for example from Richborough (Henderson 1949, 123 no. 73), Caerleon (Fox 1940, 128 no. 10) and Wroxeter (Goodburn 1978, 438 fig. 10). These were part of the military belt sets that became fashionable towards the end of the first century and were in use during the second century. The Caerleon buckle, for example, was found in disturbed deposits associated with a late first/early second century barrack.

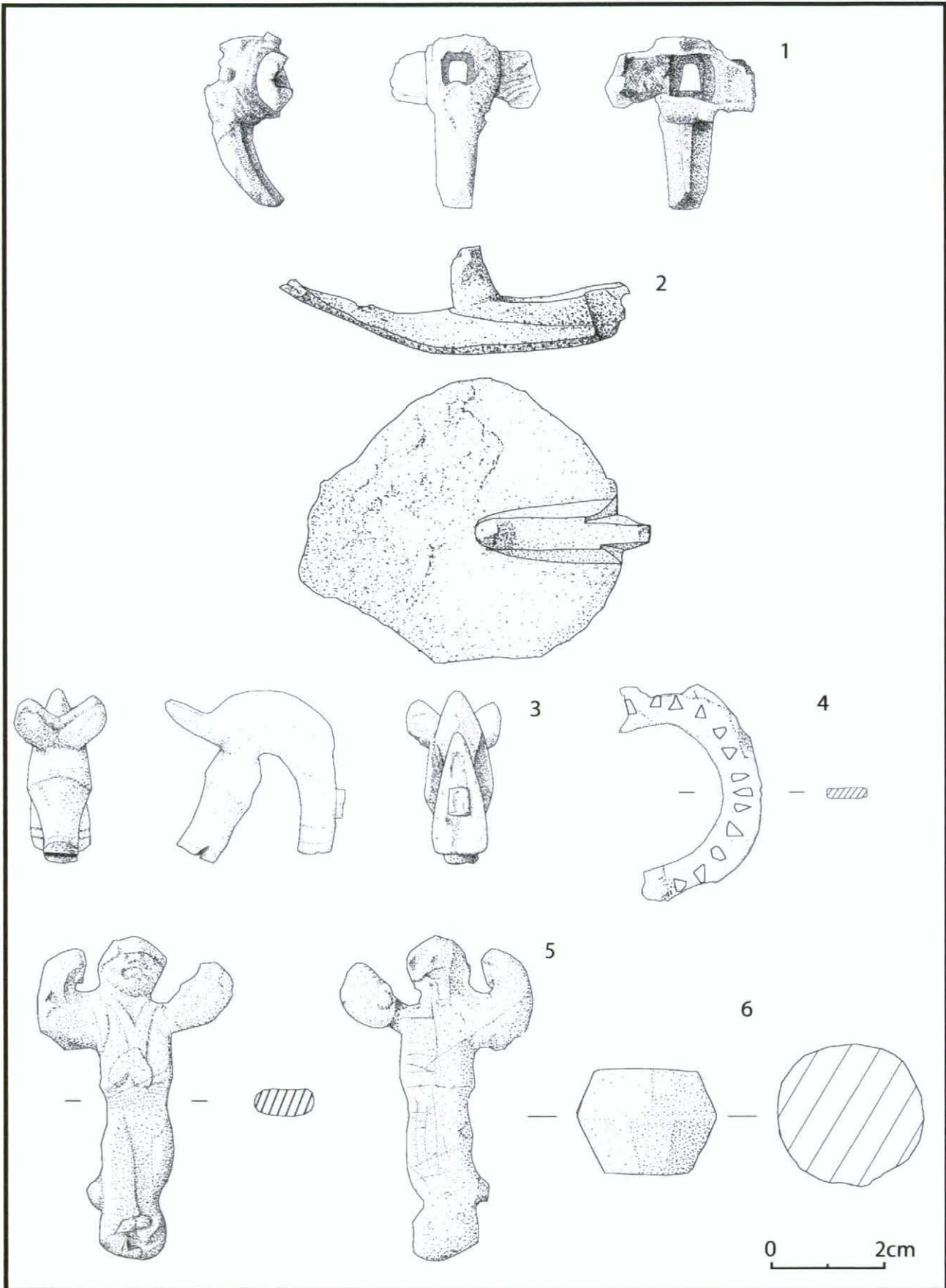


Illustration 73. Non-ferrous metalwork.

Of the lead alloy only two items call for special comment. The small figurine no. 5 calls for special comment, but it is a very strange piece indeed. The modelling is very crude but is much better on the upper body. It was found inserted vertically into a divot, and the possibility exists that it was made in the knowledge that only the upper body would be visible. Quite who or what the figure was meant to be is complicated by the crudeness of the moulding. The figure with its raised arms and flattened features looks quite pugnacious, but boxers were normally shown bare-chested in the ancient world (*cf.* Junckelmann 2000), whereas this individual has a cross moulding on the chest, possibly some form of insignia. The identity of the figure will probably always remain unknown, but a clue to the purpose of the figure may be provided by the material it is made from. Lead was thought of as a sinister material which was why it was especially appropriate for curse tablets (Tomlin 1988, 83). The combination of this material and its insertion vertically into the earth may point to some type of magical rite calling upon the chthonic deities. There is thus the distinct possibility that the action of making it and inserting it into the ground was done with ill intent towards someone.

The other noteworthy lead item is a biconical weight for an equal-armed balance (no. 6). It was found in the ploughsoil but its Roman date is certain as this form of weight was a very common Roman one. They are sometimes marked by numerals or dots to indicate how much they weighed but no markings such as that can be seen on the corroded surfaces of this example. At a weight of 78g it might have been a weight for a *quadrans* as it is within 3 – 4g of the generally accepted weight of between 81.38 and 81.86g (RIB II.2, 2). It would have been a little underweight, though the difference may not originally have been as great as it currently is allowing for the loss in weight through the corrosion of the metal.

Copper alloy

- 1 Polden Hill brooch. Short open-backed spring cover with notched ends and stump of hook (?) centrally; humped head with shallow moulding on either side at junction with wings; D-sectioned tapering bow with ridge running up the back from the catch-plate; detached fragment of lower bow and catch-plate, not joining. Head has large square perforation. When found perforation filled with dense soil concretion and after conservation the edges of the perforation show iron staining. Traces of white metal plating found during conservation. Present length (upper fragment) 32mm, width of wings 25mm (684).
- 2 Jug lid. Pear-shaped lid broken across narrower end which curves up; central broken lug at back on upper face. During conservation a black sooty deposit was uncovered over most of the under-surface. Present length 61mm, width 51mm (695).
- 3 Zoomorphic mount. Animal-head with long snout with mouth marked by groove at end; pair of long plano-convex ears; arched triangular-sectioned neck; Flat bevel at back of neck with broken tenon; pair of horizontal grooves across base of neck at front. Length 25mm. (54)
- 4 Buckle. Rectangular-sectioned D-shaped frame broken at junction with belt plate. Upper face has pattern of triangular cells placed in alternating directions to form a zig-zag pattern, many cells retain pale blue enamel. Width 39mm. (54).

Lead alloy

- 5 Figurine. Crude flattened figure with raised arms; legs and feet merged together. Face has flattened nose and prominent lips; a diagonal cross moulding extending from hips to shoulders; on figures right arm there is possible deliberate moulded detail around the bent elbow. A squared grid pattern of scratches on back. Length 58mm. (within a small divot adjacent to hearth 705).
- 6 Weight. Biconical with flat faces. Weight 77g. Diameter 27mm, thickness 19mm. (54)
- 7 Sheet. Fragment with straight edge and perforation. Weight 4g. Dimensions 55 x 15mm. (54)

- 8 Sheet. Strip with one straight edge and one broken. Weight 23g. Dimensions 69 x 21mm. (54)
- 9 Sheet. Thick triangular strip, bent. Present length 88mm, maximum width 36mm, thickness 3.5mm. (143)
- 10 Rod. Approximately circular-sectioned; curved. Weight 83g. Length c. 150mm, maximum section 11mm. (548)
- 11 Rod. Square-sectioned with clipped end. Weight 8g. Length 42mm, maximum section 6mm. (54)
- 12 Rod. Square-sectioned with flattened end. Weight 12g. Length 98mm, section 3mm. (868).
- 13 Run-off. Weight 31mm. (688)
- 14 Run-off. Weight 18mm. (988)

5.2. Ferrous Metalwork

Ruth Garratt

A total of 537 iron fragments, representing a total of 507 individual items, weighing a total of 10991g (10.91Kg) were recovered from the excavation at Barton Street. Within this assemblage were 438 iron nails, in various states of preservation. A small quantity of slag from ironworking was also recovered. Although the general condition of the ironwork was poor, with a high incidence of fragmentation and corrosion due to conditions of deposition, several tools, fittings and weapons were identified through X-ray analysis of a sample of the collection (small finds numbers: 1-28, 200-202). Although none of the items were deemed sufficiently well preserved for illustration, a digital photographic and X-ray archive was produced and deposited in the site archive.

Parallels for identifiable tools, fittings and weapons were drawn from the corpus of Roman ironwork collected by Manning (1985), but for the majority of artefacts within the assemblage, accurate identification was precluded by the degree of corrosion, so that comparison was based on simple criteria such as general size and shape rather than more complex diagnostic criteria.

5.2.1. Catalogue of Iron Objects

Basic catalogue of small finds identified using x-ray analysis:

- SF5. Two fragments from a single iron object with the end point missing, max length 17cm; width 3cm; total weight 199g. The shaft is flat and quite robust with the suggestion of an upturned edge. Equivalent forms from Manning's catalogue (Manning 1985a, 142) suggest this item could be a form of binding or reinforcement (Manning 1985a Plate 67, fig. S103). Such bindings were used to bind solid constructions such as gates, carts or to link large beams. Made for a specific purpose, they are unlikely to have stylistic parallels, differing greatly between assemblages. Relict ploughsoil 54. Not illustrated. Plate BCR 536.
- SF6. Two fragments from one or possibly two heavily corroded and fragmentary iron objects, total weight is 148g. One fragment appears to have circular or faceted shaft, and is possibly a nail. The other fragment has a small bevelled edge at one end and has broken with a clean edge at the other. The object could be a carpenter's or sculptor's tool, but not enough of the objects remain for precise interpretation. Fill 554 in pit 704. Not illustrated. Plate BCR 536.
- SF7. Three individual iron objects, total weight is 139g. Comprising two styli-like points, the longer of the two being severely bent at right-angles, 11cm and 15cm long respectively. These two points are very narrow and would not conform to the necessary robustness required for nails of this period. However, their general simple shape is not certain enough for a comparable diagnostic analysis, but they would conform to Stylii Types (1) and (1a) (Manning 1985a, 85). Fill 554 in pit 704. Not illustrated. Plate BCR 537.

- SF8. A single fragment from a flat heavy strip of iron, maximum length 3cm; width 0.4cm; weight 9g. This item was badly corroded and fragmentary and consequently unidentifiable. Relict ploughsoil 54. Not illustrated. Plate BCR537.
- SF9. Three iron objects all exhibiting heavy oxidation. Total weight for the group is 291g. Item 2 in this group has been interpreted as a projectile point such as an arrowhead or catapult bolt (Bishop & Coulston 1989, 24, fig8). Under X-ray analysis the pyramidal iron head and tang are visible, which would have sat over and been riveted to a projecting pyramidal expansion of the wooden shaft. This item measures a maximum length: 8cm; width: 2cm. A narrow, leaf-shaped blade with a thin conical socket, similar to the British museum example V93, Group 2, stylistically related to Brailsfords Group C, 'small'. These projectiles are slender but larger than Manning's Group 1 spearheads, without any proportionate increase in width. Blades are either leaf-shaped as SF 9 or roughly triangular. As with the SF9 example, the flanged sockets are more crudely-made being of the Group 2b type. In length, projectiles from this group range between 8cm – 10cm, and in width 2cm-3cm. The SF9 example has an asymmetrical blade, comparable with Group (1) examples. Spearheads of this type are common on military sites across Britain and Germany from the early empire (Manning 1985a, 165). This example can be placed within Manning's Group (2a) category and subsequently dated to the mid-first century. The third object in this group is an unidentifiable amorphous deposit of iron, the corrosion being too heavy for analysis. Relict ploughsoil 54. Not illustrated. Plate BCR 540.
- SF10. Six iron objects exhibiting heavy corrosion. Total weight for this group is 332g. The significant item in this group was a projectile point (82g), measuring 7cm in length and showing heavy oxidation even in X-ray. This point is a projectile point similar to item SF9 but represents a squatter and smaller variant, the metal shank being barely visible, unlike the extended projection on the SF9 item. Item SF10 is a bolt-head, comparable to those identified by Manning (Manning 1985a, 171) as Type (1) Bolt Heads from Hod Hill, Dorset and date to the mid-first century AD. The small pyramidal head is relatively robust and stout, similar to V141, V145 (Manning 1985 Plate 82) but has suffered a damage to the socket, which appears to have been conical or cylindrical similar to V147 (Manning 1985a, 171). Variations in length, point, neck and the socket are not unusual, and the SF10 example seems to be a well-made pyramidal tip with sharp shoulders. A high degree of standardisation was not required and variations are probably the result of different production workshops and individual smiths (Manning 1985a, 171). It is also likely that different forms suggest a choice of different catapult were available, and ammunition was chosen depending on the choice of artillery machine and the type of target. Relict ploughsoil 54. Not illustrated. Plate BCR 540.
- SF11. This group comprises five individual iron objects weighing a total of 191g. Two items in the group appear to be tools; one item has a looped end and only a partially surviving butt of the shaft remains, max length 4cm; width 1cm; diameter of loop (121g) 2.5cm. This object could represent a 'tub' or bucket handle, suggested by the large eye at one end of the shaft (Manning 1985a, 104, P29). Like the item listed by Manning as P29, this iron fitting seems unnecessarily strong for a bucket handle, and could be from an unusual wooden vessel rather than a simple metal bucket (Manning 1985, 103). It is similar in design to SF27, catalogued here as a 'netting needle', but does not have the distinctive break in the arms of the hoop. The other item has the appearance of a flat wedged-shaped bar, possibly used as a modelling tool or a part of some door furniture such as a strap hinge, max length: 6cm; width: 1.5; thickness: 0.5cm. The final item in the group has a rounded, spherical shape but is too corroded to allow for a positive identification. Relict ploughsoil 54. Not illustrated. Plate BCR 538.
- SF13. A single item of iron, heavily oxidised and spherical in shape: maximum diameter 5cm; weight 254g. The item has partially lost the outer corroded surface revealing a 'coiled' effect underneath. X-ray analysis revealed a robust iron hoop. Significantly this iron ring appears to have been 'welded' at the join suggesting it would have been a weight bearing item. Fill 631 in pit 578. Not illustrated. Plate BCR 535.
- SF14. A single iron object weighing 166g; length 12cm; width 3cm. The shaft appears circular in shape. Due to the poor condition and heavy corrosion, it was not possible to identify this item, only that it could have been a bar or strap shaped item. X-ray analysis revealed another smaller yet more defined item adhered to the surface corrosion of the larger metal item. This secondary object was a small nail, Type 1b. Fill 684 in construction trench 155 (Building H). Not illustrated. Plate BCR 537.

- SF15. A large iron object, weighing 530g; length 14cm. The shape of the artefact is suggestive of a chisel either for cutting hot metal, although the shape is not diagnostic enough for a Masonic or modelling function to be disregarded for this item. Unfortunately, because this item is unprovenanced it is impossible to establish whether this item was associated with a smith or a mason but the battered and flattened wider end would suggest that some force, with the help of a mallet or hammer would have been employed in striking this tool. Although the blade point is missing, it is unlikely that this instrument was very long and therefore would be indicative of a 'cold-chisel', Type A21 (after Manning 1985a, 8) or a masons 'firmer' chisel Type (1) (after Manning 1985a, 22). This type of chisel needed to be long enough to be held in the hand but had to be strong and stout enough to cut hard metal, rarely sporting a sharp blade. However, modern differentiations between tool types can be misleading and it is equally likely, judging by the surviving examples of Romano-British tool types in the British Museum's catalogue of forms (Manning 1985), that such implements had a range of functions and were employed in a multiplicity of tasks, ranging from rock cracking, stone dressing and modelling to basic carpentry. This item has a basic form which would lend itself to any of the above. Unstratified. Not illustrated. Plate BCR 541.
- SF17. A single flat iron object, weighing 83g; length 7cm; width 2.5cm; thickness 0.75cm. This object appears to be an undiagnostic type of flat metal bar, possibly with an upturned lip. The item was not positively identified due to the amount of corrosion, but is likely to be a tool or piece of door furniture, such as a hinge. Fill 684 in construction trench 155 (Building H). Not illustrated. Plate BCR 537.
- SF18. A single iron object, total weight: 88g; length 11cm; width 4cm; thickness 0.5cm. The fitting has two (rivet) holes, one at either end. This flat bar shape extend along the length of the bar and across the surface at equidistant points. This item could be either a strap hinge form R13, a common variety of its type (Manning 1985a, 127: Plate 59), or is comparable to a fitting for a strong box, known as a 'hasp-plate', similar to form R5 in the British Museum catalogue of forms (Manning 1985a, 126). This metal strap would have nail holes along the length and a larger rectangular hole at one end. This larger hole would have received the loop of a hinged staple and a lock adjacent to the strap would have secured the box. The SF18 item is lacking the distinctive larger rectangular hole and so it is possible that this is the end of a hinged-bar which closed onto a fixed staple. A comparable item was recovered from Hodd Hill, Dorset and dates to the mid-first century (Manning 1985a, 126: plate 58). Context 658 in construction trench 183 (Building G). Not illustrated. Plate BCR 538.
- SF19. Two iron objects, possibly both fragments of projectile points. Total weight for group is 198g. The smaller item has a maximum length 5cm; width 2cm; with a circular shaft, possibly the remainder of a shank, within which a honed wooden stake would have fitted. The larger of the two objects, maximum length: 11cm; width: 3.5cm; appears to taper to a defined point and is considerably more robust than the smaller. Due to the amount of corrosion on the former object it is impossible to absolutely rule out the suggestion that this object may only be a robust Type 1a nail, as the suggestion of a large flattened head is visible in x-ray. However, the width of the object is suggestive of a circular shaft tapering to a rounded point befitting a large projectile point such as a catapult bolt (Manning 1985a). Context 760 in construction trench 770 (Building H). Not illustrated. Plate BCR 540.
- SF20. Three partial fragments from a single iron object, measuring a total length 18cm; width 3.5cm; thickness 0.5cm; total weight 176g. X-ray analysis has revealed a visible suggestion of an upturned edge along one side of the object, creating a 'lip' along the length of the otherwise flat metal strip. This could indicate the object may have been used as a hoop, perhaps to bind a barrel or small wooden wheel as the end piece of the object appears to follow a curve, with a rounded end (Manning 1985a, 103: Plate 48 P22). However, further analysis was limited due to heavy surface corrosion. Context 688 in robber trench 748. Not illustrated. Plate BCR 537.
- SF22. A single iron object total length 5cm; width 2cm; weight 44g. The object exhibits evidence of a tang or shaft, which would have sat upon a wooden stake. Only the tapered conical shaft remains, the crucial diagnostic point is missing therefore this item could be interpreted as either a projectile point, such as a spearhead, much akin to the object described in SF9, or as the end of a Type (1) socketed reaping hook (after Manning 1985a, 53). However, the latter interpretation would imply a more robust arrangement of metalwork. The object described here is fairly small and has some suggestion of a

shouldered point. Without the adjoining blade it would be impossible to classify it on the shaft alone. However, it is uncommon to find arrowheads on military sites and they are sometimes confused with flat-bladed bolt-heads (Manning 1985a, 177). Context 686 in construction trench 155 (Building H). Not illustrated. Plate BCR 538.

- SF26. A group of four individual objects; total group weight 142g. A number of nails and a third object which has not been positively identified, having the elongated shape of a nail shank, but with the added appendage of what looks like a washer covering the head of the object (80g). It is likely to have functioned as a structural binding or fitting and no comparable object has been identified. The final object in the group has a distinctive shape, but has been broken at one end, therefore preventing a tangible identification. A number of possibilities are available. The upturned double hooked-end of this item could represent a tanged mechanism used in an agricultural implement known as a 'Four-Tined hoe', a more common variant of the 'Two-Tined hoe' form (Manning, 1985a, 47). The more favoured four-tined hoe unlike two-tined hoes, are known in Britain and from the Continent, and appears in a variety of forms. However, the unusual use of a tang makes this form unique and the item within group SF26 could represent a Type (2) form, the only other comparable example of which is known from Rushall Down, Wiltshire (Manning 1985a, 47 F12, plate19). However, usually the tang and tines are made in one piece so it would be unusual to see this item without an accompanying tine. The other possible interpretation for this object could be a hook from Roman weighing mechanism known as a 'Steelyard': an asymmetrical balance which relied on balancing two weights between a fulcrum (Manning 1985a, 106). The object from SF26 could represent a hooked fixture used to attach the weights to the metal steelyard. This hook is heavily corroded but could have been part of a more common type of Steelyard comparable to that recovered from Dorn Farm, Gloucestershire (Manning, 1985a 106, P40). These implements are not commonly known, and if this item were from such as mechanism, would be of late Roman date, and have implications for the accessibility and availability of the refined technical implements within the settlement and fort. Unstratified. Not illustrated. Plate BCR 539.
- SF27. This group comprises three objects with a total weight of 156g. The group comprises several nails (see below) and a third object with a very distinctive shape. This is a straight-stemmed implement (95g) with incurving u-shaped ends set in planes at right-angles to each other, interpreted as a tool of some sort, which looks similar to a wrench (after Manning 1985a, 37, D38, Plate 15). However, comparable implements in Manning's typology suggest it may be a 'Netting needle', such as the example recovered from excavations at Hod Hill, Dorset (Manning 1985a, 37). These items are not strictly needles as such but appear in one of two forms, this one having a straight stem with a u-shaped fork at either end. On the example in SF27, only one end remains and consequently the object is still open to interpretation, but it seems likely that this implement would have been used in the construction of a uniform mesh, acting as a spacer or former around which the net is constructed. The arms set at right-angles and the choice of iron for its construction leaves little doubt as to the identification of this instrument and would place this item in the mid-first or second century. (also see item SF11). Context 688 in robber trench 748. Not illustrated. Plate BCR 539.
- SF200. A single, heavily corroded iron object with a circular shaft: total weight: 119g; length: 10cm; clearly incomplete. After X-ray analysis another object is apparently adhered to the robust shaft, interpreted here as a nail, Type 1b. The object it is adhered to could be some sort of tool, but is sufficiently incomplete to render it undiagnostic. Context 693 in construction trench 155 (Building H). Not illustrated. Plate BCR 536.
- SF202. A single ferric object, measuring a total length: 32cm; width: 3.5cm, tapering to a narrow shaft at one end. The shaft is faceted and the narrow end point has a slight bend in it suggestive of use. The object is interpreted here as a *pilum*, stylistically dating to the early Principate. Similar examples have been excavated from sites such as Croy Hill, an Antonine Wall Fort, Strathclyde and Rottweit, in the Black Forest region of Germany (Coulston 1988, 9). Although no comparable form appears in the British Museum, Catalogue (Manning 1985a), the lack of a distinctive head and no additional weights on the shaft would place this form of *pila* before the early years of the second century AD as un-weighted *pila* are thought to have gone out of use by the reign of Trajan (Coulston 1988, 10). Context 554 in pit 704.

5.2.2. Ironworking Residues

Approximately (2393g) of iron smithing slag and hearth bottom (not differentiated here) was recovered from the excavations (Table 15). Some pieces were recovered with charcoal adhesions remaining intact on their surface. The majority of this material came from deposits in Area 6 (1060 Kg), attesting to low-level on-site ironworking in this, or an adjacent, area. Industrial residues were identified within the ferrous metalwork assemblage, however due to the poor condition and fragmentary nature of the assemblage, some pieces of industrial waste may have been overlooked and the possibility of industrial residues from other industrial processes, such as the glass production, may also be included within this quantification.

Area	Context	Weight (g)	SF Number	Type
Ev Tr 2	(54) Relict ploughsoil	52		Industrial residue (Fe)
Area 4	(397) in Pit 17	92		Iron Ore?
Area 4	(367) in construction trench 350 (Building B)	19		Glassy black industrial residue (glass)
Area 5	(488) in pit 483	57		Furnace lining
Area 5	Pit 483	393		Iron slag
Area 5	Pit 483	635		Iron slag
Area 5	(488) in pit 483	233	SF28 BCR 539	Iron slag
Area 6	(691) in construction trench 155 (Building H)	38		Charcoal
Area 6	(627) in pit 578	28		Iron-ore/ slag
Area 6	(627) in pit 578	20		glassy black Industrial residue (glass)
Area 6	(492) in pit 500	12		Furnace lining
Area 6	(54) Relict ploughsoil	504		Iron slag
Area 6	(440) in post-hole 390	81	SF1 BCR 536	Iron slag
Area 6	(472) in ditch 457	32	SF21 BCR 538	Iron slag
Area 6	(642) in construction trench 89 (Building E)	40		Pumice-like glass furnace waste (glass)
Area 6 unstratified	unstratified	72		Iron slag
unstratified	unstratified	67		Industrial residue (Fe)
Total		2443g		

Table 15. The context of industrial residues.

5.2.3. Iron Nails

A total of 454 stratified nails were recovered from the excavation, largely comprising either corroded heads or broken shanks, of which 106 were more or less complete examples of iron nails. There were also 62 unidentifiable fragments recovered from the excavation which were too corroded to allow accurate identification, but included here as remnants of nails. In addition a total of 14 unstratified nails were excavated during machine stripping of the site. A selection of these items were sent for X-ray analysis and identified as Roman nail types with one exception, representing a possible Medieval nail form (SF group numbers: 2,3,7,9,10,11,19,23,25,26,27,200). These finds are documented within the site archive and were included in the final quantification.

The complete nails were related to Manning's typology of Roman nails (Manning 1985a, 133; Manning 1985b, 289-299). The majority of the nails belonged to the most commonly occurring nail groups Type (1a) and Type (1b), categorised by the relative flatness of the head and length of the shank (the latter feature being variable within the groups as well as between groups). However, a significant number of Type (7) and (8) nails were tentatively identified which could have implications for the type of craft industry occurring on certain parts of the site. These types are less common and are thought to be associated with carpentry tacks such as would be used in the production of upholstery and furniture (Manning 1985, 136).

Also, a significant number of Type 10 stud nails were recovered from tight groupings associated with contexts [155] SF24, [648] SF12 & 20, [124], [154], [344] and (102) of between 10 and 30 individual studs (SF group numbers: 12, 24, & 201). These clusters of Type 10 studs represent hobnails from the soles of leather sandals, known as *Caligae*, a typical type of first century military footwear worn by both the auxiliaries and legionaries (Bishop & Coulston 1989, 35). It is believed that during the second century *caligae* fell out of use and soldiers adopted more civilian forms of footwear (Bishop & Coulston 1989, 47).

Type 3 nails are thought to have been designed so as to mask the head of the nail when set into a beam, the T-shaped head effectively lying flush with the grain of the wood, concealing its presence. This type of nail would have been preferred in more lavish structures, with an attention to the façade of the structure (Manning 1985, 135).

With the exception of large groups recovered from context (155), (22), (648), (32) and Ploughsoil layer (054), and (81), the majority of nails were recovered as individual finds, as single nails or fragments.

Type 1a: 66

Type 1b: 200

Type 3: 5

Type 7: 45

Type 8: 11

Type 10: 64

Unidentified: 63

Total Nails Found: 454

Small Finds Group Numbers for X-rayed Nails

- SF2. Iron shank-like rod, broken in two, possibly a heavily corroded nail, Type (1b) with flattened head, max length: 6.5cm, width: 1.0cm; weight: 21g. Fill 440 in post-hole 390. Not illustrated. Plate BCR 536.
- SF3. Three iron nails; total weight: 117g, ranging in length and robustness, but all conform to Type (1), both (a) and (b) forms. One example, a Type (1b), is bent at right-angles suggesting its use in timber riveting. The larger example has the typical pyramidal head of a robust Type (1a) nail but a seemingly circular shaft suggestive of a rare Type (6) form associated with masonry construction. Relict ploughsoil 54. Not illustrated. Plate BCR 536.
- SF9. Three iron objects all exhibiting heavy oxidation. Item 1 (82g) has been interpreted here as a Type 1a nail, measuring 12cm, with adhered mineralised concretions of organic matter, probably wood judging by the visible striations, alluding to its use in timber revetment. Only the end point of the shank is missing. Relict ploughsoil 54. Not illustrated. Plate BCR 540.
- SF10. Six iron objects exhibiting heavy corrosion. Five of these have been interpreted as iron nails in an array of fragmentary pieces but all were of Type (1) (after Manning 1985, 133) with three examples of Type (1a) with heads and adjoining shanks in various states of completion and the distinctive

flattened pyramidal head of the robust variety. One complete nail was of the small Type (1b) variety measuring a maximum length of 5cm. Relict ploughsoil 54. Not illustrated. Plate BCR 538.

- SF11. Two objects from the group are tentatively interpreted here as iron nails (70g), both incomplete shank fragments of the Type (1b) variety (after Manning 1985a, 134), measuring a maximum length of 4cm. Relict ploughsoil 54. Not illustrated. Plate BCR 538.
- SF23. A single iron object, revealed to be a Type (1b) nail after X-ray analysis; total length: 8cm, width: 1.3cm (faceted shank) weight: 45g (Manning 1985a, 134). The typical rounded head is flattened but does not extend beyond the width of the shank. The tip of the shank is missing and the length finishes at a bent angle, suggesting that the nail may have been used. This represents an almost complete example of its type. Trench 5, unstratified. Not illustrated. Plate BCR 539.
- SF25. Two large, heavy iron objects, possibly from the same artefact, interpreted here as a large Type (1a) nail; total length: 15.5cm, width: 2cm, weight: 114g. The head is completely missing, but the shank remains in two sections. One portion is longer than the other, but tapers to a more or less rounded point. Fill 196 in construction trench 155 (Building H). Not illustrated. Plate BCR 539.
- SF26. Two nails of Type (1a) and (1b) varieties (weight: 61g), the former being a complete example measuring a total length: 8cm, width: 1.5cm, with a flattened head. The latter is missing the head; total length: 5.5cm, only the shank remains. Unstratified. Not illustrated. Plate BCR 539.
- SF27. Two iron nails of Type (1a) measuring 7.5cm; total weight 102g, with the head intact but end point missing. The second nail is bent at right-angles suggesting some demolition activity, measures a total length: 9cm, with the head missing. Fill 688 in construction trench 155 (Building H). Not illustrated. Plate BCR 539.
- SF200. Type 1b nail, max length; 5cm, width: 1cm; weight: 119g. Context (693) in [155]. Not illustrated. Plate BCR 536.

SF Numbers for Hobnail Groups

- SF24. This group comprises three groups of hobnail studs, heavily corroded and subsequently extremely faint in X-ray. These studs conform to Manning's Type (10) nail typology (Manning 1985a, 136) and are a type known to have come from the soles of roman military sandals or *caligae*. They appear as 'spur-shaped' rosettes and represent groups located around the ball and heel of the sole. Total weight: 26g. Context 743 in construction trench 155 (Building H). Not illustrated. Plate BCR 537.
- SF12. Comprises three bonded groups of hobnails, Type (10) (after Manning 1985a, 135), typically in bonded groups of six individual nails. The total weight for this group: 73g. The studs are congregated in groups of compacted studs arranged in circles, presumably from arrangements on the balls and heels of leather sandals (*caligae*), and other strips of studs from the area of the instep. This type of footwear is common in the personal equipment of the first century military (Bishop & Coulston, 1989, 35). Fill 688 in robber trench 648. Not illustrated. Plate BCR.
- SF201. A collection of six groups of Type (10) hobnails (Manning 1985a, 136). Total weight; 17g. Heavily corroded. Context (688) in [648]. Not illustrated. Plate BCR. Construction trench 155 (Building H).

Contexts Producing Iron Nails

The context producing nails are listed below. Quantities given represent individual items not individual fragments. Details of contexts producing other forms of ferric artefacts can be found in the site archive:

[548] x 38, [790] x 17, [457] x 12, [506] x 2, [155] x 38, [154] x 7, [673] x 1, [568] x 4, [336] x 2, [124] x 2, [774] x 1, [692] x 6, [483] x 1, [183] x 36, [350] x 1, [390] x 4, [344] x 16, [500] x 4, [578] x 6, [298] x 1, [904] x 12, [483] x 2, [586] x 4, [770] x 2, [829] x 1, [054] x 90, [128] x 1, [792] x 3, [529] x 1, [102] x 5, [394] x 1, [17] x 1, [435] x 1.

Discussion

The predominant nail forms recovered from the excavations is Type (1a) and Type (1b). It has been suggested that such quantifications may disproportionately represent certain forms because of the differential survival rates and potential for metallurgic recycling of certain forms. Certainly the very large Type (1a) nails may have represented a readily available supply of recyclable iron, and their survival within the assemblage is largely in a fragmentary state, with heads and shanks alluding to their presence, rather than complete examples. The poor condition of the assemblage also rendered differentiation between Types (1a) and (1b) difficult, which are commonly mistaken for Types (7) and (8). The latter forms are not commonly used for structural construction. However, because of the nature of the site, it is possible that these forms would appear in the workshops within a vicus settlement. Essentially, Types (1a) and (1b) can be seen as a continuation of the same form (Manning 1985a, 134).

5.3. Roman Coins

David Shotter

Six coins were recovered during the excavations. These include:

- | | | |
|--|----|-----------------------------------|
| 1. Relict ploughsoil 54
AR <i>Denarius</i> , Marcus Antonius
Obv. Galley [ANT AVG III VIR RPC]
Rev. Legionary series [LEG] | VW | 32-1 BC |
| | | Crawford 544 |
| 2. Fill 627 in pit 578
AE <i>Dupondius</i> , Vespasian
No details legible | VW | AD 69-79 |
| 3. Relict ploughsoil 54
AE <i>As</i> (fragmentary), Domitian
All legends broken off: the reverse is probably the
<i>Moneta</i> -type [....] SC | LW | AD 84-96 |
| | | <i>As RIC II (Domitian)</i> , 248 |
| 4. Fill 242 in construction trench 183 (Building G)
AE <i>Sestertius</i> (fragmentary), Nerva
Obv. [IMP NERVA C]AES AVG P M T[RP COS...P P]
Rev. Largely illegible, possibly [LIBERTAS PVBLICA S C] | VW | AD 96-7 |
| | | <i>RIC II (Nerva)</i> , 64 or 86 |
| 5. Fill 655 in pit 568
AE <i>As</i> (fragmentary), Antoninus Pius
Obv. [ANTONINVS AVG PI]VS P P TR P XVIII
Rev. [BRITANN]IA COS III SC | LW | AD 154-5 |
| | | <i>RIC III (Antoninus)</i> , 934 |
| 6. Fill 658 in construction trench 183 (Building G)
AE <i>As</i> (fragmentary), Antoninus Pius
No details surviving | MW | AD 138-161 |

Note: LW (little wear); MW (moderate wear); VW (very worn)

Discussion

Little can be said regarding so small a sample, although the relatively-short date-range of the coins is of interest in itself. As is often the case, there is a republican *denarius* in the sample - in this case a very worn coin of Marcus Antonius, issued in 32-1 BC. In general, republican *denarii* are rarely found in Britain in contexts later than the Hadrianic period, because of the fact that, as Dio Cassius informs us (68.15,3), Trajan recalled 'old silver' for re-use. However, although most coins earlier than Nero's reform were affected by this, a notable exception is to be found in the *denarii* of Marcus Antonius which, it was alleged by some (Pliny *Natural History* 33.132), were of base silver; consequently, these continued to circulate, often worn almost smooth (as is the case with the present example), until the final demise of the *denarius* in the AD240s.

Two of the coins (nos. 1 and 3) came from a relict ploughsoil which sealed the Roman levels, whilst nos. 4 and 6 came from the construction trench [183] of Building G; nos. 2 and 5 derived from deposits in pits. Of these, probably the most significant from the point of view of dating is no. 5, the little-worn *as* of AD154-5.

It is notable that, despite the smallness of the sample, there are no Trajanic or Hadrianic issues present. Nor, significantly, are there any signs of coins belonging to the issue-periods which are normally prolific in coin-loss in the north-west, AD260-75 and AD330-46 (Shotton 1993).

Whilst the denominations represented would suggest that ultimately the coins derived from a military source, there is nothing to support the notion that this source was of particularly high status: the 'as-value' of the present coins is a little over four *asses* per coin, which is relatively low for a context in the second century, when the development of inflation was beginning to witness the gradual loss from circulation of the lower denominations, and increasing reliance placed on coins of higher face-value (principally *denarii* and *sestertii*).

5.4. Roman Glass

Hilary Cool

The excavations produced 75 fragments of Roman vessel glass and a single fragment of the typical cast window glass of the first to third centuries (no. 27) (Illus 75). Where the fragments are closely dateable, this is a first to mid second century assemblage; and all of the other less closely dateable fragments would fit into this timeframe as well. The assemblage is dominated by fragments from blue/green bottles (nos. 8-25) which make up two-thirds of the fragments and approximately 50% of the assemblage judged by EVES. Most of these probably came from square ones which can only be broadly dated to the later first to earlier third century (Price & Cottam 1998, 194-8), but there are also a small number of fragments from cylindrical bottles with their distinctive vertical scratch-marks (*ibid.*, 191). These had a shorter lifespan concentrated in the later first to early second century.

The other vessels represented include two first century pillar-moulded bowls (Price & Cottam 1998, 44), a long-necked, probably conical, jug of the mid first to mid second century (*ibid.*, 155) and a colourless cylindrical beaker of the end of the early to mid-second century (*ibid.*, 88). The rim and neck fragment no. 5 probably comes from a small funnel-mouthed globular jug of the later first to second century period (*cf.* Shepherd 1996, 110 nos. 144-51), though the possibility it came from a jar cannot be excluded. The only unusual item in the assemblage is the fragment of a funnel (Isings 1957, Form 74). These were in use during the first century but are not common (Cool & Price 1995, 174).

With such a small assemblage it is difficult to characterise the nature of the assemblage, but the high proportion of bottles is the sort of pattern seen in military assemblages of the later first to mid second centuries (Cool & Baxter 1999, 83). The presence of a funnel would also be appropriate on a military site. Certainly when they have been found elsewhere in the north of Britain they have been

in military contexts at Watercrock (Charlesworth 1979, 232 no. 170), Castleford (Cool and Price 1998, 169 no. 212) and York (Cool 1998, 304 no.7).

Pillar moulded bowls

- 1 Pillar moulded bowl, lower body and base fragment. Blue/green. Lower body curving into concave base; parts of 10 ribs radiating around the edge of the centre. Two wheel-cut grooves around lower body. Present height 36, base diameter *c.* 80-100mm. EVE 0.6. Fill 412 in pit 394.
- 2 Pillar moulded bowl, lower body fragment. Blue/green. Part of one rib and fragment broken at edge of second rib. Two abraded band on inside of body. Dimensions 30 x 24mm. EVE 0.2 U/S

Colourless blown

- 3 Cylindrical beaker, 1 rim fragment and 10 body fragments probably from same vessel. Out-curved rim, edge cracked off and ground; straight side. Wheel-cut groove below rim edge. Rim diameter 85mm, present height 16mm, wall thickness 1mm. EVE 0.2. Fill 652 contained within construction trench 586/183 (Building G).
- 4 Base fragment. Tubular pushed-in base ring, edges of flat base and probably wide lower body. Base diameter 50mm. EVE 0.2. Fill 688 contained in robber trench 748.

Blue/green blown

- 5 Jug, rim and neck fragment. Funnel mouth, rim edge fire-rounded; neck curving out to side. Rim diameter *c.* 75mm, present height 25mm, wall thickness 2mm. EVE 0.28. Fill 474 contained in ditch 457.
- 6 Jug handle fragment. Straight handle with central rib. Present length 70mm, section 28 x 5mm. EVE 0.14. Relict ploughsoil 54.
- 7 Funnel, body and spout fragment. Convex-curved lower body; narrow tapering cylindrical spout, broken end. Present length 55mm, diameter of spout 10mm. Relict ploughsoil 54.
- 8 Bottle; upper part of angular handle; folded upper attachment retaining chip of neck. Handle section 45 x 7. EVE 0.28.
- 9 Prismatic bottle; handle and joining shoulder fragment. Lower part of reeded handle, flat shoulder broken at edge of neck. Width of handle *c.* 55mm. EVE 0.28. Fill 688 contained in robber trench 748.
- 10 Jug or bottle. Cylindrical neck fragment. Neck diameter 28mm. Dump 42.
- 11 Bottle; cylindrical neck fragment. Relict ploughsoil 54.
- 12 Bottle neck fragment. Cylindrical, broken at tooled junction with shoulder. Fill 656 contained in pit 568.
- 13 Bottle, 2 fragments from neck shoulder junction. Fill 747 in pit 790.
- 14 Bottle; fragment from junction of cylindrical neck and shoulder. Fill 885 in foundation trench 155 (Building H).
- 15 Square bottle, shoulder and side fragment. EVE 0.28. Relict ploughsoil 54.
- 16 Prismatic bottle. 4 flat body fragments and 1 shoulder fragment. Fill 822 in construction trench 506 (Building D).
- 17 Bottle, shoulder fragment. Fill 492 in pit 500.
- 18 Bottle, 2 shoulder fragments. Relict ploughsoil 54.
- 19 Prismatic bottle; concave base fragment. Base design – at least 4 concentric circular mouldings. Base width *c.* 110mm, EVE 0.28.
- 20 Prismatic bottle, lower body and edge of base fragment. Base design - edge of circular moulding.

- Present height 63mm. EVE 0.28. Fill 684 in foundation trench 155 (Building H).
- 21 Prismatic bottle; 3 small base fragments. Base design - two concentric circular mouldings with edge of straight moulding internally. Dimensions largest fragment 37 x 14mm, EVE 0.14. Fill 554 in pit 704.
- 22 Prismatic bottle, base fragment. Base design - part of one circular moulding. Dimensions 23 x 20mm. EVE 0.14. Relict ploughsoil 54.
- 23 Square bottle, 12 body fragments. Relict ploughsoil 54 (3 fragments); Layer 151; Fill 156 in foundation trench 155 (Building H); fill 554 in pit 704 (3 fragments); Fill 760 in foundation trench 770 (Building H) (2 fragments); U/S (2 fragments)
- 24 Prismatic bottle, 18 body fragments. Relict ploughsoil 54 (3 fragments); Fills 106 & 242 in construction trench 183 (Building G); Fills 254, 684, 690, 693, & 683 (2 fragments) in foundation trench 155 (Building H); fill 345 in pit 344 (2 fragments); fill 695 in pit 790; fill 738 in ditch 806; fill 757 & 758 (2 fragments) in construction trench 992 (Building D).
- 25 Cylindrical bottle, 3 body fragments. Fill 691 in foundation trench 155 (Building H); 707 in Worsley Street sewer trench; U/S.
- 26 4 blue/green body fragments. Relict ploughsoil 54; ditch 457; fill 683 in foundation trench 155 (Building H); fill 988 in ditch 122.

Window glass

- 27 Window glass. 1 cast matt/glossy fragment. 8cm². Fill 242 in construction trench 183 (Building G).

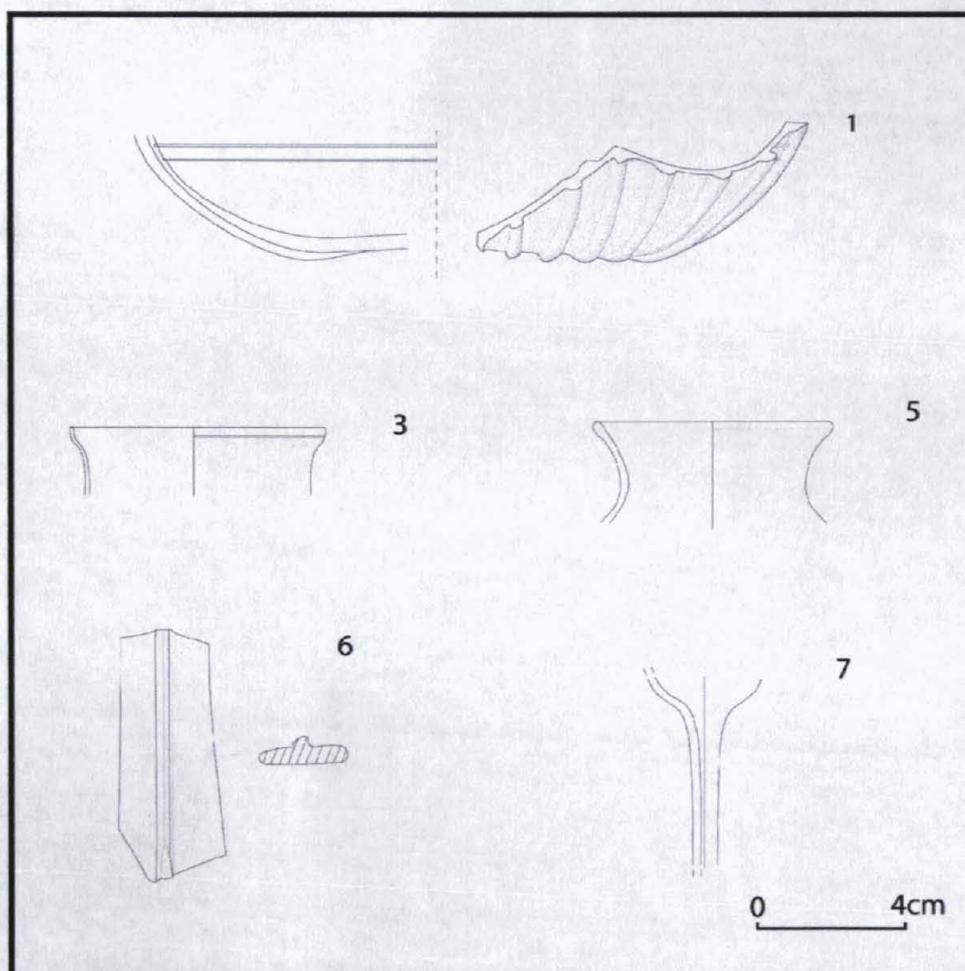


Illustration 74. Glass artefacts.

5.5. Roman Beads

Hilary Cool

Frit melon beads such as 1-5 are a very common first to mid-second century find but it may be that the two large examples were made in the first century. Unusually these have large patches of blue rather than turquoise glaze. At Castleford where large numbers of frit melon beads were found in contexts of the last quarter of first century to the mid-second century, the rare blue examples like these were found in first century contexts when stratified (Cool & Price 1998, 183-6 nos. 4, 47-8, 80).

Most long green cylindrical beads are a late Roman phenomenon, but occasionally they have been found in early to mid-second century texts at Castleford (Cool & Price 1998, 187 nos. 114-5, 128, 176-8) and in the late second to early third century drain deposit at the Caerleon fortress baths (Brewer 1986a, 149 no. 35).

- 1 Melon bead, Frit. Regular, slightly diagonal gadroons, interior ridged. Glaze well preserved with large areas of deep blue glaze internally and externally as well as turquoise patches. Areas around perforation worn. Length 19mm, diameter 22mm, perforation diameter 11mm. Fill 558 in hearth 705.
- 2 Melon bead. Frit. Regular, slightly diagonal gadroons, interior straight. Glaze mostly eroded but includes deep blue patches. Length 16mm, diameter 20mm, perforation diameter 9mm. Fill 775 in pit 124/878.
- 3 Melon bead. Frit. Irregular gadroons, interior straight. Turquoise glaze well preserved. Length 9mm, diameter 12 x 10mm, perforation diameter 5mm. Fill 143 in pit 774.
- 4 Melon bead. Frit. Irregular gadroons, interior straight. Surfaces eroded but retains traces of turquoise glaze. Length 9mm, diameter 12 x 11mm, perforation diameter 5mm. U/S.
- 5 Melon bead; small fragment of large bead. Surfaces eroded. Fill 655 in pit 568.
- 6 Long cylindrical bead; deep translucent green glass; surfaces slightly faceted. Length 11mm, section 5mm, perforation diameter 2.5mm. Occupation layer 868 (Building F).

5.6. Stone Objects

5.6.1. Slate Pallet

Jeff Speakman

A Pallet, of green Lakeland slate, characterised by bevelled edges on the lower surface and a very slight hollow worn in the upper, with fine scratch-marks, was recovered from fill 492 contained within pit 500 (Illus 76). It is presumed that the finer pallets, such as this one, were used for preparing cosmetics (Clarke 1990, 124, fig. 91.44; May 1996, 381, fig. 15.5.1). A comparable example was discovered at Dalton Parlour although this had a much more pronounced hollow on the upper surface, which suggests that the piece from Barton Street had received little use (Clarke 1990, 124, fig. 91.44).

5.6.2. Lava fragments

Jeff Speakman

Three lava fragments were recovered from Roman contexts (SF 552: fill of pit 529; SF 563: machine excavated from context 790; & SF 575: US). The provenance of the fragments is uncertain without geochemical analysis but they possibly derive from Gaul or Italy (Alan Bowden pers comm.). Quernstones made from lava were imported from Germany, from the area around Niedermendig, Andernach and Mayen, and the fragments of lava from Barton Street whilst being from a probable different source may also be from quernstones.



Illustration 75. Green Lakeland Slate 'cosmetic' pallet (SF 559).

5.6.3. Lithics

Ron Cowell

A side scraper on a flint flake, 35 mm long, 29mm wide; with a faceted, wide platform (8mm) was recovered from a Roman period period construction trench [89]. The date of this lithic is probably late Neolithic/early Bronze Age and it therefore represents a redeposited prehistoric artefact.

6. Environmental and Corporeal Remains

6.1. Environmental Analyses of Selected Context Samples

James Rothwell & David W Shimwell

6.1.1. Introduction: context samples and analytical brief

During the 1972 excavations at White Lion Street, a large number of clay bowls and spreads were discovered and variously interpreted by Barri Jones (Section B in Jones and Grealey 1974) as either furnaces or smithing hearths. Substantiation of this interpretation was attempted by Bestwick and Cleland (Jones & Grealey 1974, Section C), but their evidence was unconvincing and not specifically relevant in analytical terms to the Castlefield site. The excavations of 2003 also revealed a relatively large number of clay bowls and the opportunity presented itself for chemical analysis of the associated deposits. Twenty-one samples of clay and associated materials were submitted to the laboratories of PERU for the analysis of heavy metals (copper, lead and zinc) and iron as indicators of smelting and/or smithing and hence, the possible function of the clay bowls. Eight samples were selected from clay deposits in post-holes and construction trenches as controls for comparison with the thirteen samples from presumed metal-working hearths. Details of the samples with descriptions as submitted are detailed in Table 16.

Control samples from post-holes and trenches(8)		Clay bowls and associated deposits (13)	
1	Red clay 93 from post-hole 243	13	Clay bowl 357 in pit 344
3	Red clay 239 from post-hole 240	14	Clay bowl 358 in pit 344
6	Red clay 130 from post-hole 129	15	Clay bowl 381 in pit 344
77	Clay fill of construction trench 586	20	Clay bowl 398 in pit 17
79	Clay fill 237 of post-hole 634	21	Charcoal 399 in pit 17
108	Clay base 703 of a bread oven?	22	Deposit between 398 & 401 17
133	Orange clay within construction trench 155	23	Clay bowl 401 in pit 17
147	Blue-grey clay 517 in post-hole 516	34	Clay bowl 453 in pit 438
		40	Clay bowl 449 in pit 298
		44	Clay bowl 420 in pit 336
		52	Clay bowl 427 in pit 336
		152	Clay bowl 18 in pit 17

Table 16.

The samples were first examined for the presence of hammer scale and slag both of which proved to be absent. Subsequent analyses of copper, lead, zinc and iron concentrations followed the methods recommended by Allen (1989) using an Atomic Absorption Spectrophotometer SP11; the results are expressed in mg/kg^{-1} . In addition, the measurement of mass specific/low frequency magnetic susceptibility using a Bartington Instrument MS2 meter with a solenoid type sensor was used to detect evidence of burning. The principle of this analytical method lies in the fact that burning converts non-magnetic ferric oxyhydroxides to canted-anti-ferromagnetic haematite (McClellan and Kean 1993). The magnetic susceptibility results - $X(\text{Si})$ - are expressed as $10^{-8} \text{ m}^3/\text{kg}^{-1}$.

6.1.2. Results

From the data presented in Table 17 the following features are worthy of note as a basis for discussion.

Concentrations of *copper* range between 11 and 174 mg/kg^{-1} , the two highest values being recorded

in control sample 3 from a post-hole clay, and from the charcoal deposit of sample 21.

The highest value for *lead* of 203 mg/kg⁻¹ is in clay bowl sample 45; all the other samples have concentrations in the range 18-74 mg/kg⁻¹.

The higher range of concentrations of *zinc* 94-169 mg/kg⁻¹ is to be seen in the control samples, with those from the clay bowls falling into the range 34-94 mg/kg⁻¹.

Ten samples produced values for *iron* above 1000 mg/kg⁻¹, three from the clay bowls and seven from the control samples.

By far the highest *magnetic susceptibility* value [X(Si) = 743] is that of sample 21, the charcoal deposit, and the next highest [X(Si) = 337] comes from sample 20, the clay layer immediately above the charcoal. The range of values is from 7 to 743 and widest in the clay bowl samples.

Sample ID	Context	Description	Cu (mg/kg)	Pb (mg/kg)	Zn (mg/kg)	Fe (mg/kg)	X (Si)
13	344/357	Clay Bowl	39	24	60	576	81
14	344/358	Clay Bowl	76	50	83	788	62
15	344/381	Clay Bowl	77	45	94	856	21
20	17/398	Clay Bowl	34	23	70	1360	337
21	17/399	Charcoal deposit	144	74	47	672	743
22	17/398-401	Deposit between bowls	40	50	49	840	137
23	17/401	Clay Bowl	14	18	36	398	16
152	17/18	Clay Bowl	31	26	78	1120	89
44	336/280	Clay Bowl	26	20	86	1312	183
45	336/420	Clay Bowl	11	203	52	384	7
52	336/427	Clay Bowl	20	25	44	502	46
34	438/453	Clay Bowl	16	14	34	520	70
40	298/449	Clay Bowl	43	16	52	430	54
108	703	Clay base/Bread oven	51	32	146	1432	39
79	634/237	Clay fill/Post-hole	42	41	146	1136	131
147	516/517	Blue-Grey clay/Post-hole	94	58	94	520	96
1	243/93	Red clay/Post-hole	45	59	125	1000	51
3	240/239	Red clay/Post-hole	174	50	169	1200	19
6	129/130	Red clay/Post-hole	33	39	120	1272	274
133	155	Clay fill/Construction trench	26	23	107	1080	18
77	586	Clay fill/Construction trench	27	26	96	1260	19

Table 17.

6.1.3. Discussion

Discussion of the results is better facilitated by reference to three sets of comparative analytical data; on the normal expected range of concentrations of the elements in soil extractions from Allen (1989); the range of magnetic susceptibility values from controlled burning experiments of a variety of materials (McClellan & Kean 1993); and from analyses of furnace debris from the Roman fort of Melandra (Shimwell 1997).

Cu 5-80; Pb 2-20 (200 in urban soils); Zn 20-300; Fe 50-1000 (Allen 1989, mg/kg⁻¹)
X(Si) campfire ash layers 157-1671; wood ash 87-621 (McClellan & Kean 1993, 10⁻⁸ m³/kg⁻¹)

Some impression of the expected concentrations of individual elements in smelting wastes may be gained from three geochemical analyses of furnace wastes from Melandra using a TN Spectrace 9000 X-ray fluorimeter.

Cu 236 – 1107; Pb 1055 – 1734; Zn 71 – 95; Fe 44470 – 68880 (Shimwell 1997, mg/kg⁻¹).

The results indicated that the presumption of furnace debris was clearly correct based upon the high concentrations of iron present (4.4% - 6.9%). The concentrations for both lead and copper, with maxima at 1734 mg/kg⁻¹ and 1107 mg/kg⁻¹ respectively were of the order of twenty to forty times the normal values expected from uncontaminated soils. These two elements are not usually found in high concentrations with iron ore deposits and thus it was feasible to suggest that multi-metal processing, using mineral ores of different provenance, almost certainly occurred on site.

Three values for *copper* fall above the expected natural range reported by Allen (1989), but as the highest comes from a control sample and another from the charcoal deposit, there is no strong indication of smelting or smelting of this metal. Many values for *lead* exceed the 2-20 mg/kg⁻¹ for rural soils, but all are no doubt enhanced by urban situations in which concentrations are commonly elevated to 200 and above. With the exception of *zinc*, all metal concentrations fall well below those recorded by Shimwell (1997) from furnace debris. All values for this element, however, fall within the natural range, and all the highest values come from the control samples. Eight values for *iron* fall above the expected range for natural soils, but concentrations are also elevated in urban soils and it seems of some significance that six of the concentrations in excess of 1000 mg/kg⁻¹ are from control samples. There is evidence of *heat alteration* of ferric oxyhydroxides by burning – where X(Si) is greater than 150 - in four of the context samples, two of which are from the controls. Most striking yardsticks are the results for the charcoal deposit and its associated clay layer, and the relatively high value for the post-hole sample (6) probably represents the burning of the superstructure it supported.

6.1.4. Conclusions

Given the nature of the context samples submitted for analysis, the overall conclusion is that the hypothesis that the clay bowls were either furnaces or smelting hearths for the processing of various metals is not proven. It would seem that an alternative function must be sought, perhaps in the environmental analysis of the various charcoal and presumed midden deposits. In this context, it is of interest to note that Roeder (1900) described a 'black pit' exposed during the construction of the police station adjacent to Barton Street in 1897. Its contents included a piece of goat leather and a diversity of bryophyte species too great to represent a natural autochthonous deposit. Mosses have been widely used in the curing of leather and it may thus be illuminating to follow the hypothesis that the clay bowls were tanning pits.

6.2. Plant Macrofossils

Charlotte O'Brien

6.2.1. Introduction

Two samples derived from the two most promising palaeoenvironmental contexts identified during the excavation were assessed for plant macrofossils. These samples included two 'midden' deposits [689 & 690] incorporated into a construction trench [155] that formed part of Building H.

6.2.2. Method

Five litres of each sample were manually floated and sieved through a 500µm mesh. The residues were retained, described and scanned using a magnet for ferrous fragments. The flots were dried

slowly and scanned at x 40 magnification for waterlogged and charred botanical remains. Identification of these was undertaken by comparison with modern reference material held in the Environmental Laboratory at Archaeological Services, University of Durham. Total numbers of remains per species were logged and the results were interpreted in their archaeological and palaeoecological contexts. Plant taxonomic nomenclature follows Stace (1997).

6.2.3. Results and discussion

The results of plant macrofossil assessment are presented in Table 18. No plant remains were present in [689] and only a few preserved in [690]. These included a charred hazelnut fragment and three charred cereal grains. The grains were too badly damaged to allow species identification.

Context	689	690
Volume processed (ml)	5000	5000
Volume of flot (ml)	800	200
Volume of flot assessed (ml)	400	200
Residues contents (relative abundance)		
Metal fragment	-	1
Daub	1	-
Pot	-	1
Flot matrix (relative abundance)		
Charcoal	5	4
Charred remains (total counts)		
(c) <i>Cerealia indeterminate</i>	-	3
(t) <i>Corylus avellana</i> (Hazelnut)	-	1

(c: cultivated plant; t: trees/shrubs)

Relative abundance is based on a scale from 1 (lowest) to 5 (highest).

Table 18. Contents of the residues and flots from Barton Street.

6.3. Animal Bone

Louisa Gidney

Preservation of bone was extremely poor. The majority of the extant finds are calcined, that is burnt to the hard white state where no organic content survives (Table 19). A few fragments had been burnt to the stage of still containing black carbonised bone. Unburnt fragments were sparse and appear to have survived principally through contact with iron or copper alloy objects. The greater part of the animal bones was recovered from the fills of the foundation trench [155] for Building H, and the excavator has drawn attention to the inclusion of midden material in these foundations.

Context	Feature	Species	Element	Comments
10		pig	jaw	calcined
10		indet	frag	calcined
54		indet	frag	x 3
54		indet	frag	calcined x 9
54		sheep	rib	prox end
		size		
54		cow	zyg	
54		cow size	vl	af
106	183	indet	frag	calcined
118		indet	rib	calcined
137	818	indet	frag	calcined
242	183	indet	frag	x 2
242	183	indet	frag	calcined x 2
345	344	pig	mp	unfused ep lat mp, calcined
345	344	indet	frag	calcined x 2
357	344	indet	frag	calcined
362	289	indet	frag	calcined

Context	Feature	Species	Element	Comments
	457/471	indet	frag	calcined x 7
501	504	indet	frag	calcined x 3
521	520	indet	frag	
	529	cow	tooth	enamel frags
	529	indet	frag	calcined x 3
652	586	indet	frag	calcined
658	183	indet	frag	calcined x 2
684	155	indet	frag	calcined x 2
684	155	indet	frag	x 4
683	155	cow?	jaw?	frags tooth enamel in lump of mud
683	155	cow?	max?	frags tooth enamel in lump of mud
683	155	indet	frag	
683	155	cow?	tooth	enamel frag
683	155	sheep	vl	calcined
		size		
683	155	indet	frag	calcined x 16
688	748	indet	frag	calcined x 17
690	155	indet	frag	burnt x 2
690	155	indet	frag	calcined x 4
690	155	cow?	tooth	enamel frag
691	155	indet	frag	calcined x 18
693	155	cow	tooth	enamel frags
693	155	indet	frag	calcined x 6
693	155	cow size	rib	burnt
693	155	indet	frag	burnt
695	790	indet	frag	x 3
700	792	indet	frag	calcined
720	183	indet	frag	calcined x 3
738	806	indet	frag	calcined x 6
743	790	indet	frag	calcined
746	790	indet	frag	calcined
747	790	indet	frag	calcined x 2
752	506	indet	frag	calcined x 4
758	506	indet	frag	calcined
	774	indet	frag	calcined
	790	indet	frag	calcined x 6
988	122	indet	frag	calcined x 3

Table 19. Faunal bones by context.

The species represented appear to be only cattle, pig and sheep. Decayed teeth of cattle were present in pit 529 and construction trench 155, associated with Building H. There is a very tenuous possibility that two groups of teeth fragments from context 683, contained within construction trench 155, still embedded in earth, represent the remains of an upper and lower jaw and therefore a skull. The majority of the unidentified fragments appear to derive from cattle size bones. Pig bones were positively identified as present in contexts 10, a relict ploughsoil, and 345 a Roman pit fill. Sheep size bones were present in contexts 54, a post-Roman ploughsoil, and 683, contained within construction trench 155. These were a rib and a vertebra respectively, which are not normally positively identified to species. There were no other unequivocal sheep/goat bones present.

6.4. Cremated Remains

Jacqueline McKinley

6.4.1. Introduction

The remains of a disturbed, late second century Romano-British, urned cremation burial [102] were received for excavation and analysis. The burial had been made in a very close-fitting grave cutting through the construction levels of an earlier timber structure (Building G) and set adjacent to a later building (Building H).

6.4.2. Methods

The urn fill was excavated in a series of quadranted 20mm spits by the writer to assist in ascertaining details of the burial process; annotated scale drawings and a digital photographic record were made at each level. These sub-contexts were maintained throughout processing and osteological analysis.

The fill was floated to recover any charred plant remains and wet-sieved to 1mm sieve fraction. Bone was separated from the >4mm fraction residues for specialist analysis and the smaller fraction residues were scanned by the writer for identifiable bone fragments.

Osteological analysis followed the writer's standard procedure for the examination of cremated bone (McKinley 1994a, 5-21; 2000b). Age was assessed from the stage of skeletal and tooth development (Beek 1983; Scheuer & Black 2000) and the general degree of age-related changes to the bone (Buikstra & Ubelaker 1994). Sex was ascertained from the sexually dimorphic traits of the skeleton (*ibid*).

6.4.3. Results

The burial had been truncated; the vessel survived to a maximum depth of 100mm on one side and 40mm on other. The mass of bone commenced at 80mm from the base and was sealed below a layer of pot sherds from the disturbed upper levels of the vessel. Although it is likely that a small quantity of bone was lost from one side of the vessel, the majority clearly remained *in situ*.

The visual condition of the bone is good, with no evidence for surface erosion or abrasion. It was observed during excavation, however, that much of the trabecular bone crumbled away during lifting despite great care; only some of that observed in excavation survived sufficiently intact to be identified to skeletal element during osteological analysis. Trabecular bone is known to suffer preferential destruction in acidic burial environments (McKinley 1997, 245; Nielsen-Marsh *et al.* 2000).

The 534.8g of bone recovered represent the remains of a mature adult female, *c.* 30-45 yr. There is also a very small quantity (0.1g) of cremated bird bone (chicken-sized). Evidence for pathological lesions is limited to slight pitting and osteophytes (new bone on articular surface margins: Rogers & Waldron 1995, 20-31) in one rib facet, probably indicative of the early stages of costo-vertebral osteoarthritis (*ibid*, 32-46).

All bone fragments – including those observed during excavation – were white in colour, indicative of full oxidation of the bone (Holden *et al.* 1995a; 1995b). The weight of bone recovered (534.8g; 672.9g including the small fraction residues which predominantly comprised bone) represents *c.* 33-42% of the average bone weight remaining from an adult cremation (McKinley 1993). The weight lies within the mid-range of those recovered from contemporaneous cemeteries (McKinley 2004a, table 6.6; *in press*).

The maximum recorded bone fragment was 57mm and the majority of bone fragments were recovered from the 10mm sieve fraction (42-52% depending on inclusion/exclusion of residue weights). There are a number of factors which may affect the size of cremated bone fragments the majority of which are exclusive of any deliberate human action other than that of cremation itself (McKinley 1994b). In this instance, as elsewhere (*ibid*; 1997, 245), much additional fragmentation occurred during excavation along existing dehydration fissures (maximum pre-excavation fragment was 64mm). Many small fragments of bone were observed in the upper 40mm of the fill during

excavation; up to 12% of the bone recovered from these levels was recovered from the 2mm sieve fraction, increasing to a potential 42% including the small fraction residue. This is most likely to reflect increased post-depositional fragmentation of bone in the upper, more exposed levels of the burial, since small fragments deposited in the upper levels at the time of burial would probably have filtered down amongst the larger fragments within the deposit. There remains no conclusive evidence to suggest deliberate fragmentation of remains prior to deposition.

Approximately 47% by weight of the bone could be identified to skeletal element, including identifiable elements from all areas of the skeleton despite the bias caused by the loss of trabecular bone. As is commonly the case, there is no evidence to suggest deliberate selection of specific elements for burial. Although no tooth roots were recovered, a relatively high number of the smaller hand and foot bones were (*c.* 10); their recovery may be reflective of the collection procedures used for the recovery of bone from the pyre site at the end of cremation i.e. raking and winnowing of the upper levels of pyre debris resulting in the recovery of small as well as large bones (McKinley 2004a, 300).

Evidence for a least one pyre good was recovered in the form of a small amount of cremated bird bone. The tradition is common within the Romano-British period, 3.5-47% of burials from a range of cemeteries having been found to contain cremated animal remains (Bond & Worley 2004; McKinley 2004b).

The bone was distributed across the full width of the vessel throughout the fill, laying at a variety of angles from horizontal to almost vertical. Bone from each skeletal area was recovered from all levels of the fill with no indication of ordered deposition. The bone distribution suggests another receptacle may originally have been used to hold the bone during recovery from the pyre site and/or that the bone was raked together into a pile – thereby mixing it – before it was collected for burial.

7. Discussion

Richard Gregory

The archaeological excavation at Barton Street has proved to be one of the largest and most significant within Roman Manchester since the earlier excavation campaigns conducted by Professor G D B Jones and GMAU in the 1970s and early 1980s. Furthermore, the subsequent post-excavation work has allowed for the first detailed analysis of a large Roman artefactual assemblage, containing over 6500 separate objects, obtained through the total excavation of a comparatively coherent area of Roman archaeology. Taken together this evidence provides significant insights into life in the early settlement and will, in due course, have major implications for comprehending the birth, maturity and rapid demise of the garrison settlement, or *vicus*.

7.1. Pre-Roman activity

Although there are no structural remains, or indeed other features dating to the pre-Roman period, the presence of a late Neolithic/early Bronze Age flint side scraper from the construction trench of a Roman building (Building E) indicates that Castlefield was, at the very least, visited by prehistoric communities, and complements the finds of two redeposited Mesolithic flints and a Neolithic/Bronze Age flint flake from Liverpool Road (Connelly 2001). The discovery of these artefact is not particularly surprising, however, as the presence of a sandstone bluff, positioned at the confluence of two rivers, which was partially overlain with free-draining glacial sands and gravels, makes the area eminently suitable for early settlement, or other forms of activity. Indeed, the use of this area by pre-Roman communities was not merely confined to the early-mid Holocene, but probably also extended to the late first millennium BC. At Liverpool Road, for instance, a redeposited sherd of Late Bronze/Iron Age pottery was discovered, whilst an Iron Age style coarse pottery vessel was also recovered during the excavation of demolition debris within the fort (Connelly 2001; Bryant *et al.* 1985, 91).

7.2. The military annexe

One of the earliest Roman features identified at the site probably relates to the initial military occupation of Roman Manchester in the late first century AD and comprises a large V-shaped ditch running parallel with the Roman fort, with a clearly defined sump, or 'ankle breaker'. Fortunately, the course of this ditch has been detected elsewhere within the *vicus* during excavations at White Lion Street, Liverpool Road, Owens Court and more recently at Bridgewater Street (Jones & Grealey 1974; Connelly 2001; Gregory 2004: 2006). At Bridgewater Street the ditch was also associated with an additional U-shaped ditch found immediately to the north (Gregory 2006), whilst at White Lion Street the ditch turned inwards to the south close to the exit road from the fort and was associated with two additional defensive ditches and a small linear feature that was interpreted as a drainage gully (Jones & Grealey 1974). Based on this evidence it is clear, however, that this system of defensive ditches surrounded the late first century/early second century fort, and probably defined the boundary of a military annexe. On the basis of the evidence excavated close to the north gate of the fort it is also possible that one activity undertaken within this annexe was linked to Roman industrial processes, that perhaps involved metalworking (Bryant *et al.* 1986, 32).

Immediately to the south of the annexe ditch an earth and turf bank was probably also found, which at Barton Street appears to have been shunted into the ditch during the early years of the second century, along with artefactual material that was possibly refuse derived from the Roman fort, or an adjacent area. A small circular pit was also identified at Barton Street, which appears to have been either sealed by this rampart or positioned immediately to its rear. Significantly, at the base of this pit a near complete globular grey ware jar was discovered and it is possible that this represents a votive offering, associated with food or drink, which was deposited as part of a rite associated with the construction of the rampart. Immediately to the north of the ditch was a second small circular pit, or

post-pit, which appears to have secured a timber upright. Although the function of this post is not entirely clear, its position adjacent to the road exiting the north gate of the fort might suggest that it formed part of a timber gate that controlled access into the interior of the annexe.

7.3. Early activity within the *vicus*

Following the backfilling of the annexe ditch a succession of large pits were dug to the east of the road exiting the north gate of the fort, which were rapidly backfilled with silt and sand. It is probable that these pits were dug during the early second century in order to extract the underlying glacial gravels, that were originally deposited across Castlefield by alluvial mechanism operating during the early Holocene. Presumably, these gravels could then be employed in the construction of roads and other metalled surfaces. The presence of gravel extraction pits dating to the late first-early second century is not, however, peculiar to Barton Street, but has been observed at other excavated areas within the *vicus*, such as in the vicinity of Byrom Street, the north gate of the fort, 340 Deansgate and also on the eastern side of Deansgate (Jones & Reynolds *nd.*; Bryant *et al.* 1986, 35; Gregory & Higgins 2006; Proctor 2005; Gregory in prep). Taken together these pits represent the earliest evidence relating to the birth and initial growth of the Roman civilian settlement.

7.4. Domestic/Commercial Buildings

Following the backfilling of the extraction pits three successive timber buildings, with wattle and daub walls, were constructed, which fronted the eastern side of the road exiting the north gate of the fort. Although, it was only possible to uncover a partial plan of these buildings they were perhaps comparable, functionally, to the 'strip' buildings, which are found in the many Roman urban settlements in the north-western provinces (Ellis 2000, 16). This particular style of Roman building was often constructed of wattle and daub, with a tile or thatch roof, and was characterised by a street frontage, which often housed a shop. To rear, and linked to, the shop were the domestic quarters and behind these it was common to find a yard, or even a workshop area (*ibid.*). At Barton Street the earliest of these buildings (Building E), was constructed during the early second century, and was set within a c. 16m wide plot defined by two boundary ditches, but unfortunately only the rear portion of this building survived. These surviving elements appear, however, to have formed one room that was perhaps associated with the living quarters of the building. Furthermore, it is possible that this building had an L-shaped plan and, based on the suspected position of the north gate road, measured c. 18m north-north-west – south-south-east.

In the latter part of the early second century this building was replaced by a second timber building (Building F). Similarly, all that survived of this structure in the excavated area was a rearward room, though this may again have formed a domestic element of the building which was situated behind a commercial concern, located at the front of the building. Indeed, it appears that this building was a direct functional successor to the earlier building, with similar dimensions and perhaps a comparable L-shaped ground plan.

By the mid-second century this building had been replaced by a third timber building (Building D), which also fronted the north gate exit road. This building was orientated with its long axis running parallel with the north gate exit road and contained a clay floor. Its ground plan was different to the earlier buildings excavated at the site and this may well have been rectangular, or even square, measuring c. 12m north-north-west – south-south-east. The comparatively large size of the surviving construction trench, which secured the timber wall, may also suggest that this building had two storeys. The building also appears to have had a longer life span than the earlier buildings, particularly as its wall line was refurbished at some stage, suggesting a degree of longevity. The presence of a post-hole on the south-western side of the building also suggests that it was provisioned with a veranda, which may have enclosed the front and sides of the structure. To the rear of this building was a metalled surface, or yard, and a series of rubbish pits, which probably contained refuse accumulated during the life of the building. A fairly large assemblage of artefacts was recovered from these pits, which included a diverse assemblage of pottery, glass sherds from

prismatic and square bottles, 2 melon beads, a fragment from a lava quernstone, a fragment of lead sheet, an iron *pilum* and an iron carpenter's or sculptor's tool and styli-like points. Taken together these objects imply that the building was the focus for domestic, commercial and also artisan activities.

7.5. Industry

A series of timber buildings, pits and hearths were discovered in the southern portion of the site, whose character suggest that Roman industrial processes were undertaken within this area of the *vicus*. These features were positioned behind a series of second century timber buildings, excavated in the early 1970s as part of the White Lion Street excavations which, it was argued, also functioned as industrial premises (Jones & Grealey 1974, 63-5). This industrial zone extended, however, to the opposite side of the north gate exit road. Here industrial buildings and furnaces were initially established in the early-mid second century, alongside domestic/commercial buildings, but by the late second century the area had been entirely industrialized and was the site of numerous metalworker's furnaces, smithing hearths and workshops (Jones & Grealey 1974).

At Barton Street, during the early decades of the second century at least two timber buildings (Buildings B & C) were constructed in the southern half of the site, but unfortunately due to the fragmentary nature of their construction trenches little more can be deduced. During the latter part of the early second century, these buildings were demolished and a third timber building constructed, which probably functioned as a workshop fronting a road running in the vicinity of Bridgewater Street. This workshop was c. 4.8m wide and contained a clay floor and a deep pit. Into this backfilled pit two successive smithing hearths had been set, which were associated with burnt clay, stone and slag. This arrangement, with a smithing hearth set within a deep pit, has close parallels with a Roman 'furnace' (Furnace 2) found on the western side of the north gate exit road, which was excavated during the early 1970s (Jones & Grealey 1974, fig.28), whilst the form and layout of the workshop is virtually identical to an industrial building excavated in the vicinity of Byrom Street in the late 1970s. Here, a rectangular building with a veranda was discovered, containing a furnace and smithing hearth, which was interpreted as a 'blacksmith's shop' (Jones & Reynolds nd., 9).

By the mid-second century the workshop had been demolished and a series of pits were dug across this area of the site. Although one of these certainly functioned as a rubbish pit (Pit 394), the majority may have been employed in Roman industrial processes, as many contained successive linings of clay forming 'bowl' shaped features. Similar clay bowls, set within pits, have been identified elsewhere within the *vicus*, such as close to the north gate of the fort and immediately to the west at the White Lion Street site (Bryant *et al.* 1986, 32; Jones & Grealey 1974). These examples were invariably associated with evidence for heating and, depending upon the presence or absence of ferrous industrial waste, were interpreted as lead or iron working hearths. In contrast, at Barton Street, apart from the hearths found in the earlier workshop (Building A), only three of the clay bowls revealed evidence for heating, slag and iron working in the form of charcoal rich deposits (Pits 17, 336 & 483), iron ore (Pit 17) and fragments of furnace lining (Pit 483). Chemical analysis of the remaining bowls produced no evidence for heating, or concomitant metalworking, and it has been suggested that these features were possibly used for organic processing, particularly the tanning of leather (Rothwell & Shimwell, this volume).

By the late second century the tanning pits had been backfilled and a post-defined timber building erected. It seems likely, however, that this building was also associated with Roman industry and functioned as a workshop, which in this instance involved the processing of metal, due to the discovery of a charcoal-rich deposit and fragments of furnace lining from within a contemporary rubbish pit (Pit 500) located immediately to the north.

7.6. Ritual/Cult Activity

One of the more curious discoveries at Barton Street were two late second century buildings (Buildings G & H), associated with a large collection of Roman artefacts.

Buildings G and H

The buildings were confined to the northern portion of the site and were constructed on a low rounded knoll. Immediately prior to the construction of these buildings a small pit (Pit 568) was, however, dug in an area which would later form the northerly wall lines of both buildings. This pit contained a large water worn boulder, close to its base, stamped samian dating between *c.* AD150-180 and *c.* AD160-190, a little-worn coin, an *As*, minted between AD154-5, a melon bead fragment and a moderate sized assemblage of coarse ware with a high percentage of beakers or cup sherds. Intriguingly, the pit also contained a small sherd that is probably derived from a face pot, a type of pottery that is often, in Britain, associated with Roman ritual or religious practice (Braithwaite 1984, 123-4).

After the backfilling of this pit Building G was constructed, which had a rectangular ground, measuring *c.* 24m by *c.* 9m internally, with an open westerly end and a tiled roof. Within its interior, located close to the threshold, was a small centrally placed hearth. It appears that this building only stood for a decade, or less, before it was demolished. Following demolition a large *c.* 1.7m deep oval shaped pit was dug directly over Building G's northerly wall line, which contained a moderate sized assemblage of pottery and other artefacts (see below). Significantly, these artefacts were probably derived from Building G and relate to the activities occurring within this structure.

Following the backfilling of this large pit Building H was constructed in exactly the same area of the site. In contrast, this new building was slightly smaller and was constructed on a slightly differing orientation and was, architecturally, far more elaborate. It appears, for instance, that this building was composed of two discrete, but complementary, architectural elements. These comprised an inner timber walled room with an internal area measuring 8.8m by 4.4m, provisioned with a porch, which was enclosed by an outer structure defined by a sandstone wall and a timber colonnade. This building probably had a tile roof and it is possible that the sandstone wall may even have supported an upper storey. Significantly, the sandstone wall was also set within a foundation trench that contained a high quantity of cultural debris and charcoal rich 'midden' layers, associated with burnt animal bone and the possible degraded remains of a cow's skull.

The Small Finds

A fairly large assemblage of artefacts was recovered during the excavation, which may relate to the use of Building G. This material was deposited in the large pit (Pit 790) and was incorporated, either serendipitously or intentionally, into the foundation trench for the stone wall of the later building, Building H, together with 'midden' deposits and burnt and unburnt animal bone. A number of pottery sherds were also recovered from the construction trench of Building G and these joined with certain sherds recovered from pit 790 and wall line of Building H to form near complete vessels. This appears to suggest that these joining sherds, at least, were originally derived from vessels associated with the use of Building G, which became incorporated into the buildings 'construction' trench during acts of demolition and subsequent refurbishment.

The ferrous metalwork included a number of iron fittings, an arrowhead and catapult bolt and a group of hobnails from a leather sandal, whilst the non-ferrous metalwork included a 'Polden Hill' copper alloy brooch and the lid from an 'Eggers Form 128' sheet bronze jug, a type that may have been used for the preparation of hot wine. In the southern half of the interior of Building G a copper alloy zoomorphic mount, probably representing a horse, was found and this may be significant as the horse was often employed in the iconography of Roman cult objects found in Northern and Western

Britain (Green 1978, 25). Another piece of metalwork discovered within the building was a crudely made figurine. Significantly, this small figurine was made of lead, a material often associated with sinister acts in Roman Britain, particularly those involving the placing of curses (Tomlin 1988, 83), and this was perhaps due to lead's astrological association with Saturn, which was regarded as unlucky planet in the Roman world (Merrifield 1987, 142). This figurine appears to be a miniature suggesting that it was used within a ritual, or votive, context and has cross moulding on its chest. This moulding might have some further significance, however, as superficially it appears to depict a body chain, a particular type of Graeco-Roman adornment that probably held certain sexual connotations. This type of jewellery appears, for example, to have subtle links with bondage and/or captivity and was often associated with Venus and Cupid as well as various nymphs and nereids (Johns 2003, 15). Intriguingly, on its reverse the figurine has a square grid pattern of scratches which appear comparable to the grid of scratches noted on a number of curse tablets from the Trier amphitheatre (Merrifield 1987, 142). At this latter site, it is suggested that the grid might indicate an illiterate form of magical binding (*ibid.*) and perhaps this is similarly the case with the grid etched on the reverse of the figurine from Manchester. The figurine from Manchester was also inserted in an upright position into a small divot found immediately south of the hearth, located at the threshold of the building and this seemingly deliberate form of deposition, close to the building's threshold, may have been linked to some form of magical rite, or invocation.

The pottery associated with the use of Building G included the normal repertoire of samian ware, but also sherds from two Form 37 decorated bowls which had erotic scenes incorporated into their designs. The coarse ware assemblage was composed of comparatively large, unabraded, sherds, a number of near complete vessels and vessels with graffiti or incised marks. The assemblage was also unusual in that it contained a small number of specialist items, including triple vases, colanders, wine strainers and miniature vessel fragments and an unguent pot. A number of tazze fragments were also present in a post-Roman plough soil sealing the remains of the building. The presence of these specialist ceramic objects is significant, particularly as similar artefacts at other Romano-British sites are often connected with ritual activity that perhaps involved feasting and drinking. At Orton's Pasture, Rocester, for example, the excavator's argue that a comparable assemblage consisting of near complete and complete pots, a large average sherd size and specialist vessels was associated with a shrine (Ferris et al 2000, 74-81), whilst triple vases, wine strainers and tazzes are often seen as indicators of ritual activity (Henig 1980, 101; Merrifield 1987, 47; Monaghan 1997, 858).

Aside from the finds associated with the earlier of the two buildings, a grey ware jar was discovered which has certain implications for comprehending the function of the later building – Building H. This jar contained the cremated remains of an adult female, aged between 30-45 years, a small bird, perhaps a chicken, and burnt late second century bowl and beaker sherds. This burial was inserted into the former wall line of the earlier building – Building G – and it is likely that this interment occurred during the construction, or use, of Building H. The discovery of an adult cremation burial within the settlement is, however, unusual as it was normal, as dictated by Roman law, for adult burials to be interred within a separate extramural cemetery, which was often positioned close to a major arterial road (Merrifield 1987, 71; Watts 1991, 40).

Interpretation

The artefactual evidence derived from the excavation strongly suggests that both buildings were connected with some form of ritual/cult activities occurring within the *vicus*. It is likely, for example, that prior to the construction of the earlier of the buildings an intentional, ritual, foundation deposit was made of particular artefacts placed within a small pit that was located in an area that would form the northerly wall line of the later building. The intentional deposition of 'appropriate' artefacts, which in this instance comprised a high proportion of beaker sherds, a coin, a water worn boulder and a fragment from a face pot, is not uncommon in Roman Britain and is recognised as a ritual

strategy at a number of sites, probably continuing a ritual milieu established during the pre-Roman period (Merrifield 1987; Clarke 1997; 1999; Fulford 2001). Merrifield (1987, 52), for example, notes that many foundation and building offerings were associated with food and drink and also at times included coins, which would fit comfortably with the assemblage contained in pit 568. The presence of a high proportion of beaker sherds might also suggest that drinking was deemed an important element of this foundation ritual which, in reflection, might have been a precursory rite, pre-empting the rituals that were to occur within the Building G.

On the basis of the small finds, it appears that Building G was similarly associated with rituals closely connected with feasting, drinking and perhaps more lascivious acts. Leary (this volume) suggests, due to a concentration of pottery sherds with graffiti, or incised marks, that there may have been a need to identify specific vessels and that this may reflect the communal nature of some of the rites being undertaken in the building. Indeed, communal feasting and drinking was often associated with Roman rituals in Northern Britain as evidenced by the high proportion of drinking vessels from the Carrawburgh Mithraeum (Evans 1993), though here these rites were certainly undertaken, in line with Mithraic practice in the frontier zone, within an explicitly military/male context. The deposition of the lead figurine into a divot next to a hearth within the building from Manchester may also suggest that individual dedications or invocations were occurring within this structure and, perhaps, these were directed towards certain chthonic spirits or deities. Alternatively, the depiction of a possible body chain on the figurine might indicate that these invocations were made towards Venus, who in Roman Britain was probably viewed as a manifestation of the Celtic Mother-goddess, or used as a symbol of fertility (Green 1976, 23; 1978, 16-7). The setting for these acts appears, however, to have been within a large building with a fairly nondescript plan which might, therefore, be classified as a large 'shrine' (cf. Rodwell 1980, 212).

The use of this area for ritual activities continued and appears to have been embellished, or formalised, through the construction of Building H. This building sealed the remains of Building G and pit 790 which had been dug, during demolition, over the wall line of the earlier structure. It is, therefore, tempting to speculate that the cultural material contained within this pit was appropriated from the earlier ritual building to act as a very particular and specific type of foundation deposit. If this was the case, it is likely that the remaining cultural material from the earlier building, incorporated more directly into the structural fabric of the later building, was also deposited with similar intentions in mind.

Although it is not possible to relate specific artefacts to the use of the later building, the discovery of a contemporary urned adult cremation burial suggests that more unusual rituals may have occurred within its confines. Indeed, these were possibly linked with death, or even necromancy, and would reside on the fringes of Romano-British cult practice. The architecture of this building is certainly unusual and it does not, to the author's knowledge, have any exact parallels within Roman Britain. The architectural use of an inner and outer structure does, however, share certain similarities with the ground plan of a Romano-Celtic temple, a fairly common building type within the north-western provinces (Lewis 1966; Fauduet 1993). These temples are often square or rectangular in plan and in a similar manner to the building from Roman Manchester, are characterised by a central inner structure, or *cellae*, often associated with a porch (Wilson 1980). The *cellae*, which is generally presumed to be the repository of cult artefacts (*ibid.*), was surrounded by an external wall, or open *portico*, in order to define a walkway, the *ambulatory*, though in the case of the Building H access between the inner and outer structure on the northern and southern sides of the building would probably not be possible. The provision of a potential timber colonnade at the front of the Building H is also unusual and may suggest a slight classical influence to the buildings design. This form of hybridisation has been noted elsewhere between Romano-Celtic and Classical temples, albeit on a grander scale (cf. Rodwell 1980, 234; Home 1986), and was probably one mechanism which allowed differing ideologies to be merged and transformed. In the case of the building from Manchester, and presumably with numerous other religious sites across the Roman provinces, this possible fusion of architectural styles may also reflect a concomitant fusion, and blurring, of ritual/cult practices. In the

militarised zone of Northern Britain this might be expected in a communal building that presumably served both the troops garrisoned in the fort and at least some of the civilian inhabitants of the *vicus*. Indeed, if the building is regarded as a shrine, or perhaps in this case a temple, its architecture is certainly unique and may embody the subtle interplay between Roman and indigenous beliefs on the periphery of the Roman Empire.

7.7. The abandonment of the *vicus*

The evidence from Barton Street indicates that by the mid-third century Building H had been demolished and its fabric plundered. This act appears to imply that this area of the *vicus* was abandoned, particularly as the only features which date to the third century are a small bread oven and a circular rubbish pit (Pit 578) which may, conceivably, have been directly related to the demolition of Building H. Moreover, following this phase of demolition it appears that the area lay *derelict* until its use as agricultural land in the post-medieval period. The abandonment of this portion of the *vicus* during the late third century is not, however, particular to Barton Street, but appears to fit into a wider pattern of abandonment across the *vicus*, which has been observed in the vicinity of White Lion Street (Jones & Grealey 1974), Byrom Street (Jones & Reynolds nd.; Gregory in prep) and more recently on the eastern side of Deansgate (Proctor 2005). Although large areas of the *vicus* may have been abandoned it is quite possible based on the available coin evidence that a garrison, albeit of limited size, was still stationed in the fort during the late third/fourth century (*cf.* Bryant *et al.*, 1986, 142).

8. Archive

- 8.1. The excavation archive comprises a sizeable collection of field drawings and notes, context sheets, 35mm colour positives, digital photographs, small finds drawings, original copies of the specialist reports, and the large assemblage of Roman and post-medieval small finds. All of this material is presently held by the University of Manchester Archaeological Unit, though it is envisaged that this archive will be eventually deposited with the Manchester Museum.

9. Publication

- 9.1. Given the regional significance of the remains excavated at Barton Street and their importance for understanding the birth, growth and demise of Roman Manchester this excavation report will be published as an excavation monograph by Oxbow Books, Park End Place, Oxford. The monograph is presently in the final stages of production and is due to be published in spring 2007.

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Appendix 1

1. EIGHTEENTH AND NINETEENTH CENTURY ARCHAEOLOGY

Richard Gregory with contributions from Peter Arrowsmith, David Higgins & Jeff Speakman

During the archaeological excavation at Barton Street a series of late eighteenth and nineteenth century remains were exposed during the investigation of Areas 5 and 6 (Illus 2). A large proportion of these remains formed elements of the early sewerage system of Castlefield and comprised of a large sewer trench and numerous drains, along the former line of Worsley Street. Either side of Worsley Street it was, however, fortunate that other archaeological remains and artefacts survived, which have some bearing on the social and economic character of this area of industrial Manchester.

1.1. Late Eighteenth Century Housing

In the eastern half of Area 5 the complete plans of two half-basements were uncovered (Illus A1.A). The early cartographic sources, particularly Green's 1787-94 map of Manchester indicates that these basements form the remains of two adjacent late eighteenth century properties that originally fronted Worsley Street and that were extant until at least 1965. The outer walls [276] of these basements were two courses wide and were constructed of handmade bricks, measuring *c.* 0.24m x 0.12m by 0.07m. Each basement also had flooring composed of sandstone flags, set on a thin sand bedding layer, though these flags only survived in the more westerly of the two basements (Illus A1.A & A2). Curiously the basements were slightly skewed in plan, though each was of identical size and measured internally *c.* 4m by 6.6m. The basement walls survived to a maximum height of *c.* 1m and in certain areas a white lime plaster, coating a brown clay daub, was evident on the interior face of the wall. At the north-western corner of each basement was a *c.* 0.8m wide doorway, which originally allowed access to the basements from street level *via* a flight of steps. Within the interior of each basement was a dividing wall, one course wide, which created two internal rooms. Presumably this division was replicated in the upper floors of the structure to create a double depth dwelling. The more northerly of the rooms was the larger of the rooms, measuring internally *c.* 3.7m by 4m, whilst the smaller southern room had internal dimensions of *c.* 2.7m by 4m. Each of the basement rooms was also provisioned with a fireplace (Illus A1). All of these fireplaces were *c.* 0.9m wide and were defined by two, *c.* 0.4m by 0.24m, handmade brick chimney jambs. From a functional perspective, the presence of these fireplaces may indicate that at some stage in their life the basements could have been used as domestic dwellings or small workshops.

Although the archaeological remains of the half-basements allow the plan of these late eighteenth century properties to be deduced to some extent, it is fortunate that a number of photographs were taken of these houses in 1897 (Illus A3-5). These photographs show the Worsley Street houses to have been of two storeys above a half basement, brick-built in an English Garden bond, with tall stacks and a Welsh slate roof. The front door of each was located on the west side of the north elevation, accessed by a flight of three stone steps, and had a flat head. A single window was located on each floor to the east of this, that on the first floor being a nine-light sash window with a stone sill and flat head, and that on the ground floor a twelve-light sash window with a stone sill and segmental head. The basement windows were broader than those above, with a cambered head. Railings were positioned in front of the basement windows against the edge of the lightwell, leaving a gap next to the front door steps of the neighbouring property; through this further steps led down into the basement, as shown on the OS mapping. The rear elevation had a door on the west side, again

with a flat head, with a twenty-light window to the east of this, above which was a broader window of eighteen lights, both windows being casements. The rear yards were enclosed by brick-built walls.

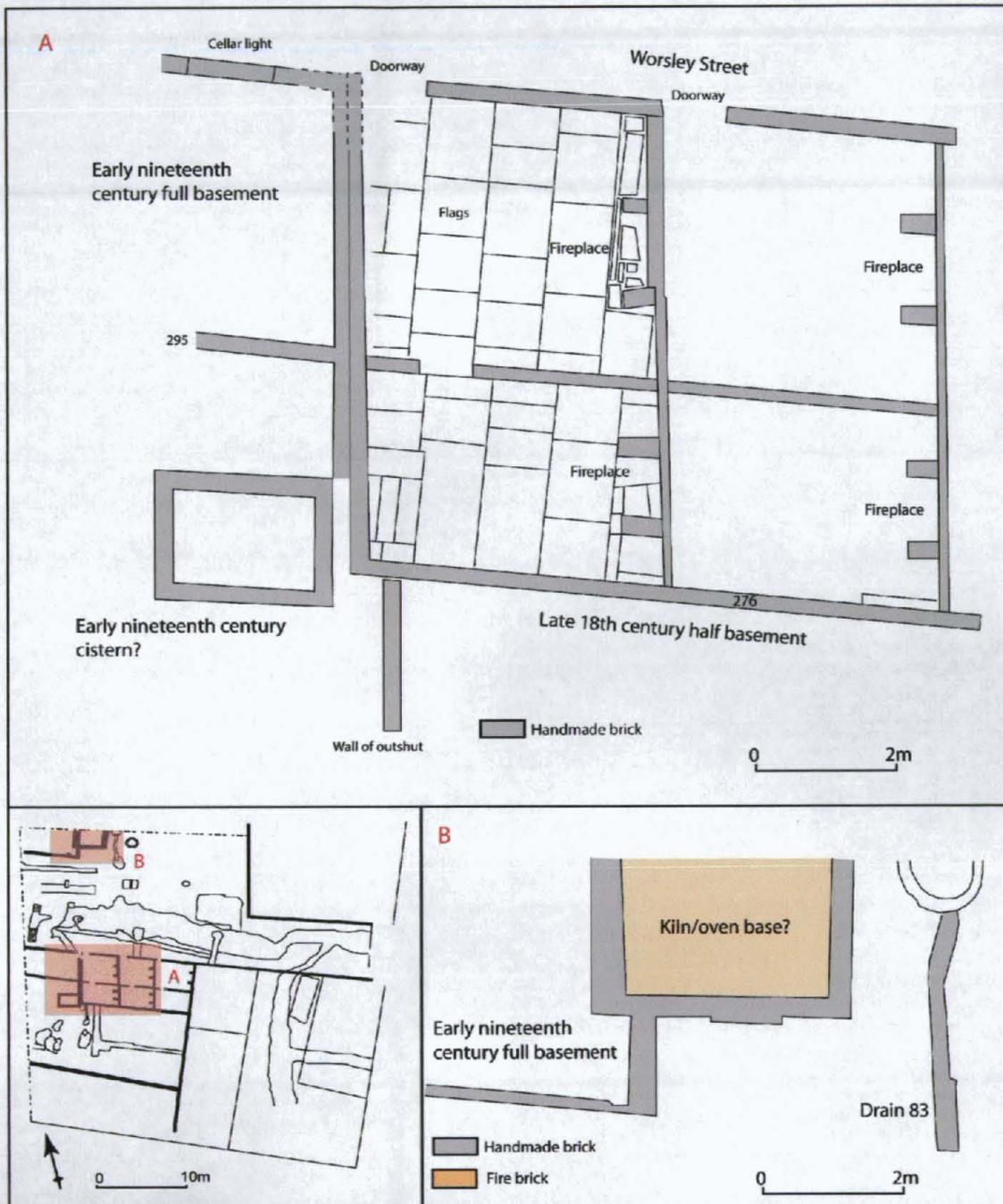


Illustration A1. Eighteenth and nineteenth century remains.



Illustration A2. View showing the two excavated late eighteenth century half-basements.

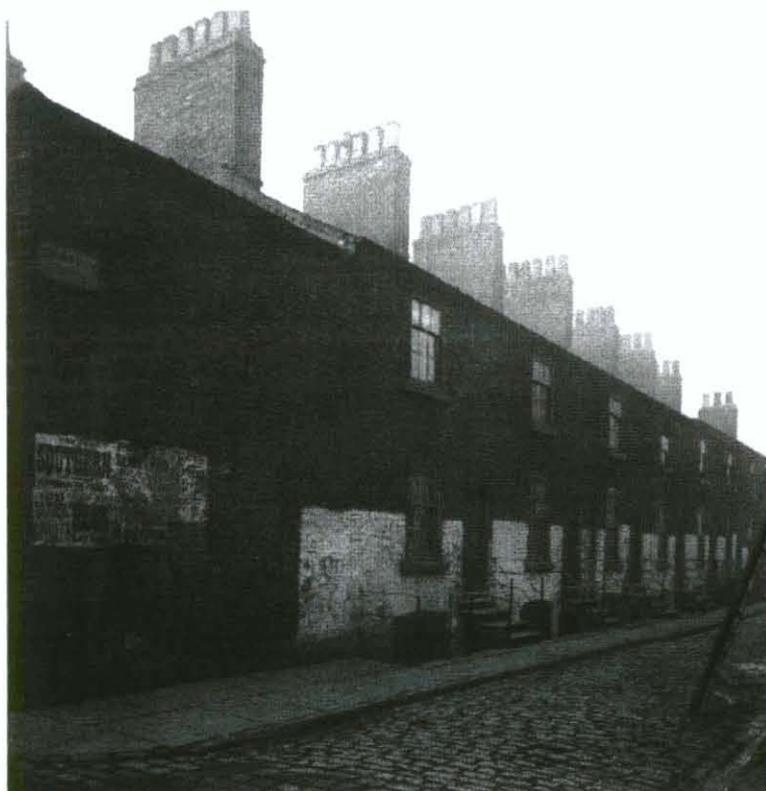


Illustration A3. The late eighteenth century houses fronting Worsley Street as seen in 1897 (MCL: m05375).

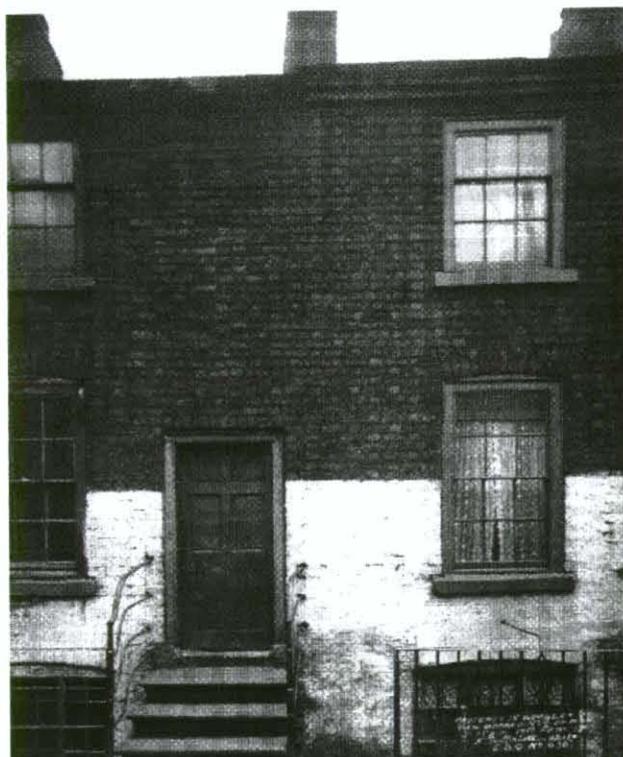


Illustration A4. The front of the late eighteenth century houses as seen in 1897 (MCL: m08358).

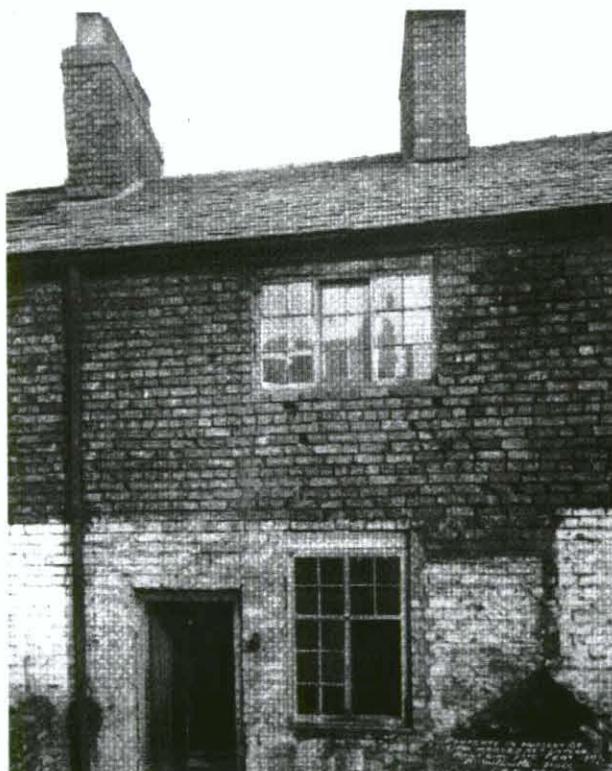


Illustration A5. The rear of the late eighteenth century houses as seen in 1897 (MCL: m05374).

1.2. Early Nineteenth Century Buildings

Abutting the western wall of the more westerly of the late eighteenth century properties was another basement, which fronted Worsley Street (*Illus A1.A*). Although it was not possible to completely excavate the rubble fill of this basement, an exploratory machine excavated slot indicated that it was a full-basement, which extended *c.* 2.5m below the present ground surface, and had a sandstone flagged floor. This basement was *c.* 3.7m wide and was constructed of a *c.* 0.24m wide, double-coursed, handmade brick wall [295]. On the northern wall of this basement, facing Worsley Street, a *c.* 1.2m wide cellarlight was also present.

Fortunately, the date of this basement, and the building which it served, can be deduced from the early cartographic sources. Maps of this area produced in the early nineteenth century, particularly Johnson's and Swire's maps of Manchester, indicate, for instance, that the building was constructed between 1819 and 1824. The later 1849 OS map also indicates that the basement fronting Worsley Street was situated within a larger building, measuring *c.* 11m by 7m, positioned at the corner of Worsley and Collier Street. Based on Adshead's map of 1850 it would also appear that this building functioned as a commercial concern of some description. Associated with this building, and exposed during the course of the excavation, was also a small handmade brick built rectangular structure [297] (*Illus A6*). This structure measured externally *c.* 2.5m by *c.* 1.8m and had a two course wide wall and brick floor. Both the floor and walls of this structure were coated with a lime plaster and this along with the absence of a visible doorway may suggest that the structure was perhaps designed to hold water.



Illustration A6. Structure [297]. Viewed from the west.

By 1849 the OS 60inch to 1 mile map indicates that immediately behind the White Lion Public House a double-depth building with an irregular structure to its rear had also been built fronting Collier Street. During the excavation of Area 6 the south-eastern corner of this building was uncovered (*Illus A1.B*). This building had a full basement whose walls were constructed of handmade bricks. Tied into the rear wall of the building was a further section of handmade brick walling forming a rectangular structure attached to the back of the building, measuring *c.* 3.6m by at least *c.* 2.2m. Within the interior of this structure was a

'floor' composed of fire bricks indicating that this structure probably functioned as an oven or kiln of some description (Illus A7).

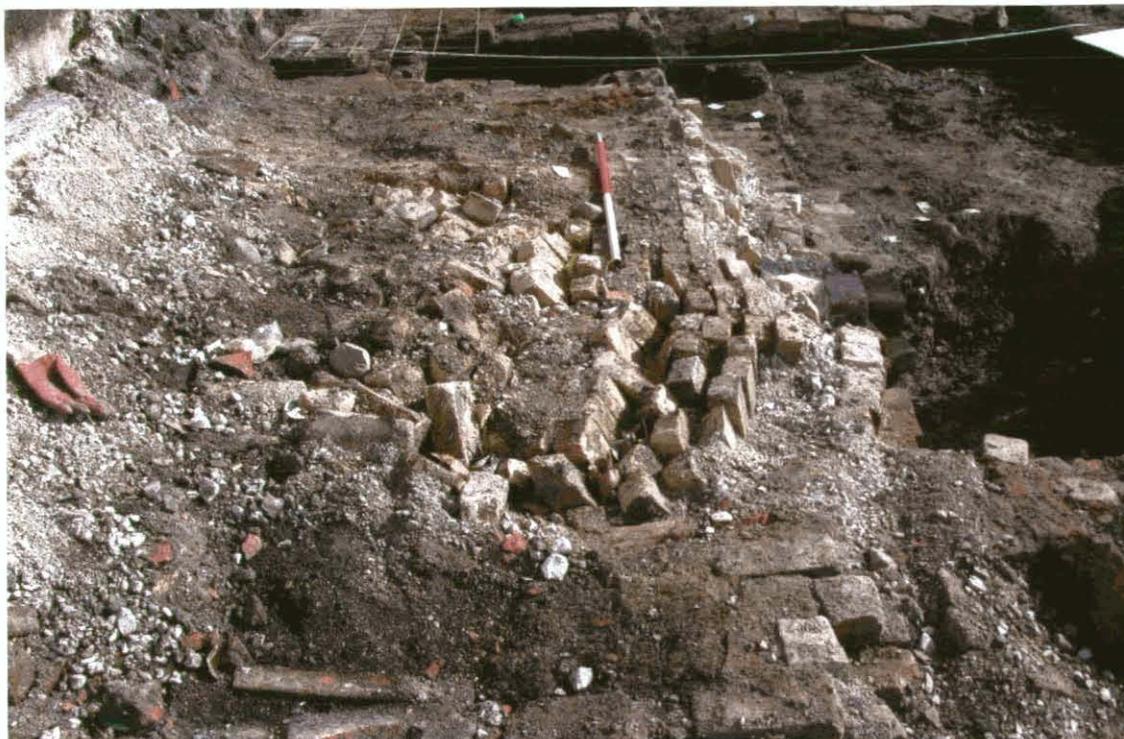


Illustration A7. Fire brick base associated with early nineteenth century building. Viewed from the west.

1.3. Post-Medieval Artefacts

During the both the evaluation and open-area phases of excavation a moderate sized assemblage of post-medieval artefacts were retrieved. The following sections discuss the ceramics and clay pipes recovered from the site.

1.3.1. Post-Medieval Pottery

Jeff Speakman

Introduction

There were a total of 619 finds, weighing 21792.6g, as outlined in the table below.

Material	Total Number of Pieces	Total Weight (g)
Ceramic	13	568.7
Pottery	606	21223.9

Methodology

The pottery was separated and listed by general ware/fabric type, within each context group. All early diagnostic sherds from vessels dating to the seventeenth century, and earlier, were recorded and bagged to individual vessels. Any body sherds, which could not be assigned to individual rims or bases, and most of the later pottery, were bulk recorded, except were large parts of individual vessels could be identified.

Each record was assigned a unique identification number. Where these entries were bagged individually this number was marked on the bag, within a triangle. The contents of bags from a number of late Post-Medieval/modern contexts, whilst being recorded separately were re-bagged together in the same bag to enhance the recording process, with a list of the appropriate record numbers. A count was made of all the individual sherds present and the total weight recorded. Initial analysis was carried out during this stage of recording and digital photographs were taken of many of the diagnostic sherds.

The Pottery

A total of 606 sherds, weighing 21223.9g, were recovered from the evaluations and excavation, with an average weight of 35g per sherd. Considering the nature of urban archaeology there was relatively little post-roman pottery recovered from the site. The vast majority of post-roman pottery was recovered from general layers or unstratified deposits. The initial assessment divided the pottery into period groups as follows:

Period	Total Sherds	Total weight (g)	Average weight (g)
Post-Medieval	141	2909.5	20.6
Modern	465	18314.4	39.3
	606	21223.9	

Medieval Pottery

Considering the nature of urban archaeology, and the well-established pattern of continuity of settlement of in one place over a long period, it is surprising that there is no medieval or early post-medieval pottery in the assemblage.

Post-Medieval and Modern Pottery

The remaining pottery has been divided into two main groups the post-medieval, pottery diagnostic of the sixteenth to eighteenth centuries, and modern, pottery associated with the rise of the urban factories and the predominance of Staffordshire whiteware production. The cross over point between the two periods has been decided upon on technological grounds.

Pottery was manufactured in southwest Lancashire from the medieval period, and most of the coarse earthenware vessels in use during the post-medieval period are likely to have been produced locally. During the later eighteenth and nineteenth century there was a shift in emphasis in production from a subsidiary-cottage to a specialised industry; with production continuing in the Prescott and St. Helens areas and in Liverpool, and from the late eighteenth century much of the fine pottery is likely to have been produced in Staffordshire and the other major centres of pottery production.

Post-Medieval

The earliest post-medieval pottery was identified by form fabric and glaze as of seventeenth century character, although, individual body sherds may represent variability within earlier or later fabrics. There are only 7 sherds, weighing 175.0g. This is a surprisingly small quantity of material. There are two wares represented in this small group.

Dark-glazed wares – vessels with a lead glaze stained by the addition of iron oxide, often described as iron/lead-glazed ware (Faulkner & Olive 1989, 14; see also Stanley 1989, 38). They appear in a range of hard, highly-fired fabrics, red to purple in colour, occasionally with a concentration of visible quartz inclusions and the coarser fabrics may have streaks of mixed white clay.

1. SF 6, context 988 (=intrusive sherd recovered from Roman ditch 987). A single body sherd, weight 3.5g, in an orange-red to purple fabric.
2. SF 58 a single base sherd, from a candlestick, weight 73.6g. The vessel is knife-trimmed or cut away underneath to form a hollow base. Similar hollow bases appear at Bury Castle (Tyson 1986, fig. 13.33-4) in earlier Cistercian ware salt forms and at Wrenthorpe, in both candlestick and salt forms (Moorhouse & Slowikowski 1992, fig. 58.133 & 158-9). The shape is probably an attempt to imitate contemporary metalwares (following Brears 1971, 35 type 6 in yellow ware). Three separation marks are visible under the base surrounding the hollow.
3. SF 111, Area 5, west of the Georgian House, a single body sherd weight, 39.5g.
4. SF 126 unstratified 2 sherds weight 43.0g.

Seventeenth Century Self-coloured or Coarse Yellow Wares

Yellow Ware, is a soft to hard-fired earthenware, with internal, or external and internal, near transparent, lead-glaze which fires to yellow in an oxidising atmosphere. The colour derives from impurities in the glaze and from iron oxides in the clay body or slip coat (Ford & Barker 1999). The darker fabric colour resulted in a more orange glaze. The impurities in the fabric can often give a dark brown, speckled or mottled effect to the glaze.

1. SF 14, area 2, context (10= relict ploughsoil), a single rim sherd from a flanged rimmed bowl, weight 4.5g.
2. SF 125, a single unstratified body sherd, weight 10.9g.

Eighteenth Century Earthenwares

The remaining post-medieval pottery is of eighteenth or early nineteenth century character and is detailed in the table below.

Type	Sherds	Weight (g)	Reference
Agate ware	3	38.4	Stanley 1989, 38
18th C Dark-glazed ware	20	540.3	Referred to as 'Darkware' in Faulkner and Olive 1989, 14; see also Stanley 1989, 38
18 th /19th C Dark-glazed ware	2	42.2	
Mottledware	3	21.3	Defined as Manganese stained ware at Altrincham in Faulkner and Olive 1989, 14-5, Stanley 1989, 37
Red Slip-Coated Buff Bodied Ware	35	826.1	
Pressmoulded Slipware	1	5.5	
Slip decorated wares	3	21.6	Defined, and described, as slipware at Altrincham (Faulkner and Olive 1989, 14; see also Stanley 1989, 37).
Self-coloured	5	166.7	Later self-coloured wares, where the glaze colour is dependent on the colour of the fabric or decoration.
Brown Stoneware	47	865.3	Faulkner and Olive 1989, 16; fig. 8
White Salt-glazed Stoneware	4	21.8	
Brown Salt-glazed Stoneware	1	62.4	Faulkner and Olive 1989, 16
Tin-glazed ware	8	74.3	Black 2001
Unglazed	2	48.6	Unglazed flower pots appear from the 18 th century and these forms appear to represent early examples.
	134	2734.5	

Modern Pottery

The remaining pottery has been defined as modern on technological grounds and is listed in the table below.

Type	Sherds	Weight (g)	
Creamware	31	175.0	Faulkner and Olive 1989, 16; Draper 2001, 47-51
Porcelain	3	16.2	Faulkner and Olive 1989, 16; Draper 2001, 52-55
Unglazed	15	453.9	
18th/19th C Dark-glazed ware	34	3102.8	
19th C Dark-glazed ware	193	12927.7	
Banded Self-Coloured	1	31.8	
Brown Salt-glazed Stoneware	1	10.7	
Late Mottledware	1	10	
Modern earthenware	3	18.3	
Painted shell-edge	1	8.1	
Pearlware	1	11.4	Draper 2001, 51.
Self-coloured modern	10	480.6	
Shell-edged	8	57.7	Hume 2001, 224-230
Whiteware	151	958.4	
Dipped whiteware	11	40.1	Lewis 1999, 186-91
Moulded whiteware	1	11.7	
	465	18314.4	

Discussion

There was a total of 619 pieces, of which 52 are unstratified with no locational information, and a further 268 are recorded as unstratified but from Areas 3, 5 and 6. This leaves just under half of the finds, 299 pieces, being recovered from known contexts (either fills of features or recorded with feature numbers alone).

The following table shows the date range of finds, listed by trench and context.

Area	Context	Cut Number	Earliest dated find in context	Latest dated find in context	Total Number of Pieces	Total Weight (g)
Unstratified	0	0	17 th Century	20	52	748.7
3	0	0	18 th Century	20	69	6426.5
5	0	0	17 th Century	20	196	9118.2
6	0	0	19	20	3	92.4
No record	0	[486]	18 th Century	19 th Century	1	5.1
No record	0	[790]	18 th Century	20	2	19.2
No record	(83)	0	18 th Century	20	14	82.2
No record	(108)	[107]	18 th Century		1	253.8
No record	(988)	0	17 th Century	18 th Century	1	3.5
2	(10)	0	17 th Century	20	8	41.4
3	(54)	0	18 th Century	19 th Century	1	95.9
4	(283)	[282]	19 th Century	20	2	7.6
4	(313)	[312]	18 th Century	20	3	19.1
4	(333)	[336]	18 th Century	20	3	99.9
4	(340)	0	18 th Century	20	3	32.0
6	54	0			211	4311.6
6	0	[600]	18 th Century	20	10	123.1
6	(521)	[520]	18 th Century	20	33	261.3
6	(627)	[578]	19 th Century	20	2	36.8
6	(662)	[541]	18 th Century		3	7.7
7	(977)	0	18 th Century	19 th Century	1	6.6
					299	5406.8

The vast majority of the pieces from known contexts, forming over one third of the total, 211, were recovered from Area 6 context (54), noted as a relict ploughsoil (a further sherd, is also recorded from context (54) but in Area 3). This group is made up of a range of materials and

dated pottery, with only a single sherd dated to the seventeenth century, the rest a sizeable group of material from the eighteenth century and later; 58 pieces post-medieval and 153 modern. This context is equivalent to contexts (10), (13), (14), (15), (85), (86), (87) and (123). Of these contexts, only context (10) has any finds, which suggest an eighteenth century date for that context (see note below). Although, for example, from this context a single sherd of seventeenth century coarse yellow ware was recovered, all the other recovered wares are typical of the eighteenth century. Although this does include two sherds of unglazed flowerpot of possible early date.

Of the remaining 87 pieces, 33 were recovered from context (521) in a fill contained within a service trench [520]. Whilst material from this context dates between the eighteenth and twentieth centuries, the later whitewares are represented by three tiny intrusive pieces and the rest are likely to be eighteenth century in date. This includes two of the four sherds of white salt-glazed stoneware from the site, a ware, which was extremely popular in the early eighteenth century, and creamware (produced from the 1760s). The brick is of uncertain date. The evidence suggests that the feature is of late eighteenth (or possibly early nineteenth) century date. Only two other contexts held ten or more pieces; (83) and [600].

Area	Context	Cut Number	Earliest dated find in context	Latest dated find in context	Total Number of Pieces	Total Weight (g)
No record	(83)	0	18 th Century	20	14	82.2
6	0	[600]	18 th Century	20	10	123.1

Of these contexts, context (83), is a brick lined drain. The finds date from the late eighteenth to twentieth century. Context [600], the sewer trench running along the course of Worsley Street, contains finds dating from a similar date range. Although the modern finds are represented by tiny fragmentary intrusive pieces with four larger eighteenth century pottery sherds and a brick of unconfirmed date. This evidence suggests that this is another feature with a late eighteenth century date. No other context held more than three pieces. Of these remaining contexts, context (108), fill of pit [107], contains a single large eighteenth century dark-glazed rim sherd. All other contexts have material ranging in date into the twentieth century.

1.3.2. Clay Tobacco Pipes

David Higgins

Introduction

Clay tobacco pipes are probably the most useful dating tools for archaeological deposits of post-medieval date. They are found almost everywhere, were short-lived and were subject to rapid change in both size and shape. They can often be tied to a specific production site or, at the very least, to a regional centre. Subtle differences in their style and quality enable them to be used as indicators of social status as well as a means by which trade patterns can be studied.

The excavations at Barton Road produced a total of 91 pipe fragments comprising 11 bowls, 79 stems and 1 mouthpiece. A context summary providing the pipe evidence for each context is provided in table below. The summary shows the number of fragments of bowl (B), stem (S) and mouthpieces (M) recovered from each context as well as their overall date range. It also indicates the makers' marks recovered from each context and the figure numbers of any illustrations.

Context	Description	B	S	M	Date	Marks	Figs	Comments
10	Relict ploughsoil	2	1	0	1650-1850	?IB	A8.2	One S. Lancs. style bowl of 1650-80 with a probably IB stamp (Fig 2). Other pieces c.1770-1850 including a possible internal bowl cross. Mixed material of C17th to C19th date.
54	Relict ploughsoil	3	29	0	1610-1910			
83 (U/S)	Post-Med brick drain	0	7	0	1680-1900			Most of these pieces date from the C19th and two have traces of a brown glaze from mouthpiece finish on them.
521	Service trench fill (modern)	0	7	1	1640-1820			Generally rather small fragments of late C18th or C19th date.
600	Worsley Street sewer trench	0	2	0	1660-1700			Late C17th stem fragment, freshly broken in two. Residual in this context.
West of Georgian House		3	20	0	1610-1880		A8.4, A8.5, A8.6	Almost all late C18th to early C19th fragments, including two decorated bowl fragments (Figs 4-5) and a complete plain bowl (Fig 6).
U/S		3	13	0	1610-1900	?IB, W.GRIFF...	A8.1, A8.3	Includes a bulbous S. Lancs. style bowl, probably marked IB (Fig 1), a decorated Chester stem (Die No 775) and part of a W. Griffiths, Salford, stem stamp of c1770-1830.
Total		11	79	1				

The context summary shows that the pipes were collected from a limited range of deposits. Nearly half of the fragments recovered came from Contexts 10 and 54, both of which are identified as the same relict ploughsoil. The fragments from these deposits range from seventeenth to nineteenth century in date, suggesting that material was being added to the ploughsoil, most likely with night soil, throughout this period. Most of the ploughsoil fragments are just stems, which cannot be dated as accurately as bowl fragments.

One puzzling find from Context 54 is a piece of stem dating from c. 1680-1760. This appears to have been freshly broken during excavation but the two joining pieces survive to 117mm in length. This is far larger than would be expected from a ploughsoil context where pipe fragments are rapidly broken into small pieces. Furthermore, the fragment has a heavily iron-stained surface, which tends to be more characteristic of material from rubbish dumps or pit groups than from ploughsoil.

There are seven stem fragments in bags that are labelled with both the context number 83 and as unstratified. These pieces mostly date from the nineteenth century and two of them are distinctive in having traces of light brown glaze from a mouthpiece coating on them. The site summary gives Context 83 as a post-medieval brick drain. Residual pipe fragments were recovered from the fill of a service trench (Context 521) and from a fill within 600, which was the cut of Worsley Street Sewer trench.

One of the largest groups of pipes came from an area to the "west of the Georgian House". This group, comprising 3 bowls and 20 stem fragments, only contains two fragments of seventeenth or earlier eighteenth century date. The remainder of this group dates from the late eighteenth to early nineteenth century and suggests a discreet episode of rubbish deposition within this area of the site. This deposit includes parts of two decorated bowls (Illus A8.4 & A8.5) as well as a complete undecorated bowl (Illus A8.6).

The remainder of the finds, comprising 3 bowls and 13 stems, are unstratified. This is unfortunate, since this material includes two pieces with stamped makers' marks (Illus A8.1), an eighteenth century decorated stem from Chester and a complete late seventeenth century bowl (Illus A8.3). These pieces will be considered in more detail in the following discussion of the pipes themselves.

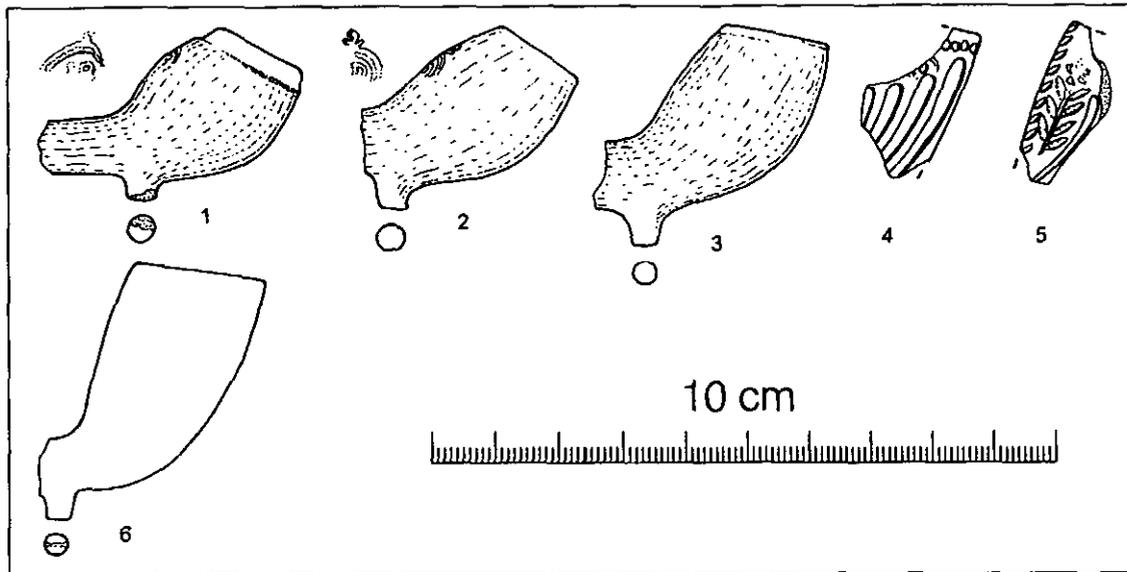


Illustration A8. Clay tobacco pipes: 1=Bowl fragment of *c.* 1650-1670 with a good burnish, a bottered and three-quarters milled rim and a stem bore of 6/64". Strongly bulbous mid-seventeenth century south Lancashire form with a good finish but a poorly impressed crescent-shaped bowl mark, almost certainly an IB variant. U/S (C); 2=Bowl fragment of *c.* 1650-1680 with an average burnish and a stem bore of 7/64". The rim is bottered but not milled. South Lancashire bulbous bowl form with a rather burnt and abraded surface. Poorly impressed crescent-shaped bowl stamp, almost certainly an IB variety, although the surname initial could possibly be a 'D'. Trench 2, Context 1; 3=Bowl fragment of *c.* 1670-1700 with a good burnish and a stem bore of 6/64". The rim is bottered but not milled. Neat and well-made south Lancashire form. U/S (D); 4=Bowl fragment of *c.* 1780-1830 with quite bold and neatly cut flutes and dots - the flutes falling towards the smoker in a scallop design. There is a line of dots below the rim and the other side suggests that each flute apart from the longest also had a dot above it. The drawn side indicated that there may have been other decorative elements as well. Trench 5 from west of the Georgian House (E); 5=Bowl fragment of *c.* 1800-1850 with leaf-decorated seams, simple flower designs and quite thin flutes. The leaves are all simply formed without much detail to them and the other side of the bowl suggests that the decoration was the same on that side as well. Typical style of decoration for the north-west at this period. Trench 5 from west of the Georgian House (F); 6=Bowl fragment of *c.* 1830-1880 with a stem bore of 4/64". The bowl has a simple cut rim and the seams are un-trimmed. Quite a hard form to date accurately, but typical of mid-nineteenth century groups from this area. Trench 5 from west of the Georgian House (G).

The clay tobacco pipes

Although this is only a small group of pipes it includes a wide range of different types, covering almost the whole period during which clay pipes were in common use. The earliest fragments date from the seventeenth century and are made of local coalmeasure clays. Two of the bowls (Illus A8.1 & A8.2) are marked with crescent-shaped bowl stamps, which are characteristic of the South Lancashire pipemaking industry, centred on Rainford. Both of these marks are very poorly impressed and only partly legible. Both examples, however, are likely to have read IB, which is by far the most common set of initials found in the Rainford area. Unfortunately there were many Rainford pipemakers with these initials (King 1992) and so it is impossible to attribute these pieces to a particular maker. The unmarked bowl (Illus A8.3) is also of a typical Rainford style and may well have been made there too.

One of the eighteenth century stems is decorated with a roll-stamped border, typical of the Chester industry. This particular border type dates from *c.* 1720-60 and has been illustrated by Rutter & Davey (1980, Fig 60.62). The border in occurs as a single example in the middle of a 65mm surviving section of stem. This is long enough to suggest that, in this instance, the

border was used in isolation rather than being part of a more elaborate decorative scheme, as was often the case. The first firm evidence of production in the Manchester area itself is provided by part of a single line stem stamp on an unstratified stem of *c.* 1770-1830. This was produced by one of the two William Griffiths' who worked at Salford. Oswald (1975, 180) records these two makers working from 1797-1815 and 1838-61 respectively, but these dates are simply based on the directory entries available to Oswald. It is now known that the earlier William died in 1811 and so he may well have been working for some time before 1797. The style of the mark certainly suggests that it should be attributed to the earlier of these two makers.

There are two fragmentary bowls of late eighteenth to early nineteenth century date with relief-moulded decoration on them (*Illus A8.4-5*). The style of the decoration on both of these pieces is typical of that found in the North-West. By this date there were well-established makers in Manchester and so the likelihood is that these were produced locally. The same applies to the plain bowl (*Illus A8.6*).

The final points of note are the two stems with traces of brown glaze on them and one bowl fragment with a possible internal bowl cross. The possible bowl cross was recovered from Context 10 and occurs on a very fragmentary piece of *c.* 1770-1850. The brown glazed fragments date from the nineteenth century and indicate the use of this type of tip finish in the Manchester area.

Discussion

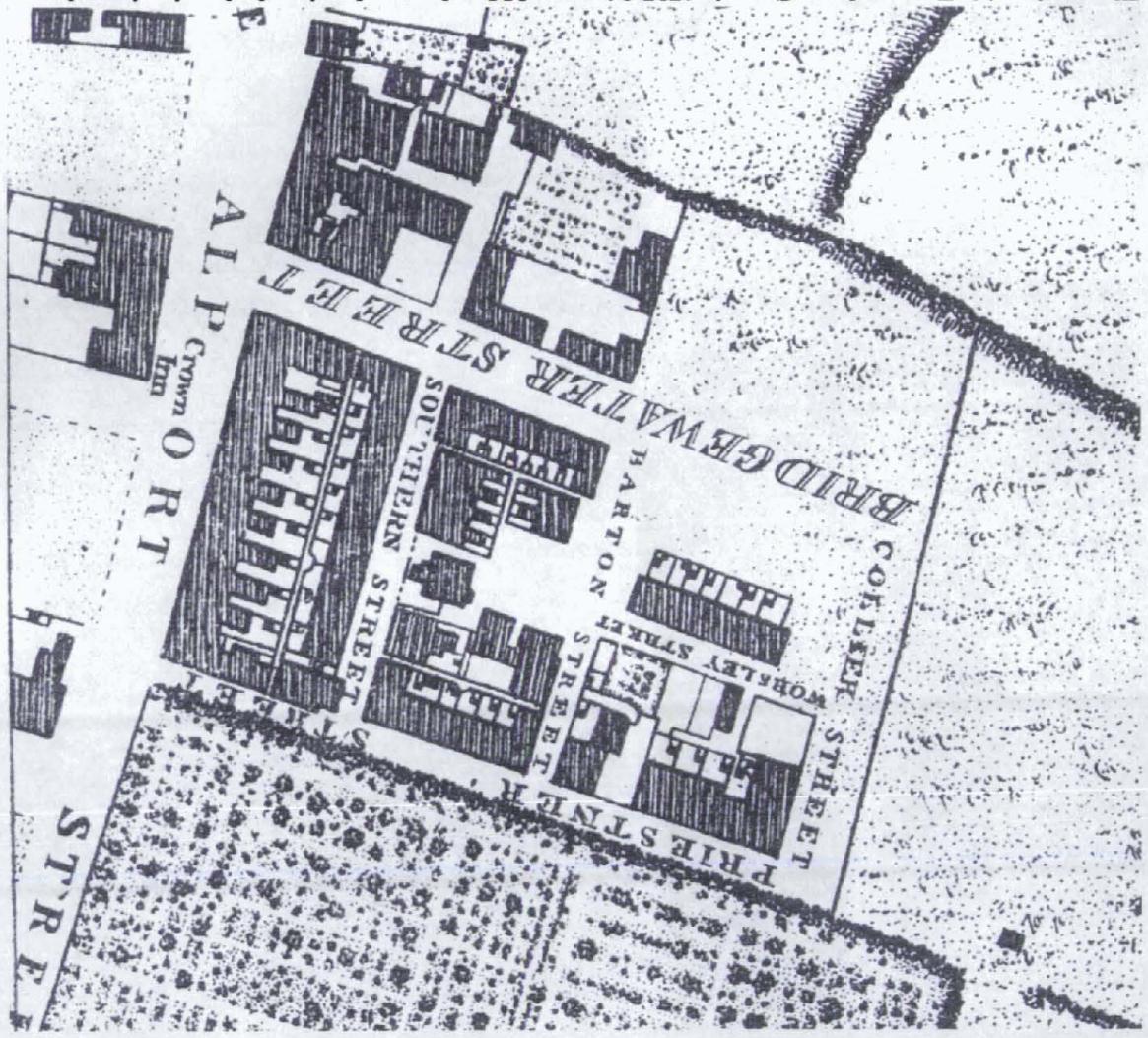
Although a small group of pipes, these fragments provide dating evidence for the deposits from which they were recovered as well as an indication of the types of pipe that were being discarded on the site. Evidence of smoking from the early seventeenth century onwards has been recovered showing that, as with other parts of the country, this habit was quickly taken up in the Manchester area. The style of both the bowl forms and marks on the early pipes suggests that most of these were being supplied from workshops in the Rainford area, which exploited the local coalmeasure clays. By the eighteenth century some pipes were being brought from as far as Chester, where the makers specialised in producing fine quality pipes with elaborately decorated stems. Local production is evidenced from the late eighteenth century onwards. The fragments recovered from these excavations add to a growing body of evidence for Manchester and illustrate the styles of pipe that were being produced and used in the city.

1.4. Discussion

The most significant industrial period archaeology excavated at Barton Street is undoubtedly the remains of the half basements associated with the early housing, which originally fronted Worsley Street. These properties were built in Castlefield during the late eighteenth century and represent one of the first examples of later eighteenth housing to be excavated within the City of Manchester. It was during this period that many areas surrounding the medieval and early post-medieval 'urban core' of Manchester were developed and this area of Castlefield which, based on the artefactual and depositional evidence was agricultural land from at least the seventeenth century, appears to have been one key area within this phase of industrial and residential expansion. Fortunately, the precise form of this development can be clearly seen through reference to Green's 1787-94 map, which depicts various types of late eighteenth century dwellings sandwiched between Bridgewater Street, Aldport Street (later renamed Deansgate) and Priestner Street (later renamed Liverpool Road) (*Illus A9*).

It is clear from this map and the archaeological remains that the properties fronting Worsley Street were relatively small double-depth properties, with outshuts, which are classified as worker's housing. The presence of fireplaces within the basements of these properties may also suggest that at some point the properties were used as cellar dwellings, perhaps, during periods of economic decline. Although worker's housing has been the subject of archaeological excavation in other parts of Manchester, such as at White Lion Street, Piccadilly Place and New Islington, these remains are either in a more fragmentary state or date to the early part of the nineteenth century, as opposed to the late eighteenth century (Jones & Grealley 1974; OA North 2005; 2006). The examples from Barton Street are, however, comparable in both date and form to two late eighteenth century worker's houses recently excavated at 340 Deansgate, Castlefield (Gregory & Higgins in prep), and taken together these provide one significant example of this early form of dwelling.

Illustration A9. Extract from Green's 1787-94 map of Manchester showing the housing in and around Worsley Street.



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